

2022 Annual Groundwater Monitoring and Corrective Action Report AVS CCR Landfill

Antelope Valley Station Beulah, North Dakota

Basin Electric Power Cooperative

Basin Electric Power Cooperative Bismarck, North Dakota

Quality information

Prepared by	Check	ed by	Verified by		Approved by
Erin Doty	- Jason	D. Lach	Dennis P. Cor	inair, P.G.	Jeremy Hurshman, P.G.
Revision His	story				
Revision	Revision date	Details	Authorized	Name	Position
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Three	One	Kevin L. Solie,	P.E., Basin Electric Po	wer Cooperative	9

Prepared for:

Basin Electric Power Cooperative Bismarck, North Dakota

Prepared by:

AECOM 525 Vine Street Suite 1800 Cincinnati, OH 45202 aecom.com

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List of Acronyms

AECOM	AECOM Technical Services, Inc.
AVS	Antelope Valley Station
Basin	Basin Electric Power Cooperative
CCR	Coal Combustion Residuals
FGD	flue gas desulfurization
ft amsl	feet above mean sea level
GWPSs	groundwater protection standards
LPL	lower prediction limit
mg/L	milligrams per liter
MW	megawatt(s)
SAP	Sampling and Analysis Plan
SSI	statistically significant increase
UCL	upper control limit
UPL	upper prediction limit
USEPA	United States Environmental Protection Agency

Executive Summary

This report summarizes groundwater monitoring and corrective action activities completed between January 1 and December 31, 2022 at the Coal Combustion Residuals (CCR) Landfill at Antelope Valley Station (AVS), as required by 40 Code of Federal Regulations Section 257.90(e) of the United States Environmental Protection Agency CCR Rule. The location of the CCR unit and program monitoring network for the CCR unit, including supporting monitoring wells, are illustrated on **Figures 1** and **2**.

Detection-mode groundwater monitoring of the Landfill was initiated in 2018. Detection monitoring through October 2022 identified no statistically significant increases (SSIs) of Appendix III constituents (boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids in the downgradient monitoring wells MW-15(S), MW-16(S), MW-17(S), and MW-20(S). Accordingly, the unit remains in detection monitoring into the next year.

Other activities and conditions for the 2022 annual reporting period include:

- Semiannual detection-mode groundwater monitoring events were conducted in July and October. Monitoring involved sampling of two background monitoring wells and four downgradient monitoring wells.
- Four Landfill expansion wells were installed in late 2020 north of the existing Landfill in preparation for Landfill expansion. Baseline groundwater monitoring events for these wells began in 2021. Five events were completed during the 2022 reporting period.
- No well repair or decommissioning of the existing program monitoring networks was conducted.
- No program transitions (detection to assessment or vice versa) were triggered.
- No programmatic problems were encountered so no remedies were required.

Anticipated activities for the next annual reporting period include:

- Completion of two semiannual detection-mode groundwater monitoring events.
- Incorporation of Landfill expansion wells into the AVS Landfill CCR monitoring program corresponding to the initial placement of CCR anticipated to begin in early 2023.
- Statistical evaluation of groundwater data for Appendix III constituents.

1. Introduction

On behalf of Basin Electric Power Cooperative (Basin), AECOM Technical Services, Inc. (AECOM) has prepared the 2022 annual report documenting groundwater monitoring and corrective action for the Coal Combustion Residuals (CCR) Landfill at Basin's Antelope Valley Station (AVS).

Section 1 provides background information on the power generating facility, the CCR unit(s) present at the facility, and the physical setting of the CCR unit(s), specifically with regard to groundwater conditions. Section 2 summarizes CCR groundwater monitoring activities conducted prior to 2022. Section 3 summarizes the groundwater monitoring and corrective action activities completed in 2022, and references attachments to this report that contain detailed documentation of those activities. Section 4 provides general information including program transitions, problems encountered, and anticipated activities in 2023. Section 5 summarizes the report content. Section 6 lists references cited in this report.

Regulatory Background

The CCR Rule, effective on October 19, 2015, established standards for the disposal of CCR in landfills and surface impoundments (CCR units). In particular, the rule set forth groundwater monitoring and corrective action requirements for CCR units. The Rule includes the requirement for an "annual groundwater monitoring and corrective action report" (annual report), submitted to the operating record annually on or before January 31. The annual report is intended to document the status of the groundwater monitoring and corrective action program for each CCR unit, summarize key actions completed in the previous year, and project key activities for the upcoming year. This report is the sixth annual report, and includes activities performed in calendar year 2022.

Facility Location and Operational History

AVS is a coal-based generating station located north of Beulah, North Dakota (**Figure 1**). The plant consists of two power-generating units with a total power output capacity of 900 megawatts (MWs):

- Unit 1, with a rating of 450 MWs, which began operating in 1984; and
- Unit 2, with a rating of 450 MWs, which began operating in 1986.

CCR produced at AVS includes fly ash, bottom ash, and flue gas desulfurization (FGD) waste.

CCR Unit Description

CCR is disposed of at AVS in the following CCR unit:

• Section 7 Ash Landfill 0160 (Landfill).

The Landfill is located northeast of the generating units and office complex in an area of mine spoils identified as the Coteau Properties Freedom Mine (**Figure 1**). Basin reported that in 2022 the Landfill received approximately 551,000 cubic yards of solid waste, including fly ash, FGD waste, and a minor contribution of solid debris.

Expansion of the Landfill is underway with grading, liner placement, and expanded groundwater monitoring activities. Additional wells were installed in September 2020 and monitoring of baseline conditions was conducted in 2021 and 2022 as described in Section 2 below.

Physical Setting

The geology underlying the site includes mine spoils underlain by the Sentinel Butte Formation. This formation is comprised of continental deposits more than 1,000-feet thick, consisting of dense clay, weakly cemented sandstone, mudstone, and lignite (coal).

Precipitation supplies surface water to perennial and ephemeral streams that flow generally east toward the Beulah Trench then drain north towards Lake Sakakawea. Groundwater is recharged primarily through regional infiltration of melt water in the spring.

The base of the Landfill is underlain by 115 to 200 feet (approximately) of clay-rich mine spoil that overlies the Lower Sentinel Butte Formation. At the site, the Sentinel Butte is comprised primarily of dense clay with a trace of very fine sand and beds of lignite typically ranging from 6- to 9-feet thick. Monitoring well drilling activities to date have not penetrated to depths great enough to characterize the lower portions of the Sentinel Butte.

The uppermost aquifer is found within the 6- to 9-foot unmined lignite bed, mapped locally as the Spaer Bed or Spaer Lignite, located at depths ranging roughly from 180 to 260 feet below ground surface. The elevation of the Spaer Lignite varies across the site by approximately 35 feet from 1,844 feet above mean sea level (ft amsl) at MW-18s to 1,879 ft amsl at MW-23s. The potentiometric surface of the uppermost groundwater present within the Spaer is approximately 1,893 ft amsl in the western portion of the Landfill facility, sloping generally east to 1,880 ft amsl on the eastern side of the Landfill. Field hydraulic conductivity measurements from 2017 for the uppermost aquifer range from 1.65x10-4 centimeters per second in Well MW-19(S) to 2.48x10-9 centimeter per second in well MW-16(S).

2. CCR Groundwater Monitoring Activity Prior to 2022

The regulatory process for CCR groundwater monitoring and corrective action is established by 40 Code of Federal Regulations Sections 257.90 through 257.98. The process includes a phased approach to groundwater monitoring and leading (if applicable), to the establishment of groundwater protection standards (GWPSs) for each CCR unit. Exceedances of the GWPSs that are determined to be statistically significant can trigger requirements for additional groundwater characterization and assessment of corrective measures followed by selection of remedy and remedy implementation.

The following paragraphs provide a summary of CCR groundwater monitoring activities performed prior to 2022. CCR groundwater monitoring activities performed between January and December 2022 are discussed in Section 3.

Groundwater monitoring at AVS is performed using a network of monitoring wells that includes wells to monitor background water quality that is not potentially influenced by the presence of the CCR unit, and wells placed at the downgradient boundary of the unit (**Figure 2**). The hydro-stratigraphic positions of the CCR monitoring wells selected for sampling background and downgradient groundwater quality for the Landfill are summarized below:

CCR Unit	Background Wells	Downgradient Wells
Active Landfill	MW-18(S), MW-19(S)	MW-15(S), MW-16(S), MW-17(S), MW-20(S)
Landfill Expansion Area	MW-21(S)	MW-22(S), MW-24(S)

Two other monitoring wells, MW-14(S) and MW-23(S) did not yield enough groundwater to obtain representative samples, so they have been excluded from groundwater monitoring. However, both remain in place for optional collection of groundwater level measurements for potential inclusion in the potentiometric evaluation of the Site.

Baseline monitoring initiated in August 2016 involved sampling groundwater for Part 257 Appendix III and Appendix IV constituents over eight baseline detection monitoring events.

The Landfill expansion area monitoring wells (MW-21(S), MW-22(S), MW-23(S), and MW-24(S)) were installed between September 09 and September 24, 2020. Baseline monitoring of these new wells was initiated in the spring of 2021 for groundwater analysis of the CCR Rule Part 257 Appendix III and Appendix IV constituents. Three of the baseline monitoring events occurred during the 2021 reporting period with the remaining five events being completed in the 2022 reporting period. A review of preliminary findings from the baseline monitoring events is presented in Section 3.

Detection monitoring events prior to 2022 were performed in general accordance with procedures established in the site-specific Sampling and Analysis Plan (SAP) (AECOM 2018a), which is included in the facility's Operating Record. The SAP describes the procedures for equipment calibration, monitoring well water level measurement, monitoring well purging and sampling, sample custody, sample shipping, laboratory analysis, and documentation requirements for each groundwater sample submitted. The results of baseline monitoring and 2018 detection monitoring at the Landfill were presented and discussed in the First and Second Annual Groundwater Monitoring in the winter of 2018 with the first detection monitoring groundwater sampling event completed in April 2018, then twice annually thereafter. The results of detection monitoring at the Landfill in 2018, 2019, 2020, and 2021 were presented and discussed in the previous Annual Groundwater Monitoring and Corrective Action Reports issued on January 31, 2019 (AECOM 2019); January 31, 2020 (AECOM 2020); January 31, 2021 (AECOM 2021); and January 31, 2022 (AECOM 2022b), respectively.

3. CCR Groundwater Monitoring and Corrective Action Activities in 2022

This section summarizes the groundwater monitoring and corrective action conducted at the Landfill in 2022 to comply with the groundwater requirements of the CCR rule:

- Groundwater detection monitoring activities:
 - monitoring system evaluation completed in July and October 2022
 - groundwater sampling completed in July and October 2022
 - laboratory analysis of groundwater samples in July and October 2022
 - Statistical analysis of the monitoring results of the groundwater samples in July and October 2022
- Groundwater Corrective Action Not applicable
- Five baseline monitoring events of Landfill expansion wells were completed in March, May, July, August, and September 2022.

Further details concerning each of these activities, including a brief discussion of work completed during the reporting period are provided below.

Detection Monitoring Activities

Monitoring System Evaluation

As described in the CCR Groundwater Monitoring System Report (AECOM 2017), monitoring wells were installed around the CCR unit at the Landfill with appropriate total depth and placement of the well screen to: (1) facilitate collection of representative groundwater samples from the uppermost aquifer; and (2) accurately measure water table elevations to support evaluation of groundwater gradient and flow direction. All monitoring wells comprising the monitoring system were found to be in good condition during the detection monitoring events conducted in July and October 2022.

Potentiometric surface maps constructed using the depth-to-groundwater measurements obtained at the beginning of each event are presented in Attachment A. During the October event, water levels in the active Landfill wells were measured on October 25, 2022. The expansion wells were not measured the same day but were measured one week later on November 1, 2022. The direction of groundwater flow observed in both 2022 events was generally east across the active Landfill, which is consistent with the direction observed in previous years. Expansion wells to the north of the active Landfill cell show a groundwater flow direction to the northeast. The flow direction supports the designation of the wells noted in Section 2 above to represent background groundwater quality and the quality of groundwater downgradient of the unit.

Groundwater Sampling and Analysis

The detection monitoring events were completed July and October of 2022 and included analysis of collected groundwater samples for the constituents listed in Part 257 Appendix III. Monitoring wells MW-15(S), MW-16(S), MW-17(S), MW-18(S), MW-19(S), and MW-20(S) were sampled as part of detection monitoring. The tabulated laboratory analytical results are presented in Attachment A, along with potentiometric surface maps for the uppermost aquifer, inferred groundwater flow direction and estimated groundwater flow velocities across the Landfill, and a tabulated summary of field water level measurements. Sampling and analysis were performed in general accordance with procedures established in the SAP, Revision 1 (AECOM 2022a).

In addition to detection monitoring, baseline groundwater monitoring events for the expansion wells were conducted beginning in 2021 (May, July, and September) continuing into 2022 (March, May, July, August, and September). Each baseline event included the gauging of depth to water at each of the four wells installed to monitor the expansion area. Depth to water measurements reported measurable water in MW-21(s), MW-22(S) and MW-24(S) but no water in MW-23(S) during the baseline period. Following depth to water gauging, the groundwater in MW-21(S), MW-22(S), and MW-24(S) was purged and sampled for analysis of the constituents listed in Part 257 Appendix III and Appendix IV of the CCR Rule following the site's SAP, Revision 1 (AECOM 2022a). These eight sampling events conclude the baseline monitoring period for the expansion area. It is anticipated wells MW-21(S), MW-22(S), and MW-24(S) will be incorporated into the CCR monitoring program during the 2023 reporting period corresponding to the initiation of CCR placement in the expansion area.

Statistical Procedures and Analysis

The cumulative groundwater data collected for Appendix III indicator parameters at the Landfill were evaluated in accordance with the statistical procedures certified on October 17, 2017 (AECOM 2017). The data were evaluated using an interwell approach that statistically compares constituent concentrations at downgradient monitoring wells to those present at background monitoring wells. For the Landfill, monitoring wells MW-18(S) and MW-19(S) are designated as background wells because they are located upgradient of the Landfill, whereas the remaining monitoring wells MW-15(S), MW-16(S), MW-17(S), and MW-20(S) are located downgradient of the Landfill.

ProUCL Version 5.1 was selected for the development of site-specific background upper prediction limits (UPLs) with a 95-percent confidence for each Appendix III constituent utilizing monitoring well data from background monitoring wells collected between July 2016 and October 2020. The input file used for development of the UPLs is provided as Attachment B. A lower prediction limit (LPL) was also developed for pH which is a two-sided parameter. The concentrations of detected Appendix III constituents were entered as reported by the laboratory [non-detections set to Reporting Limit (RL)] and evaluated using ProUCL to determine if the population exhibited a normal, lognormal, or nonparametric distribution. One outlier for total dissolved solids was identified in the background data and removed from the prediction limit data set. Data from the downgradient monitoring wells for the 2022 sampling period were compared to the UPL to identify statistically significant increases (SSIs) over background. For statistical analysis comparing compliance well data to UPLs during the current reporting period, non-detect values were represented as one-half the method detection limit. The results of the analyses, including the UPLs, are provided in **Table 1**.

Chloride was evaluated using a control chart. An upper control limit (UCL) was developed as the mean +4.5 standard deviations using the chloride data for background monitoring wells MW-18(S) and MW-19(S). Starks (1988); U.S. Environmental Protection Agency (USEPA 2009), and ASTM (2017) suggest using 4.5 standard deviations to develop control limits for groundwater detection monitoring. **Figure 1** presents the control chart that shows the background mean (10.54 milligrams per liter [mg/L]); UCL (33.15) mg/L; and the baseline and detection monitoring results for downgradient compliance wells MW-15(S), MW-16(S), MW-17(S), and MW-20(S) through October 2022. The results depicted on **Figure 1** indicate that chloride does not exceed the UCL at any of the compliance monitoring wells for any sampling event. Therefore, chloride does not currently exhibit an SSI over background at any of the downgradient compliance wells.

The statistical analysis results indicate none of the Appendix III constituents had SSIs over background or statistically significant increasing trends in constituent concentrations as presented in **Table 2**. These statistical results are similar to the July 2022 results, with the exception of the subtraction of unverified SSIs of fluoride over background UPL in monitoring wells MW-15S, MW-17S, and MW-20S that were initially observed during the July 2022 event. Based on these results, assessment monitoring is not required at the AVS. Detection monitoring should continue at the site in 2023.

4. General Information

The following subsections summarize any problems encountered in the Landfill program through 2022, any resolutions to those problems, if needed, and upcoming actions planned for 2023.

Program Transitions 2022

There were no groundwater monitoring program transitions for the Landfill monitoring system during the January-December 2022 reporting period.

Problems Encountered

No problems were encountered during the January-December 2022 reporting period.

Actions Planned for 2023

Basin plans on continuing the detection monitoring program for the Landfill in 2023. The detection monitoring program will include semi-annual groundwater sampling events and the required statistical evaluations. Basin plans to incorporate the Landfill expansion wells into the CCR monitoring program for the Landfill during the 2023 reporting period at the commencement of placement of CCR waste into the expansion area.

5. Summary and Conclusions

Basin conducted two rounds of CCR groundwater detection monitoring at the Landfill and five baseline monitoring events for newly installed wells in the Landfill expansion area between January and December 2022. The detection sampling results were used to establish background groundwater quality for Appendix III constituents in the uppermost aquifer, identify appropriate UPLs and LPLs, and determine whether any Appendix III constituents experienced SSIs downgradient of the CCR unit. The statistical analysis results indicate that none of the Appendix III constituents had SSIs over background or statistically significant increasing trends in constituent concentrations. Based on these results, Assessment monitoring is not required at the Landfill. Detection monitoring will continue at the site in 2023.

6. References

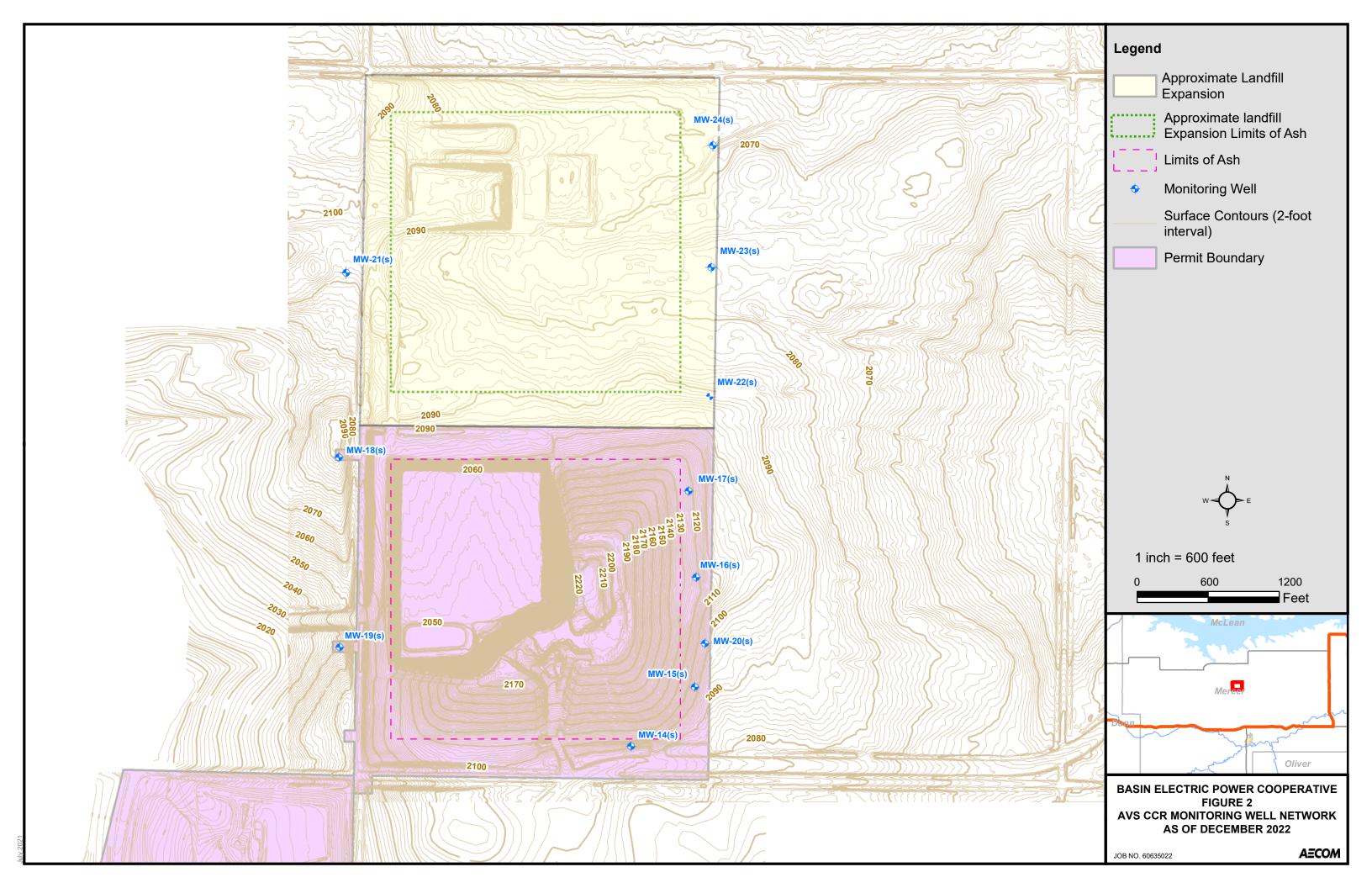
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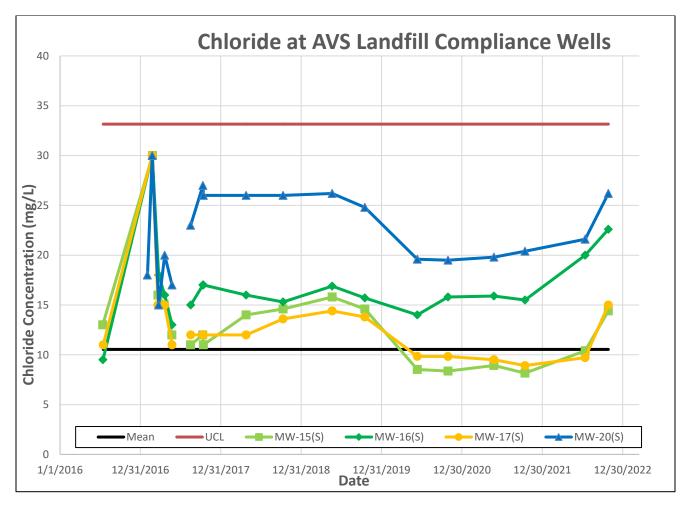
2022 Annual Groundwater Monitoring and Corrective Action Report





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2022 Annual Groundwater Monitoring and Corrective Action Report

Tables

Table 1. Statistical Analysis Methods and Background Upper Prediction LimitsAntelope Valley Station

Parameter (Units)	Number of Samples	Percent Nondetects	Normal or Lognormal Distribution?	Statistical Method	Background Prediction or Control Limit
Boron (mg/L)	29	52	Yes/Yes	Parametric 95% UPL	0.2
Calcium (mg/L)	29	0	No/No	Nonparametric 95% UPL	21
Chloride (mg/L)	29	17	No/No	Control Chart 99.9% UCL	33.7
Fluoride (mg/L)	29	17	No/No	Nonparametric 95% UPL	3.75
pH (std units)	33	0	No/No	Nonparametric 95% UPL/LPL	9.99/7.37
Sulfate (mg/L)	29	0	No/No	Nonparametric 95% UPL	703.5
TDS (mg/L)	28	0	No/No	Nonparametric 95% UPL	2,154

Notes:

pH has both an LPL and UPL; all other constituents only have an UPL or UCL

mg/L= milligrams per liter

UCL = Upper Control Limit

LPL = Lower Prediction Limit

UPL = Upper Prediction Limit

Table 2. Statistical Methods Analysis ResultsAntelope Valley Station

Well	Location	в	Са	CI	F	pH (LPL/U		SO₄	TDS
MW-15(S)	Downgradient								
MW-16(S)	Downgradient								
MW-17(S)	Downgradient								
MW-MW-20(S)	Downgradient								
Notes:									
SSIs determined us	ing interw ell upper pr	ediction limits	(UPLs) at ba	ackground m	onitoring w el	I MW-18(S	S) and	MW-19(S)	
	Less than or equal to background upper prediction limit (UPL) or greater than low er prediction limit (LPL) for pH								
	Unverified statistically significant increase (SSI) over background UPL or below background LPL for pH								
	Verified SSI over background UPL or below background LPL for pH								

Attachment A

Sampling and Analysis Report, 2022 CCR Monitoring Program



2022 Sampling and Analysis Report AVS Landfill CCR Monitoring Program

Antelope Valley Station Beulah, North Dakota

Basin Electric Power Cooperative

January 31, 2023

Prepared for:

Basin Electric Power Cooperative Bismarck, North Dakota

Prepared by:

AECOM 525 Vine Street Suite 1800 Cincinnati, OH 45202 aecom.com

Project 60635022

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Table 1B	November 2022 Groundwater Monitoring Water Levels and Elevations
Table 2	Groundwater Gradient and Seepage Velocity Estimate
Table 3	2022 CCR Monitoring Network Analytical Results

Appendix

Appendix I Laboratory Reports

List of Acronyms

AECOM	AECOM Technical Services, Inc.
AVS	Antelope Valley Station
Basin	Basin Electric Power Cooperative
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency

1. Introduction

On behalf of Basin Electric Power Cooperative (Basin), AECOM Technical Services, Inc. (AECOM) prepared this Coal Combustion Residuals (CCR) Groundwater Sampling and Analysis Report for the Basin Antelope Valley Station (AVS) CCR Landfill. The objective of the report is to provide a description of the field and office activities performed in 2022 in support of the AVS CCR Landfill groundwater monitoring program.

This Sampling and Analysis Report was prepared to present the results of sampling and analysis of groundwater conducted for the monitoring requirements of the United States Environmental Protection Agency (EPA) CCR rule (Chapter 40 of the Code of Federal Regulations [CFR], Sections 257.90 to 257.98). Specifically, the report presents the data collected for the two groundwater detection monitoring events conducted in 2022 and provides baseline monitoring data conducted in 2022 for landfill expansion preparation.

2. Groundwater Flow

As required by 40 CFR Section 257.93(c), groundwater elevations were measured in each well prior to purging each time groundwater was sampled. The measurements, presented in **Tables 1A** and **1B**, were used to create potentiometric surface maps for the uppermost aquifer for the detection monitoring events. The resulting potentiometric surface maps were used to evaluate the direction and rate of groundwater flow across the CCR unit. **Figure 1** and **Figure 2** represent potentiometric surface maps show the inferred groundwater flow directions for the CCR unit and the approximate landfill expansion area to the north. These potentiometric maps illustrate groundwater flow patterns that are generally consistent with the patterns observed during previous monitoring events. Calculated groundwater flow velocities are summarized in **Table 2**.

Based on the groundwater flow conditions documented in this chapter, the relative function of the monitoring wells employed in the AVS CCR Landfill groundwater monitoring system and baseline monitoring landfill expansion wells are as follows:

CCR unit	Background wells	Downgradient wells
Active Landfill	MW-18(S), MW-19(S)	MW15(S), MW-16(S), MW-17(S), MW-20(S)
Landfill Expansion Area	MW-21(S)	MW-22(S) and MW-24(S)

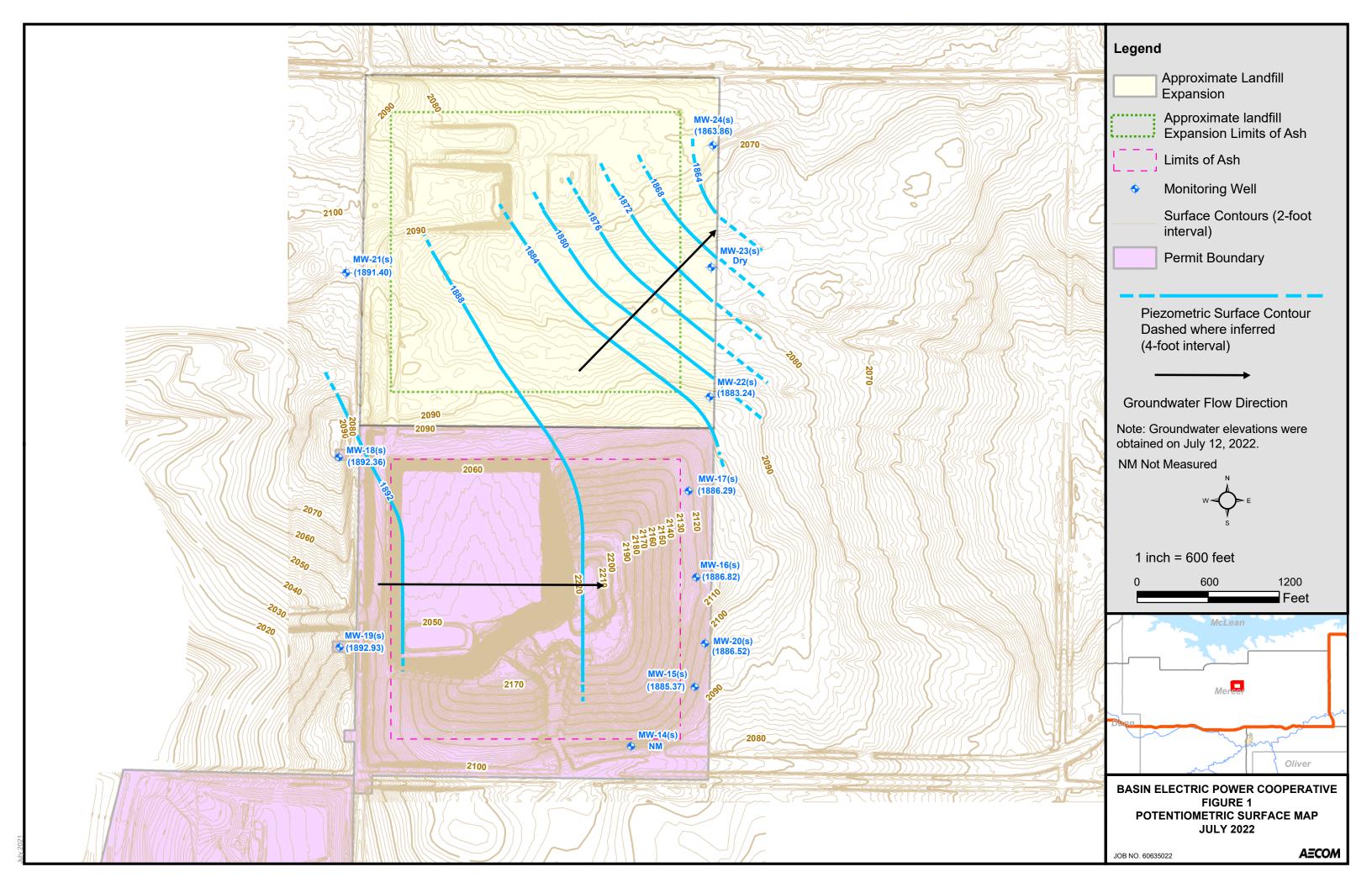
Monitoring well MW-14(S) is being excluded from the groundwater monitoring network due to insufficient water production to obtain a representative sample. However, it remains in place for optional collection of groundwater level measurements for potential use in potentiometric mapping as appropriate. Groundwater level measurements at MW-14(S) were not recorded in 2022. Monitoring well MW-23(S) is excluded from the baseline monitoring network, because it was dry during sampling events in 2021 and 2022.

3. Groundwater Quality

The analytical testing laboratory provided reports presenting the results of laboratory analysis for each detection monitoring event and expansion baseline monitoring event. These laboratory reports are included in the operating record, are presented in **Appendix I**, and were reviewed for completeness against the project-required methods and the chain-of-custody forms. Laboratory reports were also reviewed for holding times, and for appropriate flagging based on the quality assurance/quality control testing results provided by the laboratory. The results for the active landfill CCR unit were compiled into a summary form as presented in **Table 3**. Analytical results for the landfill expansion area are found in **Appendix I**.

2022 Sampling and Analysis Plan Report, CCR Monitoring Program





2022 Sampling and Analysis Plan Report, CCR Monitoring Program

Tables

Table 1AGroundwater Depth And Elevation - July 2022CCR Landfill Detection Program Groundwater MonitoringAntelope Valley Station - Beulah, North Dakota

ACTIVE LANDFILL							
	Reference Elevation	July 12, 2022	Groundwater				
	Top of Casing	Depth to Water	Elevation				
Well ID	(feet, amsl)	(ft,btoiwc)	(ft, amsl)				
MW-14(s)	2093.41	Not Measured	Not Measured				
MW-15(s)	2104.77	219.40	1885.37				
MW-16(s)	2123.59	236.77	1886.82				
MW-17(s)	2124.89	238.60	1886.29				
MW-18(s)	2091.60	199.24	1892.36				
MW-19(s)	2042.56	149.63	1892.93				
MW-20(s)	2107.47	220.95	1886.52				
	LANDFILL EXPANSION AREA (UNDER CONSTRUCTION)						
MW-21(s)	2094.72	203.32	1891.40				
MW-22(s)	2093.90	210.66	1883.24				
MW-23(s)	2080.16	Dry	Dry				
MW-24(s)	2070.74	206.88	1863.86				

ft btoiwc = feet, below top of inner well casing

ft amsl = feet, above mean sea level (Vertical Datum NGVD29)

Table 1BGroundwater Depth And Elevation - November 2022CCR Landfill Detection Program Groundwater MonitoringAntelope Valley Station - Beulah, North Dakota

	ACTI	/E LANDFILL	
	Reference Elevation	October 25, 2022	Groundwater
	Top of Casing	Depth to Water	Elevation
Well ID	(feet, amsl)	(ft btoiwc)	(ft, amsl)
MW-14(s)	2093.41	Not Measured	Not Measured
MW-15(s)	2104.77	219.42	1885.35
MW-16(s)	2123.59	236.91	1886.68
MW-17(s)	2124.89	238.50	1886.39
MW-18(s)	2091.60	199	1892.60
MW-19(s)	2042.56	149.42	1893.14
MW-20(s)	2107.47	221	1886.47
	LANDFILL EXPANSION	AREA (UNDER CONSTRUC	TION)
		November 1, 2022	
MW-21(s)	2094.72	202.81	1891.91
MW-22(s)	2093.90	210.27	1883.63
MW-23(s)	2080.16	Dry (> 240 ft bgs)	Dry (> 240 ft bgs)
MW-24(s)	2070.74	206.85	1863.89

ft btoiwc = feet, below top of inner well casing

ft amsl = feet, above mean sea level (Vertical Datum NGVD29)

TABLE 2

Date of event	d _I (ft)	d _h (ft)	i (ft/ft)	n _e	K (ft/day)	v _s (ft/day)
7/13/2016	1050	3	2.86E-03	0.185	0.234	3.62E-03
2/22/2017	1140	3	2.63E-03	0.185	0.234	3.33E-03
3/21/2017	1020	2	1.96E-03	0.185	0.234	2.48E-03
4/19/2017	1050	3	2.86E-03	0.185	0.234	3.62E-03
5/23/2017	1230	3	2.44E-03	0.185	0.234	3.09E-03
6/28/2017	1020	3	2.94E-03	0.185	0.234	3.72E-03
7/24/2017	1110	3	2.70E-03	0.185	0.234	3.42E-03
8/16/2017	1410	3	2.13E-03	0.185	0.234	2.69E-03
4/25/2018	1260	3	2.38E-03	0.185	0.234	3.01E-03
10/10/2018	1245	3	2.41E-03	0.185	0.234	3.05E-03
5/21/2019	1425	3	2.11E-03	0.185	0.234	2.66E-03
10/16/2019	1500	3	2.00E-03	0.185	0.234	2.53E-03
6/10/2020	1170	2	1.71E-03	0.185	0.234	2.16E-03
10/27/2020	1110	2	1.80E-03	0.185	0.234	2.28E-03
5/24/2021	1600	4	2.5E-03	0.185	0.234	3.16E-03
10/11/2021	1650	4	2.4E-03	0.185	0.234	3.07E-03
7/12/2022	1500	4	2.67E-03	0.185	0.234	3.373E-03
11/1/2022	900	4	4.44E-03	0.185	0.234	5.622E-03

GROUNDWATER GRADIENT AND SEEPAGE VELOCITY ESTIMATE CCR PROGRAM MONITORING WELLS ANTELOPE VALLEY STATION CCR LANDFILL – BEULAH, NORTH DAKOTA

di = Horizontal separation between upgradient and downgradient locations perpendicular to potentiometric contours

 d_h = Change in hydraulic head between upgradient and downgradient locations

i = Hydraulic gradient (change in elevation over distance)

ne = Site average porosity of 18.5%

K = Site average hydraulic conductivity of 2.34 E-01 ft/day from slug and pumping tests at site

vs = Seepage Velocity (ft/day)

Hydraulic Gradient Governing Equation¹ – $i = -\frac{dh}{dl}$

Seepage Velocity Governing Equation² – $v_s = -K * i/n_e$

Table 3 2022 CCR Monitoring Network Analytical Results

			Appendix III Constituents						
	Front	Dete	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
Well ID	Event		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(S.U.)	(mg/L)	(mg/L)
MW-15(S)	July 2022	07/13/2022	0.147	5.37	10.4	4.44	8.29	402	1820
MW-16(S)	July 2022	07/13/2022	0.188	2.21	20.0	1.72	8.14	77.0	816
MW-17(S)	July 2022	07/13/2022	0.147	3.88	9.71	4.24	7.92	257	1660
MW-18(S)	July 2022	07/13/2022	0.119	4.92	5.06	3.93	9.02	521	1680
MW-19(S) Dup	July 2022	07/13/2022	0.151	3.98	14.0	4.15	8.08	881	45500
MW-19(S)	July 2022	07/13/2022	0.157	3.99	13.8	4.15	8.08	892	2070
MW-20(S)	July 2022	07/13/2022	0.14	5.25	21.6	4.52	7.96	78.5	1790
MW-15(S)	October 2022	10/26/2022	0.10	4.27	14.4	1.41	8.05	404	1880
MW-16(S)	October 2022	10/26/2022	0.12	3.26	22.6	1.83	8.11	79.0	1180
MW-17(S)	October 2022	10/26/2022	< 0.1	3.59	15.0	1.38	8.01	247	1740
MW-18(S)	October 2022	10/26/2022	< 0.1	3.60	8.8	1.17	9.07	450	1730
MW-19(S) Dup	October 2022	10/26/2022	0.10	3.93	18.2	0.64	8.03	793	2190
MW-19(S)	October 2022	10/26/2022	0.10	3.97	18.2	0.64	8.03	785	2190
MW-20(S)	October 2022	10/26/2022	0.10	4.20	26.2	1.14	8.00	55.0	1800

Notes:

mg/L = milligrams per liter S.U. = Standard units

Appendix I: Laboratory Reports

eurofins 🔅

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-160139-1

Laboratory Sample Delivery Group: AVS Landfill Client Project/Site: CCR Groundwater - North Dakota Sites -**AVS Landfill**

For:

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelly Turner

Authorized for release by: 4/22/2022 3:27:44 PM

Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

.....Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert

Visit us at:

www.eurofinsus.com/Env

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Definitions/Glossary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

3

5

Qualifiers

Rad	
Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis

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

Job ID: 280-160139-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - North Dakota Sites -AVS Landfill

Report Number: 280-160139-1

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.

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

RECEIPT

The samples were received on 3/24/2022 11:05 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 0.3° C.

RADIUM-226 (GFPC)

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 03/29/2022 and analyzed on 04/20/2022.

The following samples were prepared at a reduced aliquot due to matrix: MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4). A laboratory control sample (LCS) / laboratory control sample duplicate (LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

RADIUM-228

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 03/29/2022 and analyzed on 04/19/2022.

The following samples were prepared at a reduced aliquot due to matrix: MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4). A laboratory control sample (LCS) / laboratory control sample duplicate (LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

RADIUM-226/RADIUM-228 (GFPC)

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. The samples were analyzed on 04/22/2022.

Case Narrative

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-1 SDG: AVS Landfill

Job ID: 280-160139-1 (Continued)

Laboratory: Eurofins Denver (Continued)

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

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-1 SDG: AVS Landfill

Client Sample ID: MW-22S	Lab Sample ID: 280-160139-1	
No Detections.		
Client Sample ID: MW-24S	Lab Sample ID: 280-160139-2	5
No Detections.		
Client Sample ID: MW-21S	Lab Sample ID: 280-160139-3	
No Detections.		
Client Sample ID: DUP	Lab Sample ID: 280-160139-4	8
No Detections.		
		9

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-1 SDG: AVS Landfill

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

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-1 SDG: AVS Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-160139-1	MW-22S	Water	03/22/22 10:05	03/24/22 11:05
280-160139-2	MW-24S	Water	03/22/22 11:05	03/24/22 11:05
280-160139-3	MW-21S	Water	03/22/22 12:50	03/24/22 11:05
280-160139-4	DUP	Water	03/22/22 12:50	03/24/22 11:05

Total

Uncert.

(2σ+/-)

0.293

RL

1.00

MDC Unit

0.621 pCi/L

Prepared

03/29/22 13:42 04/20/22 14:25

Count Uncert.

(2**σ**+/-)

0.293

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Result Qualifier

-0.117 U

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-22S

Analyte

Radium-226

Date Collected: 03/22/22 10:05

Date Received: 03/24/22 11:05

Job ID: 280-160139-1 SDG: AVS Landfill

Analyzed

Lab Sample ID: 280-160139-1 Matrix: Water 8

Dil Fac 1 Dil Fac 1 160139-2 ix: Water Dil Fac 1 Dil Fac 1

Radium-226	-0.117	0	0.293	0.293	1.00	0.621	pCI/L	03/29/22 13:42	04/20/22 14:25	Ĩ
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					03/29/22 13:42	04/20/22 14:25	1
Client Sample I	D: MW-24S							Lab Sam	ole ID: 280-16	0139-2
Date Collected:)5								: Water
Date Received:	03/24/22 11:0	5								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.352	U	0.298	0.300	1.00	0.450	pCi/L	03/29/22 13:42	04/20/22 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					03/29/22 13:42	04/20/22 14:25	1
Client Sample I	D: MW-21S							Lab Sam	ole ID: 280-16	0139-3
Date Collected:		50								: Water
Date Received:	03/24/22 11:0	5								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0548	U	0.205	0.205	1.00	0.425	pCi/L	03/29/22 13:42	04/20/22 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.7		40 - 110					03/29/22 13:42	04/20/22 14:26	1
Client Sample I	D: DUP							Lab Sam	ole ID: 280-16	0139-4
Date Collected:	03/22/22 12:5	50							Matrix	: Water
Date Received:	03/24/22 11:0	5								
			Count	Total						
			Uncert.	Uncert.						
Analyte		Qualifier	(2 σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116	U	0.205	0.205	1.00	0.360	pCi/L	03/29/22 13:42	04/20/22 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					03/29/22 13:42	04/20/22 14:27	1
Method: 9320	- Radium-2	28 (GFP	C)							
Client Sample I	D: MW-22S							Lab Sam	ole ID: 280-16	0139-1
Date Collected:)5								Water
Date Received:										
		-	Count	Total						

Uncert. Uncert. Analyte **Result Qualifier** (2**σ**+/-) (2σ+/-) RL MDC Unit Prepared Analyzed Dil Fac Radium-228 -0.233 U 0.375 0.375 1.00 0.719 pCi/L 03/29/22 14:17 04/19/22 12:32 1

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

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

Job ID: 280-160139-1 SDG: AVS Landfill

5

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Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	102		40 - 110					03/29/22 14:17	04/19/22 12:32	
Y Carrier	82.2		40 - 110					03/29/22 14:17	04/19/22 12:32	
Client Sample ID:	MW-24S							Lab Sam	ole ID: 280-16	50139 -3
Date Collected: 0		5							Matrix	
Date Received: 03										
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	0.397	U	0.419	0.420	1.00	0.684	pCi/L	03/29/22 14:17	04/19/22 12:32	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	108		40 - 110					03/29/22 14:17	04/19/22 12:32	
Y Carrier	82.6		40 - 110					03/29/22 14:17	04/19/22 12:32	
Client Sample ID: Date Collected: 0 Date Received: 03	3/22/22 12:5							Lab Sam	ole ID: 280-16 Matrix	
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	0.684		0.408	0.413	1.00	0.622	pCi/L	<u> </u>	04/19/22 12:32	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	85.7		40 - 110					03/29/22 14:17	04/19/22 12:32	
Y Carrier	83.4		40 - 110					03/29/22 14:17	04/19/22 12:32	
Client Sample ID:	DUP							Lab Sam	ole ID: 280-16	50139-4
Date Collected: 0	3/22/22 12:5	50							Matrix	: Wate
Date Received: 03	8/24/22 11:0	5								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	0.865		0.354	0.363	1.00	0.493	pCi/L	03/29/22 14:17	04/19/22 12:32	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	89.1		40 - 110					03/29/22 14:17	04/19/22 12:32	
Y Carrier	87.1		40 - 110					03/29/22 14:17	04/19/22 12:32	
lethod: Ra226	Ra228 - 0	Combine	d Radiur	n-226 and	d Radiu	m-228	}			

Date Received: 03/2	4/22 11:0	5								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2 σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.351	U	0.476	0.476	5.00	0.719	pCi/L		04/22/22 15:09	1

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS

Landfill

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

Lab Sample	ID: 280-160139-2 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.749		0.514	0.516	5.00	0.684	pCi/L		04/22/22 15:09	1
Client Sample ID: N Date Collected: 03/ Date Received: 03/2	22/22 12:5	-						Lab Sam	nple ID: 280-10 Matrix	60139-3 :: Water
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.629		0.457	0.461	5.00	0.622	pCi/L		04/22/22 15:09	1
Client Sample ID: D	UP							Lab Sam	nple ID: 280-1	60139-4

Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

Client Sample ID: MW-24S

Date Collected: 03/22/22 11:05

Date Received: 03/24/22 11:05

			Count	Total							
			Uncert.	Uncert.							
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
Combined Radium 226 + 228	0.980		0.409	0.417	5.00	0.493	pCi/L		04/22/22 15:09	1	

Job ID: 280-160139-1 SDG: AVS Landfill

Matrix: Water

5

8

Total

Uncert.

(2**σ+/-**)

0.0906

RL

1.00

Count

Uncert.

(2**σ**+/-)

0.0906

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

MB MB

-0.004979 U

Result Qualifier

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-557767/19-A

Matrix: Water

Analyte

Radium-226

Analysis Batch: 561497

Job ID: 280-160139-1 SDG: AVS Landfill

9

MDC Unit Prepared Analyzed Dil Fac 0.189 pCi/L 03/29/22 13:42 04/21/22 14:26 1

		MB	МВ										
Carrier		%Yield	Qualifier	Limits					Р	repared	Analyze	ed	Dil Fa
Ba Carrier		97.3		40 - 110					03/2	29/22 13:42	04/21/22 1	14:26	
Lab Sample ID: L	.CS 16	60-557	767/1-A					Cli	ent Sai	mple ID:	Lab Cont	trol Sa	mpl
Matrix: Water											Prep Typ		
Analysis Batch:	56127	'0									Prep Bat		
						Total							
			Spike	LCS	LCS	Uncert.					%Rec		
Analyte			Added	Result	Qual	(2σ+/-)	RL	MDC	Unit	%Rec	Limits		
Radium-226			11.3	10.35		1.26	1.00	0.282	pCi/L	91	75 - 125		
	LCS L	CS											
		LCS Qualifier	Limits										
Carrier %			Limits 40 - 110	-									
Carrier %	Yield 90.9	Qualifier	40 - 110	-				Client S	ample	ID: Lab	Control S	Sample	e Duj
Carrier % Ba Carrier Lab Sample ID: L	Yield 90.9	Qualifier	40 - 110	-				Client S	ample	ID: Lab	Control S Prep Typ		
Carrier %	Yield 90.9	Qualifier 160-55	40 - 110	-				Client S	ample	ID: Lab		e: Tot	al/N
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water	Yield 90.9	Qualifier 160-55	40 - 110	-		Total		Client S	ample	ID: Lab	Prep Typ	e: Tot	al/N
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water	Yield 90.9	Qualifier 160-55	40 - 110	LCSD	LCSD	Total Uncert.		Client S	ample	ID: Lab	Prep Typ	e: Tot	al/N/ 5776
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water	Yield 90.9	Qualifier 160-55	40 - 110	LCSD Result			RL	Client S	·	ID: Lab %Rec	Prep Typ Prep Bat	e: Tot	al/N
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water Analysis Batch: { Analyte	Yield 90.9	Qualifier 160-55	40 - 110 7767/2-A Spike			Uncert.			Unit		Prep Typ Prep Bat %Rec	be: Tot tch: 5	al/N/ 5776 REI Lim
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water Analysis Batch: 4 Analyte Radium-226	Yield 90.9	Qualifier 160-55 0	40 - 110 7767/2-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Bat %Rec Limits	e: Tot tch: 5	al/N/ 5776 REI
Carrier %1 Ba Carrier Lab Sample ID: L Matrix: Water Analysis Batch: 4 Analyte Radium-226	Vield G 90.9 .CSD 56127 CSD L	Qualifier 160-55 0	40 - 110 7767/2-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Bat %Rec Limits	e: Tot tch: 5	al/N/ 5776 REI Limi

Lab Sample ID: I Matrix: Water Analysis Batch:		'69/19-A							le ID: Methoc Prep Type: To Prep Batch: {	otal/NA
	МВ	МВ	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1612	U	0.241	0.242	1.00	0.404	pCi/L	03/29/22 14:17	04/19/22 12:35	1
	MB	МВ								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					03/29/22 14:17	04/19/22 12:35	1
Y Carrier	85.6		40 - 110					03/29/22 14:17	04/19/22 12:35	1

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-1 SDG: AVS Landfill

9

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

Matrix: Wat Analysis Ba		27									Prep Typ Prep Bat		
Analysis Da	atch. 5012	.57				Total					гтер Ба	ICH. 5	57709
			Spike	LCS	LCS	Uncert.					%Rec		
Analyte			Added	Result	Qual	(2σ+/-)	RL	MDC	Unit	%Rec	Limits		
Radium-228			8.69	9.942		1.16	1.00	0.415	pCi/L	114	75 - 125		
	LCS	LCS											
Carrier	%Yield	Qualifier	Limits										
Ba Carrier	90.9		40 - 110										
V O and an	82.2		40 - 110										
		. 400 5577						Oliont O		ID: Lab	Comtral C		. D
Lab Sample Matrix: Wat	er							Client S	ample	ID: Lab	Control S Prep Typ Prep Bat	e: Tot	al/NA
Lab Sample Matrix: Wat	er					Total		Client S	ample	ID: Lab	Prep Typ	e: Tot	al/NA
Lab Sample Matrix: Wat	er			LCSD	LCSD	Total Uncert.		Client S	ample	ID: Lab	Prep Typ	e: Tot	al/NA
Lab Sample Matrix: Wat Analysis Ba	er		′69/2-A	LCSD Result			RL	Client S MDC	·	ID: Lab %Rec	Prep Typ Prep Bat	e: Tot	al/NA 57769
	er		7 <mark>69/2-A</mark> Spike			Uncert.			Unit		Prep Typ Prep Bat %Rec	e: Tot tch: 5	al/NA 57769 RER
Lab Sample Matrix: Wat Analysis Ba Analyte	er atch: 5612		Spike	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Bat %Rec Limits	e: Tot tch: 5	RER Limit
Lab Sample Matrix: Wat Analysis Ba Analyte Radium-228	er atch: 5612 <i>LCSD</i>	237 	Spike	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Bat %Rec Limits	e: Tot tch: 5	RER Limit
Lab Sample Matrix: Wat	er atch: 5612 <i>LCSD</i>	237 	269/2-A Spike Added 8.69	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Bat %Rec Limits	e: Tot tch: 5	RER Limit

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

10

Rad

Prep Batch: 557767

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	PrecSep-21	
280-160139-2	MW-24S	Total/NA	Water	PrecSep-21	
280-160139-3	MW-21S	Total/NA	Water	PrecSep-21	
280-160139-4	DUP	Total/NA	Water	PrecSep-21	
/IB 160-557767/19-A	Method Blank	Total/NA	Water	PrecSep-21	
CS 160-557767/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
CSD 160-557767/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
rep Batch: 557769 Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	PrecSep_0	
80-160139-2	MW-24S	Total/NA	Water	PrecSep_0	
80-160139-3	MW-21S	Total/NA	Water	PrecSep_0	
280-160139-4	DUP	Total/NA	Water	PrecSep_0	
MB 160-557769/19-A	Method Blank	Total/NA	Water	PrecSep_0	
CS 160-557769/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
_CSD 160-557769/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep 0	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Matrix: Water

Matrix: Water

Matrix: Water

Matrix: Water

5

11 12 13

Lab Sample ID: 280-160139-1

Lab Sample ID: 280-160139-2

Lab Sample ID: 280-160139-3

Lab Sample ID: 280-160139-4

Client Sample ID: MW-22S Date Collected: 03/22/22 10:05

Date Received: 03/22/22 10:05

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			503.281000 mL	1.0 g	557767	03/29/22 13:42	LPS	TAL SL
Total/NA	Analysis	9315		1			561270	04/20/22 14:25	FLC	TAL SL
Total/NA	Prep	PrecSep_0			503.281000 mL	1.0 g	557769	03/29/22 14:17	LPS	TAL SL
Total/NA	Analysis	9320		1			561237	04/19/22 12:32	CLP	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			561610	04/22/22 15:09	SCB	TAL SL

Client Sample ID: MW-24S Date Collected: 03/22/22 11:05

Date Received: 03/24/22 11:05

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			503.64 mL	1.0 g	557767	03/29/22 13:42	LPS	TAL SL
Total/NA	Analysis	9315		1			561270	04/20/22 14:25	FLC	TAL SL
Total/NA	Prep	PrecSep_0			503.64 mL	1.0 g	557769	03/29/22 14:17	LPS	TAL SL
Total/NA	Analysis	9320		1			561237	04/19/22 12:32	CLP	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			561610	04/22/22 15:09	SCB	TAL SL

Client Sample ID: MW-21S

Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			745.88 mL	1.0 g	557767	03/29/22 13:42	LPS	TAL SL
Total/NA	Analysis	9315		1			561271	04/20/22 14:26	FLC	TAL SL
Total/NA	Prep	PrecSep_0			745.88 mL	1.0 g	557769	03/29/22 14:17	LPS	TAL SL
Total/NA	Analysis	9320		1			561237	04/19/22 12:32	CLP	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			561610	04/22/22 15:09	SCB	TAL SL

Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			753.11 mL	1.0 g	557767	03/29/22 13:42	LPS	TAL SL
Total/NA	Analysis	9315		1			561271	04/20/22 14:27	FLC	TAL SL
Total/NA	Prep	PrecSep_0			753.11 mL	1.0 g	557769	03/29/22 14:17	LPS	TAL SL
Total/NA	Analysis	9320		1			561237	04/19/22 12:32	CLP	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			561610	04/22/22 15:09	SCB	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-1 SDG: AVS Landfill

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
lowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22



Denver	itreet	0000000
Eurofins I	4955 Yarrow Stree	

Chain of Custody Record



Client Information (Sub Contract Lab)				Turner	Turner, Shelby R	yR				e)oni fillivor	÷	COC No: 280-608124.	8124.1	
Slient Contact: Shipping/Receiving	Phone			E-Mail Shelb	E-Mait Shelby Turner@Eurofinset.com	@Eurofi	nset.cor		State of Origin North Dakota	rigin: akota		Page Page 1 of 1	of 1	
ompany⊨ ΓestAmerica Laboratories, Inc.					Accreditations Required (See note) State - North Dakota	ons Requir Iorth Dak	ed (See n tota	ote):				Job # 280 160120 1	0120 1	
ddress: 13715 Rider Trail North,	Due Date Requested: 4/25/2022	;p						Jalvsis	Analvsis Requested			Preserv	- 13	
bity. Earth City	TAT Requested (days	lys):					-	-		E		A - HCL B - NaOF		M - Hexane N = None
iate. Zp MO, 63045						hae	nue					C - Zn Acetate D - Nitric Acid E - NaHSO4		0 - AsNaO2 P - Na2O4S 0 - Na2SO3
^{hone} 314-298-8566(Tel) 314-298-8757(Fax)	#04				1.4		077-111					F - MeOH G - Amchlor		R - Na2S203 5 - H2SO4
mail	# 0M				(0)	822-m	10811				-	-		I - 1SP Dodecahydra U - Acetone V - MCAA
roject Name SCR Groundwater - North Dakota Sites -AVS Landfill šite.	Project #: 28021258 SSOW#:				(Yes or N	uibsЯ 0_c	aurunoo							W - pH 4-5 Z - other (specify)
) ası	ia2ca	10-1 -					of co		
sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w=water, s=solid, O=wasteroli, BT=Tissue, A=Air)	Perform M/SM W/SM monster M/SM monster	n9326_Ra228/Pro 9320_Ra228/Pro 9320_Ra228	822-muibsЯ					Total Number	Decial Inst	Special Instructions/Note
	X	X	Preserva	Preservation Code:	X								$\left \right $	
AW-22S (280-160139-1)	3/22/22	10:05 Central		Water		×	×					2		
dW-24S (280-160139-2)	3/22/22	11:05 Central		Water		×	×					2		1
dW-21S (280-160139-3)	3/22/22	12:50 Central		Water		××	×					2		
JUP (280-160139-4)	3/22/22	12:50 Central		Water		×	×					2		
totle: Since laboratory accreditations are subject to change. Eurofins TestAmerica places the ownership of method, analyle & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently analytic state of Origin isted above for analysis/lests/matrix being analyzed, the test of the circuit sets and the internation compliance upon out subcontract laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins sets/marking to state of Origin status and the relation that and the function status schould be brought to Eurofins.	America places the ownershi matrix being analyzed, the si ent to date. return the signee	p of method, ar imples must be Chain of Cust	nalyte & accrect shipped back	ditation complia to the Eurofins Said complica	TestAmeric	It subcontr a laborator ins TestAn	act laboral ry or other	ories. Thi instruction	s ample shipmen s will be provided	t is forward Any chan	ed under c ges to acci	nain-of-custody. I editation status sl	If the laborato hould be brou	ry does not currently ght to Eurofins
Possible Hazard Identification			0		Samp	vle Dispu	sal (A	fee may	Sample Disposal (A fee may be assessed if samples are retained ionner than 1 month)	if samp	les are r	stained longe	er than 1 m	onthi
Jnconfirmed					<u>.</u>	Return	Return To Client	ł	Disposal By Lab	By Lab		Archive For		Months
Jeliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank:	able Rank: 2			Speci	Special Instructions/QC Requirements	ctions/Q	C Requi	ements:					
empty Kit Relinquished by:		Date:			Time:				Meth	Method of Shipment:	ment:			
telinquished by:	Date/Time	2) (5)	45	Company	R	Beceived by		u u		Date	Date/Time:			Company
relinquished by FED EX	Date/Time:			Company	<u>8</u>	Received by:	1	- Hor	4	M	MAR' 2	8 2022 2022 2022 20	222	Company
telinquished by:	Date/Time:			Company	Å.	Received by			al ala	Date			20845	Company
Custody Seals Intact: Custody Seal No.:					Ö	oler Temp	erature(s)	°C and O	Cooler Temperature(s) ^o C and Other Remarks:	1			1	

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 160139 List Number: 1 Creator: Rystrom, Joshua R

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

Job Number: 280-160139-1 SDG Number: AVS Landfill

List Source: Eurofins Denver

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 160139 List Number: 2 Creator: Worthington, Sierra M

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

Job Number: 280-160139-1 SDG Number: AVS Landfill

List Source: Eurofins St. Louis

List Creation: 03/28/22 12:49 PM

Tracer/Carrier Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

280-160139-3 MW-21S 85.7 280-160139-4 DUP 89.1 LCS 160-557767/1-A Lab Control Sample 90.9 LCSD 160-557767/2-A Lab Control Sample Dup 95.8				Percent Yield (Acceptance Limits)	
280-160139-1 MW-22S 102 280-160139-2 MW-24S 108 280-160139-3 MW-21S 85.7 280-160139-4 DUP 89.1 LCS 160-557767/1-A Lab Control Sample 90.9 LCSD 160-557767/2-A Lab Control Sample Dup 95.8			Ва		5
280-160139-2MW-24S108280-160139-3MW-21S85.7280-160139-4DUP89.1LCS 160-557767/1-ALab Control Sample90.9LCSD 160-557767/2-ALab Control Sample Dup95.8	Lab Sample ID	Client Sample ID	(40-110)		
280-160139-3 MW-21S 85.7 280-160139-4 DUP 89.1 LCS 160-557767/1-A Lab Control Sample 90.9 LCSD 160-557767/2-A Lab Control Sample Dup 95.8	280-160139-1	MW-22S	102		6
280-160139-4 DUP 89.1 LCS 160-557767/1-A Lab Control Sample 90.9 LCSD 160-557767/2-A Lab Control Sample Dup 95.8	280-160139-2	MW-24S	108		
LCS 160-557767/1-A Lab Control Sample 90.9 LCSD 160-557767/2-A Lab Control Sample Dup 95.8	280-160139-3	MW-21S	85.7		
LCSD 160-557767/2-A Lab Control Sample Dup 95.8	280-160139-4	DUP	89.1		
	LCS 160-557767/1-A	Lab Control Sample	90.9		9
MB 160-557767/19-A Method Blank 97.3	LCSD 160-557767/2-A	Lab Control Sample Dup	95.8		
	MB 160-557767/19-A	Method Blank	97.3		G
	Tracer/Carrier Legend				

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

				Percent Yield (Acceptance Limits)
		Ва	Y	
Lab Sample ID	Client Sample ID	(40-110)	(40-110)	
280-160139-1	MW-22S	102	82.2	
280-160139-2	MW-24S	108	82.6	
280-160139-3	MW-21S	85.7	83.4	
280-160139-4	DUP	89.1	87.1	
LCS 160-557769/1-A	Lab Control Sample	90.9	82.2	
LCSD 160-557769/2-A	Lab Control Sample Dup	95.8	83.4	
MB 160-557769/19-A	Method Blank	97.3	85.6	

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Prep Type: Total/NA

Prep Type: Total/NA

🔅 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-160139-2

Laboratory Sample Delivery Group: AVS Landfill Client Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

For:

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelly Turner

Authorized for release by: 4/15/2022 1:43:55 PM Shelby Turner, Project Manager I

(303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

.....Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert Visit us at: www.eurofinsus.com/Env

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Definitions/Glossary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

3

Qualifiers

General Chemistry

Qualifier H

ii Che	msuy
	Qualifier Description
	Sample was prepped or analyzed beyond the specified holding time

Glossary

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

Job ID: 280-160139-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - North Dakota Sites -AVS Landfill

Report Number: 280-160139-2

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

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

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

<u>RECEIPT</u>

The samples were received on 3/24/2022 11:05 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 0.3° C.

TOTAL RECOVERABLE METALS

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 03/31/2022 and analyzed on 04/05/2022 and 04/06/2022.

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

TOTAL METALS (ICPMS)

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 6020A. The samples were prepared on 03/30/2022 and analyzed on 03/31/2022.

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

TOTAL MERCURY

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 04/01/2022.

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

TOTAL DISSOLVED SOLIDS

Samples MW-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 03/25/2022, 03/29/2022 and 03/30/2022.

A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: The following samples in batch 280-5769847 did not have a QC duplicate (-DU) analyzed on a batch of 10 samples: MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-however, the batch precision is demonstrated through passing LCS/LCSD % recovery and RPD. The laboratory reanalyzed the samples out of hold time in batch 280-570244 to confirm results. Both sets of data have been reported.

Job ID: 280-160139-2

SDG: AVS Landfill

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-2 (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-22S (280-160139-1), MW-24S (280-160139-2), MW-21S (280-160139-3) and DUP (280-160139-4) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 04/10/2022 and 04/12/2022.

Samples MW-22S (280-160139-1)[5X], MW-21S (280-160139-3)[5X] and DUP (280-160139-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

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Lab Sample ID: 280-160139-1

Analyte	Result Q	ualifier RL	MDL Unit	Dil Fac D	Method	Prep Type
Boron	159	100	ug/L		6010C	Total
						Recoverable
Calcium	4030	200	ug/L	1	6010C	Total
						Recoverable
Lithium	52.3	20.0	ug/L	1	6010C	Total
						Recoverable
Barium	68.9	1.00	ug/L	1	6020A	Total/NA
Chloride	10.2	3.00	mg/L	1	9056A	Total/NA
Fluoride	1.51	0.500	mg/L	1	9056A	Total/NA
Sulfate	230	25.0	mg/L	5	9056A	Total/NA
Total Dissolved Solids (TDS)	1630	20.0	mg/L	1	SM 2540C	Total/NA

Client Sample ID: MW-24S

Client Sample ID: MW-22S

Lab Sample ID: 280-160139-2

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type
Boron	135	100	ug/L	1	6010C	Total
						Recoverable
Calcium	5420	200	ug/L	1	6010C	Total
						Recoverable
Lithium	62.6	20.0	ug/L	1	6010C	Total
						Recoverable
Barium	81.2	1.00	ug/L	1	6020A	Total/NA
Chromium	3.20	2.00	ug/L	1	6020A	Total/NA
Cobalt	1.51	1.00	ug/L	1	6020A	Total/NA
Molybdenum	10.6	2.00	ug/L	1	6020A	Total/NA
Chloride	50.4	3.00	mg/L	1	9056A	Total/NA
Fluoride	1.23	0.500	mg/L	1	9056A	Total/NA
Sulfate	44.0	5.00	mg/L	1	9056A	Total/NA
Total Dissolved Solids (TDS)	1840	40.0	mg/L	1	SM 2540C	Total/NA
Total Dissolved Solids (TDS)	1970 H	40.0	mg/L	1	SM 2540C	Total/NA

Client Sample ID: MW-21S

Lab Sample ID: 280-160139-3

Lab Sample ID: 280-160139-4

Analyte	Result Qual	ifier RL	MDL Unit	t	Dil Fac	D	Method	Prep Type
Boron	156	100	ug/L	_	1	_	6010C	Total
								Recoverable
Calcium	6180	200	ug/L	-	1		6010C	Total
								Recoverable
Lithium	42.8	20.0	ug/L	-	1		6010C	Total
								Recoverable
Barium	47.9	1.00	ug/L	-	1		6020A	Total/NA
Molybdenum	3.31	2.00	ug/L	-	1		6020A	Total/NA
Chloride	17.1	3.00	mg/	L	1		9056A	Total/NA
Fluoride	1.20	0.500	mg/	L	1		9056A	Total/NA
Sulfate	642	25.0	mg/	L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	2160	40.0	mg/	L	1		SM 2540C	Total/NA
Total Dissolved Solids (TDS)	2170 H	40.0	mg/	L	1		SM 2540C	Total/NA

Client Sample ID: DUP

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac) Method	Prep Type
Boron	153	100	ug/L	1	6010C	Total
						Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

С

	ent Sample ID: DUP (Continued) Lab Sample ID: 280-160139-4					
Client Sample ID: DUP (C	ent Sample ID: DOP (Continued)					30-160139-4
Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Calcium	6250	200	ug/L	1	6010C	Total
						Recoverable
Lithium	40.0	20.0	ug/L	1	6010C	Total
						Recoverable
Barium	49.5	1.00	ug/L	1	6020A	Total/NA
Molybdenum	3.57	2.00	ug/L	1	6020A	Total/NA
Chloride	17.2	3.00	mg/L	1	9056A	Total/NA
Fluoride	1.24	0.500	mg/L	1	9056A	Total/NA
Sulfate	643	25.0	mg/L	5	9056A	Total/NA
Total Dissolved Solids (TDS)	2180	40.0	mg/L	1	SM 2540C	Total/NA
Total Dissolved Solids (TDS)	2220 H	40.0	mg/L	1	SM 2540C	Total/NA

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Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-2 SDG: AVS Landfill

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
3020A	Preparation, Total Metals	SW846	TAL DEN
7470A	Preparation, Mercury	SW846	TAL 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:

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

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-2 SDG: AVS Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-160139-1	MW-22S	Water	03/22/22 10:05	03/24/22 11:05
280-160139-2	MW-24S	Water	03/22/22 11:05	03/24/22 11:05
280-160139-3	MW-21S	Water	03/22/22 12:50	03/24/22 11:05
280-160139-4	DUP	Water	03/22/22 12:50	03/24/22 11:05

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

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

Client Sample ID: MW-22S Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix:	0139-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	159		100		ug/L		03/31/22 11:02	04/05/22 10:26	1
Calcium	4030		200		ug/L		03/31/22 11:02	04/05/22 10:26	1
Lithium	52.3		20.0		ug/L		03/31/22 11:02	04/06/22 22:33	1
Client Sample ID: MW-24S							Lab Sam	ple ID: 280-16	0139-2
Date Collected: 03/22/22 11:05								Matrix:	: Water
Date Received: 03/24/22 11:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	135		100		ug/L		03/31/22 11:02	04/05/22 10:30	1
Calcium	5420		200		ug/L		03/31/22 11:02	04/05/22 10:30	1
Lithium	62.6		20.0		ug/L		03/31/22 11:02	04/06/22 22:37	1
Client Sample ID: MW-21S							Lab Sam	ple ID: 280-16	0139-3
Date Collected: 03/22/22 12:50								Matrix:	: Water
Date Received: 03/24/22 11:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	156		100		ug/L		03/31/22 11:02	04/05/22 10:34	1
Calcium	<mark>6180</mark>		200		ug/L		03/31/22 11:02	04/05/22 10:34	1
Lithium	42.8		20.0		ug/L		03/31/22 11:02	04/06/22 22:41	1
Client Sample ID: DUP							Lab Sam	ple ID: 280-16	0139-4
Date Collected: 03/22/22 12:50								Matrix	: Water
Date Received: 03/24/22 11:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	153		100		ug/L		03/31/22 11:02	04/05/22 10:38	1
	100								
Calcium	6250		200		ug/L		03/31/22 11:02	04/05/22 10:38	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-22S Date Collected: 03/22/22 10:0 Date Received: 03/24/22 11:09	•					Lab Sample ID: 280-160139- Matrix: Wate			
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Antimony	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Arsenic	ND	5.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Barium	68.9	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Beryllium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Cadmium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Chromium	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Cobalt	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Lead	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Molybdenum	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Selenium	ND	5.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	
Thallium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:37	1	

Job ID: 280-160139-2 SDG: AVS Landfill

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix	0139-2 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Arsenic	ND		5.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Barium	81.2		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Beryllium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Cadmium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Chromium	3.20		2.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Cobalt	1.51		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Lead	ND		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Molybdenum	10.6		2.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Selenium	ND		5.00		ug/L		03/30/22 06:59	03/31/22 19:41	1
Thallium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 19:41	1

Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

Analyte	Result C	Qualifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Antimony	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Arsenic	ND	5.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Barium	47.9	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Beryllium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Cadmium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Chromium	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Cobalt	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Lead	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Molybdenum	3.31	2.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Selenium	ND	5.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	
Thallium	ND	1.00		ug/L		03/30/22 06:59	03/31/22 19:44	1	

Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

Analyte	Result Qu	alifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	2.00		ug/L		03/30/22 06:59	03/31/22 19:48	1
Arsenic	ND	5.00	ı	ug/L		03/30/22 06:59	03/31/22 19:48	1
Barium	49.5	1.00	ι	ug/L		03/30/22 06:59	03/31/22 19:48	1
Beryllium	ND	1.00	l	ug/L		03/30/22 06:59	03/31/22 19:48	1
Cadmium	ND	1.00	ι	ug/L		03/30/22 06:59	03/31/22 19:48	1
Chromium	ND	2.00	ι	ug/L		03/30/22 06:59	03/31/22 19:48	1
Cobalt	ND	1.00	l	ug/L		03/30/22 06:59	03/31/22 19:48	1
Lead	ND	1.00	ι	ug/L		03/30/22 06:59	03/31/22 19:48	1
Molybdenum	3.57	2.00	ı	ug/L		03/30/22 06:59	03/31/22 19:48	1
Selenium	ND	5.00	l	ug/L		03/30/22 06:59	03/31/22 19:48	1
Thallium	ND	1.00	ı	ug/L		03/30/22 06:59	03/31/22 19:48	1

Eurofins Denver

Lab Sample ID: 280-160139-3

Lab Sample ID: 280-160139-4

Matrix: Water

Matrix: Water

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-2 SDG: AVS Landfill

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-22S Date Collected: 03/22/22 10:05							Lab Sam	ple ID: 280-16 Matrix:	0139-1 : Water
Date Received: 03/24/22 11:05 Analyte	Result	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		· · ·	04/01/22 16:10	1
Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix:	0139-2 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		04/01/22 11:51	04/01/22 16:13	1
Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix:	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		04/01/22 11:51	04/01/22 16:15	1
Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix:	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		04/01/22 11:51	04/01/22 16:18	1
_									
Client Sample ID: MW-22S Date Collected: 03/22/22 10:05							Lab Sam	ple ID: 280-16 Matrix:	
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05	Deculé	Qualifian	PI	MDI	11			Matrix:	: Water
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte		Qualifier		MDL	Unit	<u>D</u>	Lab Sam	Analyzed	Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride	10.2	Qualifier	3.00	MDL	mg/L	<u>D</u>		Matrix: Analyzed 04/10/22 11:24	Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride	10.2 1.51	Qualifier	3.00 0.500	MDL	mg/L mg/L	<u>D</u>		Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24	Water Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate	10.2 1.51 230	Qualifier	3.00 0.500 25.0	MDL	mg/L mg/L mg/L	<u> </u>		Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31	Water Dil Fac 1 1 5
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS)	10.2 1.51	Qualifier	3.00 0.500	MDL	mg/L mg/L	<u>D</u>	Prepared	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34	Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05	10.2 1.51 230	Qualifier	3.00 0.500 25.0	MDL	mg/L mg/L mg/L	<u> </u>	Prepared	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16	Water Dil Fac 1 1 5 1 5 60139-2
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S	10.2 1.51 230 1630	Qualifier Qualifier	3.00 0.500 25.0		mg/L mg/L mg/L	<u>D</u>	Prepared	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16	: Water Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05	10.2 1.51 230 1630		3.00 0.500 25.0 20.0		mg/L mg/L mg/L mg/L	D	Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix:	Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte	10.2 1.51 230 1630 Result		3.00 0.500 25.0 20.0 RL		mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: <u>Analyzed</u>	Dil Fac
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride	10.2 1.51 230 1630 Result 50.4 1.23		3.00 0.500 25.0 20.0 RL 3.00		mg/L mg/L mg/L mg/L mg/L mg/L	D	Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: <u>Analyzed</u> 04/10/22 11:39	Dil Fac 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate	10.2 1.51 230 1630 Result 50.4 1.23 44.0		3.00 0.500 25.0 20.0 RL 3.00 0.500		mg/L mg/L mg/L mg/L Unit mg/L	D	Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: <u>Analyzed</u> 04/10/22 11:39 04/10/22 11:39	Dil Fac 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 1 1 1 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride	10.2 1.51 230 1630 Result 50.4 1.23	Qualifier	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00		mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: <u>Analyzed</u> 04/10/22 11:39 04/10/22 11:39	: Water Dil Fac 1 5 5 5 5 5 5 5 5 5 5 5 5 5
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50	10.2 1.51 230 1630 Result 50.4 1.23 44.0 1840	Qualifier	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam Prepared	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:39 04/10/22	: Water Dil Fac 1 5 1 5 0139-2 : Water 1 1 1 1 1 1 1 1 1 1 1 1 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05	10.2 1.51 230 1630 Result 50.4 1.23 44.0 1840 1970	Qualifier	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	D D	Prepared Lab Sam Prepared	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:39 04/10/22	Water Dil Fac 1 5 0139-2 Water Dil Fac 1 5 Dil Fac 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05 Analyte	10.2 1.51 230 1630 Result 50.4 1.23 44.0 1840 1970 Result	Qualifier H	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0 40.0	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam Prepared Lab Sam	Matrix: <u>Analyzed</u> 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: <u>Analyzed</u> 04/10/22 11:39 04/10/22 11:39 04/10/22 11:39 04/10/22 11:39 03/25/22 15:32 03/30/22 13:32 ple ID: 280-16 Matrix:	: Water Dil Fac 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05	10.2 1.51 230 1630 8 8 8 8 8 8 4 8 4 9 70 18 40 18 40 1970 8 8 8 8 8 8 8 8 1 9 70 10 2 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10	Qualifier H	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0 40.0 RL	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam Prepared Lab Sam	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:39 04/10/22 11:39 04/10/22 11:39 04/10/22 11:39 04/10/22 13:32 ple ID: 280-16 Matrix: Analyzed	: Water Dil Fac 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS)	10.2 1.51 230 1630 8 8 8 9 4 4 0 1840 1970 8 8 8 8 8 8 8 1970 1870 1870 1870 1870 1870 1870 1870 18	Qualifier H	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0 40.0 40.0 40.0	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam Prepared Lab Sam	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:39 04/10/22 11:39 04/10/22 11:39 03/25/22 15:32 03/30/22 13:32 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:55	Dil Fac 1 1 5 1 5 0139-2 Water Dil Fac 1
Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05 Analyte Chloride Fluoride Sulfate Total Dissolved Solids (TDS) Total Dissolved Solids (TDS) Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05 Analyte Chloride	10.2 1.51 230 1630 8 8 8 8 8 8 4 8 4 9 70 18 40 18 40 1970 8 8 8 8 8 8 8 8 1 9 70 10 2 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10	Qualifier H	3.00 0.500 25.0 20.0 RL 3.00 0.500 5.00 40.0 40.0 40.0 40.0 40.0	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared Lab Sam Prepared Lab Sam	Matrix: Analyzed 04/10/22 11:24 04/10/22 11:24 04/12/22 00:31 03/29/22 11:34 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:39 04/10/22 11:39 03/25/22 15:32 03/30/22 13:32 ple ID: 280-16 Matrix: Analyzed 04/10/22 11:55 04/10/22 11:55	Water Dil Fac 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1

Eurofins Denver

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-2 SDG: AVS Landfill

General Chemistry

Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05							Lab Sam	ple ID: 280-16 Matrix:	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.2		3.00		mg/L			04/10/22 12:25	1
Fluoride	1.24		0.500		mg/L			04/10/22 12:25	1
Sulfate	643		25.0		mg/L			04/10/22 12:40	5
Total Dissolved Solids (TDS)	2180		40.0		mg/L			03/25/22 15:32	1
Total Dissolved Solids (TDS)	2220	н	40.0		mg/L			03/30/22 13:32	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill Job ID: 280-160139-2 SDG: AVS Landfill

Method: 6010C - Metals (ICP)

ab Sample ID: MB 280-5703	48/1-A										ole ID: M		
Aatrix: Water									P	гер Тур	e: Total F		
nalysis Batch: 570848											Prep Ba	itch: 5	70348
		MB											
nalyte		Qualifier			MDL			D		repared	Analyz		Dil Fa
oron	ND			100		ug/L					04/05/22		
alcium	ND			200		ug/L			03/3 ⁻	1/22 11:02	04/05/22	09:13	
ab Sample ID: MB 280-5703	48/1-A								Clie	nt Samp	ole ID: M	ethod	Blanl
Aatrix: Water									P	rep Type	e: Total F	Recove	erable
Analysis Batch: 571048											Prep Ba	tch: 5	7034
	MB	MB											
nalyte	Result	Qualifier		RL	MDL	Unit		D	Pr	epared	Analyz	ed	Dil Fa
ithium	ND			20.0		ug/L		_	03/3	1/22 11:02	04/06/22	22:13	
ab Sample ID: LCS 280-5703	348/2-A						Clie	ent	San	nple ID:	Lab Con	trol Sa	ample
Aatrix: Water											e: Total F		
Analysis Batch: 570848											Prep Ba		
			Spike	LCS	LCS						%Rec		
nalyte			Added	Resu	t Qual	lifier	Unit		D	%Rec	Limits		
			1000	975.	5		ug/L			98	86 - 110		
oron							-						
oron			50000	4968)		ug/L			99	90 _ 111		
alcium				4968)		-						
	348/2-A			4968)		-	ent		nple ID:	Lab Con		
alcium	348/2- A			4968)		-	ent		nple ID:	Lab Con e: Total F	Recov	erable
alcium .ab Sample ID: LCS 280-5703	348/2-A			4968)		-	ent		nple ID:	Lab Con	Recov	erable
^{alcium} .ab Sample ID: LCS 280-5703 /atrix: Water	348/2-A				B LCS		-	ent		nple ID:	Lab Con e: Total F	Recov	erable
^{alcium} .ab Sample ID: LCS 280-5703 /atrix: Water	348/2-A		50000	LC			-	ent		nple ID:	Lab Con e: Total F Prep Ba	Recov	erable
^{alcium} .ab Sample ID: LCS 280-5703 /atrix: Water \nalysis Batch: 571048	348/2-A		50000 Spike	LC	6 LCS		Clie	ent	Ρ	nple ID: rep Type	Lab Con e: Total F Prep Ba %Rec	Recov	erable
alcium .ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 nalyte			50000 Spike Added	LC: Resul	6 LCS	lifier	Clie Unit ug/L		P 	nple ID: rep Type <u>%Rec</u> 101	Lab Con e: Total F Prep Ba %Rec Limits	Recove atch: 5	erable 70348
alcium .ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 nalyte			50000 Spike Added	LC: Resul	6 LCS	lifier	Clie Unit ug/L		P D ple	nple ID: rep Type <u>%Rec</u> 101 ID: Lab	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112	Recove itch: 5	erable 70348 e Dup
alcium .ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 nalyte ithium .ab Sample ID: LCSD 280-57			50000 Spike Added	LC: Resul	6 LCS	lifier	Clie Unit ug/L		P D ple	nple ID: rep Type <u>%Rec</u> 101 ID: Lab	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112	Recove itch: 5 Sample Recove	erable 70348 e Dup erable
alcium .ab Sample ID: LCS 280-5703 Matrix: Water .nalysis Batch: 571048 .nalyte .thium .ab Sample ID: LCSD 280-570 Matrix: Water			50000 Spike Added	LC: <u>Resul</u> 100:	6 LCS	lifier C	Clie Unit ug/L		P D ple	nple ID: rep Type <u>%Rec</u> 101 ID: Lab	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112 Control S e: Total F	Recove itch: 5 Sample Recove	erable 70348
alcium .ab Sample ID: LCS 280-5703 Matrix: Water .nalysis Batch: 571048 .nalyte .thium .ab Sample ID: LCSD 280-570 Matrix: Water			50000 Spike Added 1000	LCS Resul 100	S LCS t Qual	lifier C D	Clie Unit ug/L		P D ple	nple ID: rep Type <u>%Rec</u> 101 ID: Lab	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba	Recove itch: 5 Sample Recove	e Dup e Dup erable 70348 RPI
alcium .ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte ithium .ab Sample ID: LCSD 280-57 Matrix: Water Analysis Batch: 570848			50000 Spike Added 1000 Spike	LCS Resul 100	5 LCS t Qual 5 LCS t Qual	lifier C D	Clic Unit ug/L Client S		P D ple P	nple ID: rep Type <u>%Rec</u> 101 – ID: Lab rep Type	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec	Recove itch: 5 Sample Recove itch: 5	e Dup e Dup erable 70348 RPE Limi
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 Inalyte Ithium ab Sample ID: LCSD 280-570 Matrix: Water Analysis Batch: 570848			50000 Spike Added 1000 Spike Added	LC: <u>Resul</u> 100 LCSI Resul	$\frac{1}{2} LCS$	lifier C D	Unit ug/L Client S		P D ple P	%Rec 101 ID: Lab rep Type %Rec	Lab Con Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits	Recover sample Recover ttch: 5	erable 70348 – e Dup erable
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte ithium ab Sample ID: LCSD 280-570 Matrix: Water Analysis Batch: 570848 malyte oron alcium	0348/3-A		50000 Spike Added 1000 Spike Added 1000	LCS Resul 1003 LCSI Resul 105	$\frac{1}{2} LCS$	lifier C D lifier	Clic ug/L client S <u>Unit</u> ug/L ug/L	am	P ple P	%Rec 101 ID: Lab rep Type %Rec 101	Lab Con Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111	Recover sample Recover ttch: 5 RPD 8 6	e Dup e Dup erable 70348 RPE Limi 20 20
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte ithium ab Sample ID: LCSD 280-570 Matrix: Water Analysis Batch: 570848 malyte oron	0348/3-A		50000 Spike Added 1000 Spike Added 1000	LCS Resul 1003 LCSI Resul 105	$\frac{1}{2} LCS$	lifier C D lifier	Clic ug/L client S <u>Unit</u> ug/L ug/L	am	P ple P	mple ID: rep Type 101 ID: Lab (rep Type %Rec 105 106 106 ID: Lab (Lab Con Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111 Control S	Recover itch: 5 Sample Recover itch: 5 <u>RPD</u> 8 6 Sample	e Dup erable rable 70348 e Dup erable 70348 RPI Limi 20 20 e Dup
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte ithium ab Sample ID: LCSD 280-574 Matrix: Water Analysis Batch: 570848 malyte oron alcium ab Sample ID: LCSD 280-574 Matrix: Water	0348/3-A		50000 Spike Added 1000 Spike Added 1000	LCS Resul 1003 LCSI Resul 105	$\frac{1}{2} LCS$	lifier C D lifier	Clic ug/L client S <u>Unit</u> ug/L ug/L	am	P ple P	mple ID: rep Type 101 ID: Lab (rep Type %Rec 105 106 106 ID: Lab (Lab Con Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111 Control S e: Total F	Sample Sample Recover atch: 5 <u>RPD</u> 8 6 Sample Recover	e Dup erable 70348 e Dup erable 70348 RPI 20 20 20 e Dup erable
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte tithium ab Sample ID: LCSD 280-570 Matrix: Water Analysis Batch: 570848 malyte oron alcium ab Sample ID: LCSD 280-570	0348/3-A		50000 Spike Added 1000 Spike Added 1000	LC3 Resul 1003 LCSI Resul 1053 5276	$\frac{1}{2} \frac{\text{LCS}}{\text{Qual}}$	lifier D lifier	Clic ug/L client S <u>Unit</u> ug/L ug/L	am	P ple P	mple ID: rep Type 101 ID: Lab (rep Type %Rec 105 106 106 ID: Lab (Lab Con Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111 Control S	Sample Sample Recover atch: 5 <u>RPD</u> 8 6 Sample Recover	e Dup erable 70348 e Dup erable 70348 RPI 20 20 20 20 20 20 20 20 20 20 20 20 20
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte ithium ab Sample ID: LCSD 280-574 Matrix: Water Analysis Batch: 570848 malyte oron alcium ab Sample ID: LCSD 280-574 Matrix: Water	0348/3-A		50000 Spike Added 1000 Spike Added 1000 50000	LCS Resul 100 LCSI Resul 105 5276 LCSI	$\frac{1}{2} LCS$	Lifier D Lifier D	Clic ug/L client S <u>Unit</u> ug/L ug/L	am	P ple P	mple ID: rep Type 101 ID: Lab (rep Type %Rec 105 106 106 ID: Lab (Lab Con Prep Ba %Rec Limits 90 - 112 Control \$ e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111 Control \$ e: Total F Prep Ba	Sample Sample Recover atch: 5 <u>RPD</u> 8 6 Sample Recover	e Dup erable 70344 e Dup erable 70344 RPI 20 e Dup erable 70344 RPI
alcium ab Sample ID: LCS 280-5703 Matrix: Water Analysis Batch: 571048 malyte tthium ab Sample ID: LCSD 280-574 Matrix: Water Analysis Batch: 570848 malyte oron alcium ab Sample ID: LCSD 280-574 Matrix: Water Analysis Batch: 571048	0348/3-A		50000 Spike Added 1000 Spike Added 1000 50000	LCS Resul 100 LCSI Resul 105 5276 LCSI	$\frac{1}{2}$	Lifier D Lifier D	Clic ug/L client S <u>Unit</u> ug/L ug/L client S	am	P ple P ple P	%Rec 101 ID: Lab rep Type %Rec 101 ID: Lab 105 106 ID: Lab rep Type 105 106 ID: Lab rep Type	Lab Con e: Total F Prep Ba %Rec Limits 90 - 112 Control S e: Total F Prep Ba %Rec Limits 86 - 110 90 - 111 Control S e: Total F Prep Ba %Rec	Recover itch: 5 Sample Recover itch: 5 Sample 8 6 Sample Recover itch: 5	e Dup erable 70348 e Dup erable 70348 RPI 20 20 20 e Dup erable

Matrix: Water Analysis Batch: 570455								Prep Type: To Prep Batch: {	otal/NA	
		MB Qualifier	RL	MDL	Unit	р	Prepared	Analyzed	Dil Fac	
Antimony	ND		2.00		uq/L	<u> </u>		03/31/22 18:26	1	
Arsenic	ND		5.00		ug/L			03/31/22 18:26	1	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

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

Lab Sample ID: MB 280-570059/1-A **Matrix: Water**

Analysis Batch: 570455

	MB	МВ						•		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Barium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Beryllium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Cadmium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Chromium	ND		2.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Cobalt	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Lead	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	ľ
Molybdenum	ND		2.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Selenium	ND		5.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	
Thallium	ND		1.00		ug/L		03/30/22 06:59	03/31/22 18:26	1	

Lab Sample ID: LCS 280-570059/2-A **Matrix: Water** Analysis Batch: 570455

Analyte

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Prep Batch: 570059 Spike LCS LCS %Rec Added Result Qualifier D %Rec Limits Unit 40.0 43.95 ug/L 110 85 - 115 40.0 39.96 ug/L 100 85 - 117 40.0 43.08 ug/L 108 85 - 118 40.0 39.70 ug/L 99 80 - 125 40.0 40.27 101 85 - 115 ug/L 40.0 40.74 ug/L 102 84 - 121 4 0 0 ~ ~ 400

Cobalt	40.0	40.02	ug/L	100	85 - 120	
Lead	40.0	41.25	ug/L	103	85 - 118	
Molybdenum	40.0	41.98	ug/L	105	85 - 119	
Selenium	40.0	39.29	ug/L	98	77 - 122	
Thallium	40.0	40.77	ug/L	102	85 - 118	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-570456/1-A Matrix: Water Analysis Batch: 570572 M	B MB						Clie	ent Sam	ple ID: Me Prep Typ Prep Bat	e: Tot	al/NA
Analyte Resu	It Qualifier		RL	MDL	. Unit		D P	repared	Analyze	d	Dil Fac
Mercury N	D	0.00	0200		mg/L		04/0)1/22 11:51	04/01/22 1	5:58	1
Lab Sample ID: LCS 280-570456/2-A Matrix: Water Analysis Batch: 570572					_	Clie	ent Sa	mple ID:	Lab Cont Prep Typ Prep Bat	e: Tot	al/NA
		Spike		S LC			_	~·-	%Rec		
Analyte		Added			alifier	Unit	D	%Rec	Limits		
Mercury		0.00500	0.0050	34		mg/L		102	84 - 120		
Lab Sample ID: LCSD 280-570456/3-A Matrix: Water Analysis Batch: 570572					C	Client Sa	ample	ID: Lab	Control S Prep Typ Prep Bat	e: Ťot	al/NA
		Spike	LC	DLC	SD				%Rec		RPD
Analyte		Added	Res	ılt Qu	alifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury		0.00500	0.0050)7		mg/L		100	84 - 120	2	15

Job ID: 280-160139-2 SDG: AVS Landfill

Prep Type: Total/NA

Prep Batch: 570059

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

9

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Method: 9056A - Anions, Ion Chromatography

Job ID: 280-160139-2 SDG: AVS Landfill

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

9

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

ent Samp

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			04/10/22 09:25	1
Fluoride	ND		0.500		mg/L			04/10/22 09:25	1
Sulfate	ND		5.00		mg/L			04/10/22 09:25	1
Lab Sample ID: LCS 280-571341	/81					Client	Sample ID:	Lab Control S	ample

Lab Sample ID: LCS 280-571341/81 Matrix: Water Analysis Batch: 571341

Lab Sample ID: MB 280-571341/83

Matrix: Water

Analysis Batch: 571341

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	100	98.99		mg/L	_	99	90 - 110	
Fluoride	5.00	4.817		mg/L		96	90 - 110	
Sulfate	100	97.46		mg/L		97	90 - 110	

Lab Sample ID: LCSD 280-571341/82 Matrix: Water Analysis Batch: 571341

-	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	 100	99.05		mg/L		99	90 - 110	0	10	
Fluoride	5.00	4.913		mg/L		98	90 - 110	2	10	
Sulfate	100	97.48		mg/L		97	90 - 110	0	10	

Lab Sample ID: MRL 280-571341/3 Matrix: Water

Analysis Batch: 571341

-	Spike	MRL	MRL				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	 5.00	5.032		mg/L		101	50 - 150	
Fluoride	0.500	0.5206		mg/L		104	50 - 150	
Sulfate	5.00	ND		mg/L		96	50 - 150	

Lab Sample ID: MB 280-571398/13

Matri	X: N	later	
Analy	/sis	Batch:	571398

Analyte

398									Prep Type:	Total/NA
	МВ	MB								
	Result	Qualifier	RL	MDL	Unit	D	Pr	epared	Analyzed	Dil Fac

Sulfate ND 5.00 04/11/22 15:13 1 mg/L Lab Sample ID: LCS 280-571398/11 **Client Sample ID: Lab Control Sample** Matrix: Water Prep Type: Total/NA Analysis Batch: 571398 Spike LCS LCS %Rec Analyte Added Result Qualifier Unit Limits D %Rec Sulfate 100 97.49 97 90 - 110 mg/L

QC Sample Results

Client: Basin Electric Power Cooperative

Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-2 SDG: AVS Landfill

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

Lab Sample ID: LCSD 280-571398/12	2					C	lient S	ampl	e II	D: Lab	Control		
Matrix: Water											Prep Ty	pe: Io	tal/NA
Analysis Batch: 571398			Onites								0/ D = =		
Analysia			Spike		LCSD	Qualifier	11	-			%Rec Limits	000	RPD
Analyte			Added 100		97.50	Quaimer	Unit			%Rec 	90 - 110	0	Limit 10
Surate			100		97.50		mg/L			97	90-110	0	IC
Lab Sample ID: MRL 280-571398/10							Cli	ent Sa	am	ple ID:	Lab Cor	ntrol S	ample
Matrix: Water											Prep Ty		
Analysis Batch: 571398													
			Spike		MRL	MRL					%Rec		
Analyte			Added		Result	Qualifier	Unit	0		%Rec	Limits		
Sulfate	_		5.00		ND		mg/L			84	50 - 150		
lethod: SM 2540C - Solids, Tot Lab Sample ID: MB 280-569847/1 Matrix: Water	tal D	issolve	d (TDS	S)				CI	ien	it Sam	ple ID: M Prep Ty		
Analysis Batch: 569847												-	
	MB	MB											
Analyte F	Result	Qualifier		RL	I	MDL Unit		D	Pre	pared	Analy	zed	Dil Fa
Total Dissolved Solids (TDS)	ND			10.0		mg/L					03/25/22	15:32	
Lab Sample ID: LCS 280-569847/2 Matrix: Water							Cli	ent Sa	am	ple ID:	Lab Cor Prep Ty		
Analysis Batch: 569847			Omilia		1.00						0/ D = =		
A			Spike		LCS			_			%Rec		
			Added			Qualifier	Unit	[%Rec _	Limits		
Total Dissolved Solids (TDS)			504		486.0		mg/L			96	88 - 114		
Lab Sample ID: LCSD 280-569847/3 Matrix: Water						C	lient S	ampl	e II	D: Lab	Control Prep Ty		
							lient S	ampl	e II	D: Lab	Prep Ty		tal/NA
Matrix: Water Analysis Batch: 569847			Spike		LCSD	LCSD		ampl			Prep Ty %Rec	pe: To	tal/NA
Matrix: Water Analysis Batch: 569847 Analyte			Added		Result		Unit	ampl		%Rec	Prep Ty %Rec Limits	pe: To	tal/NA RPI
Matrix: Water Analysis Batch: 569847 Analyte			•			LCSD					Prep Ty %Rec	pe: To	tal/NA RPI Limi
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS)			Added		Result	LCSD	Unit	<u>[</u>)	% Rec _	Prep Ty %Rec Limits 88 - 114	pe: To <u>RPD</u> 0	tal/NA RPI Limi
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1			Added		Result	LCSD	Unit	<u>[</u>)	% Rec _	Prep Ty %Rec Limits 88 - 114 ple ID: M	pe: To <u>RPD</u> 0 ethod	tal/NA RPI Limi 20 Blanl
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water			Added		Result	LCSD	Unit	<u>[</u>)	% Rec _	Prep Ty %Rec Limits 88 - 114	pe: To <u>RPD</u> 0 ethod	tal/NA RPI Limi 20 Blani
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1			Added		Result	LCSD	Unit	<u>[</u>)	% Rec _	Prep Ty %Rec Limits 88 - 114 ple ID: M	pe: To <u>RPD</u> 0 ethod	tal/NA RPE Limi 20 Blank
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088		MB	Added		Result 488.0	LCSD Qualifier	Unit	CI) <u></u>	%Rec 97 nt Sam	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty	pe: To RPD 0 ethod pe: To	tal/NA RPE Limi 20 Blank tal/NA
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088	Result	MB Qualifier	Added		Result 488.0	LCSD Qualifier MDL Unit	Unit	CI) <u></u>	% Rec _	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty Analyz	pe: To <u>RPD</u> 0 ethod pe: To zed	tal/NA RPI Limi 20 Blanl tal/NA Dil Fa
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088			Added	RL 10.0	Result 488.0	LCSD Qualifier	Unit	CI) <u></u>	%Rec 97 nt Sam	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty	pe: To <u>RPD</u> 0 ethod pe: To zed	tal/NA RPI Limi 20 Blanl tal/NA Dil Fa
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088 Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-570088/2 Matrix: Water	Result		Added		Result 488.0	LCSD Qualifier MDL Unit	Unit mg/L	[CI) <u>(</u> ien	%Rec 97 ht Sam pared	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty Analyz	Pe: To RPD 0 ethod pe: To 2ed 10:34 ntrol S	tal/N/ RPI Limi 2 Blanl tal/N/ Dil Fa
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088	Result		Added 504		Result 488.0	LCSD Qualifier MDL Unit mg/L	Unit mg/L	[CI) <u>(</u> ien	%Rec 97 ht Sam pared	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty - Analy: 03/29/22 Lab Cor Prep Ty	Pe: To RPD 0 ethod pe: To 2ed 10:34 ntrol S	tal/NA RPE Limi 20 Blank tal/NA Dil Fac
Matrix: Water Analysis Batch: 569847 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analysis Batch: 570088 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-570088/1 Matrix: Water Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-570088/2 Matrix: Water	Result		Added		Result 488.0	LCSD Qualifier MDL Unit	Unit mg/L	[CI) ien Pre	%Rec 97 ht Sam pared	Prep Ty %Rec Limits 88 - 114 ple ID: M Prep Ty - Analyz 03/29/22 Lab Cor	Pe: To RPD 0 ethod pe: To 2ed 10:34 ntrol S	tal/NA RPD Limit 20 Blank tal/NA Dil Fac

QC Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS

Landfill

Job ID: 280-160139-2 SDG: AVS Landfill

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

Lab Sample ID: 280-160139 Matrix: Water Analysis Batch: 570088)-1 DU										Clien	t Sample Prep Tyj		
	Sample	Sample			DU	DU								RPD
Analyte	Result	Qualifier			Result	Quali	fier	Unit		D			RPD	Limit
Total Dissolved Solids (TDS)	1630				1644			mg/L					0.7	10
Lab Sample ID: MB 280-570	0244/1								С	lier	nt Sam	ple ID: Me	ethod	Blank
Matrix: Water												Prep Ty	pe: To	tal/NA
Analysis Batch: 570244														
-		MB MB												
Analyte	Re	sult Qualifie	ər	RL	I	MDL (Jnit		D	Pre	epared	Analyz	ed	Dil Fac
Total Dissolved Solids (TDS)		ND		10.0		r	ng/L					03/30/22	13:32	1
Lab Sample ID: LCS 280-57 Matrix: Water Analysis Batch: 570244	70244/2							Clie	ent S	Sam	ple ID:	: Lab Con Prep Tyj		
			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Quali	fier	Unit		D	%Rec	Limits		
Total Dissolved Solids (TDS)			505		493.0			mg/L			98	88 - 114		
Lab Sample ID: 280-160139	-2 DU										Clien	t Sample	ID: M	N-24S
Matrix: Water												Prep Ty	pe: To	tal/NA
Analysis Batch: 570244													•	
-	Sample	Sample			DU	DU								RPD
Analyte	Result	Qualifier			Result	Quali	fier	Unit		D			RPD	Limit
Total Dissolved Solids (TDS)	1970	Н			1968			mg/L					0.2	10

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

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Metals

Prep Batch: 570059

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	3020A	
280-160139-2	MW-24S	Total/NA	Water	3020A	
280-160139-3	MW-21S	Total/NA	Water	3020A	
280-160139-4	DUP	Total/NA	Water	3020A	
MB 280-570059/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-570059/2-A	Lab Control Sample	Total/NA	Water	3020A	
rep Batch: 570348					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total Recoverable	Water	3005A	
280-160139-2	MW-24S	Total Recoverable	Water	3005A	
280-160139-3	MW-21S	Total Recoverable	Water	3005A	
280-160139-4	DUP	Total Recoverable	Water	3005A	
MB 280-570348/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-570348/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 280-570348/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
Analysis Batch: 5704	155				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	6020A	570059
280-160139-2	MW-24S	Total/NA	Water	6020A	570059
280-160139-3	MW-21S	Total/NA	Water	6020A	570059
280-160139-4	DUP	Total/NA	Water	6020A	570059
MB 280-570059/1-A	Method Blank	Total/NA	Water	6020A	570059
LCS 280-570059/2-A	Lab Control Sample	Total/NA	Water	6020A	570059
Prep Batch: 570456					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	7470A	
280-160139-2	MW-24S	Total/NA	Water	7470A	
280-160139-3	MW-21S	Total/NA	Water	7470A	
280-160139-4	DUP	Total/NA	Water	7470A	
MB 280-570456/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-570456/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 280-570456/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
nalysis Batch: 570	572				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	7470A	570456
280-160139-2	MW-24S	Total/NA	Water	7470A	570456
280-160139-3	MW-21S	Total/NA	Water	7470A	570456
280-160139-4	DUP	Total/NA	Water	7470A	570456
MB 280-570456/1-A	Method Blank	Total/NA	Water	7470A	570456
LCS 280-570456/2-A	Lab Control Sample	Total/NA	Water	7470A	570456
	Lab Control Sample Dup	Total/NA	Water	7470A	570456
LCSD 280-570456/3-A	Lab Control Sample Dup				
Analysis Batch: 5708 - Lab Sample ID	348 Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
analysis Batch: 5708	348 <u>Client Sample ID</u> MW-22S		Matrix Water	Method 6010C	Prep Batch 570348
nalysis Batch: 5708 Lab Sample ID	348 Client Sample ID	Ргер Туре			

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Job ID: 280-160139-2 SDG: AVS Landfill

Metals (Continued)

Analysis Batch: 570848 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
280-160139-3	MW-21S	Total Recoverable	Water	6010C	570348	1
280-160139-4	DUP	Total Recoverable	Water	6010C	570348	
MB 280-570348/1-A	Method Blank	Total Recoverable	Water	6010C	570348	
_CS 280-570348/2-A	Lab Control Sample	Total Recoverable	Water	6010C	570348	
CSD 280-570348/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	570348	
Lab Sample ID 280-160139-1	Client Sample ID MW-22S	Prep Type Total Recoverable	- Matrix Water	Method 6010C	Prep Batch 570348	
nalysis Batch: 5710						
280-160139-2	MW-24S	Total Recoverable	Water	6010C	570348	
280-160139-3	MW-21S	Total Recoverable	Water	6010C	570348	1
280-160139-4	DUP	Total Recoverable	Water	6010C	570348	
	Method Blank	Total Recoverable	Water	6010C	570348	
MB 280-570348/1-A						
MB 280-570348/1-A LCS 280-570348/2-A	Lab Control Sample	Total Recoverable	Water	6010C	570348	

General Chemistry

Analysis Batch: 569847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-2	MW-24S	Total/NA	Water	SM 2540C	
280-160139-3	MW-21S	Total/NA	Water	SM 2540C	
280-160139-4	DUP	Total/NA	Water	SM 2540C	
MB 280-569847/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-569847/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-569847/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 570088

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-160139-1	MW-22S	Total/NA	Water	SM 2540C	
MB 280-570088/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-570088/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-160139-1 DU	MW-22S	Total/NA	Water	SM 2540C	

Analysis Batch: 570244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-160139-2	MW-24S	Total/NA	Water	SM 2540C	
280-160139-3	MW-21S	Total/NA	Water	SM 2540C	
280-160139-4	DUP	Total/NA	Water	SM 2540C	
MB 280-570244/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-570244/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-160139-2 DU	MW-24S	Total/NA	Water	SM 2540C	

Analysis Batch: 571341

Lab Sample ID 280-160139-1	Client Sample ID MW-22S	Prep Type Total/NA	Water	Method 9056A	Prep Batch
280-160139-2	MW-24S	Total/NA	Water	9056A	
280-160139-3	MW-21S	Total/NA	Water	9056A	
280-160139-3	MW-21S	Total/NA	Water	9056A	
280-160139-4	DUP	Total/NA	Water	9056A	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

General Chemistry (Continued)

Analysis Batch: 571341 (Continued)

Lab Sample ID 280-160139-4	Client Sample ID DUP	Prep Type Total/NA	Matrix Water	Method 9056A	Prep Batch
MB 280-571341/83	Method Blank	Total/NA	Water	9056A	
LCS 280-571341/81	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-571341/82	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-571341/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 571398

Lab Sample ID 280-160139-1	Client Sample ID	Prep Type Total/NA	Matrix Water	Method 9056A	Prep Batch
MB 280-571398/13	Method Blank	Total/NA	Water	9056A	
LCS 280-571398/11	Lab Control Sample	Total/NA	Water	9056A	1
LCSD 280-571398/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-571398/10	Lab Control Sample	Total/NA	Water	9056A	

Job ID: 280-160139-2 SDG: AVS Landfill

Initial

Amount

50 mL

50 mL

50 mL

30 mL

10 mL

5 mL

50 mL

Final

Amount

50 mL

50 mL

50 mL

50 mL

10 mL

5 mL

100 mL

Batch

Number

570348

570848

570348

571048

570059

570455

570456

570572

571341

571398

570088

Dil

1

1

1

1

1

5

1

Factor

Run

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Batch

3005A

6010C

3005A

6010C

3020A

6020A

7470A

7470A

9056A

9056A

SM 2540C

Method

Client Sample ID: MW-22S Date Collected: 03/22/22 10:05 Date Received: 03/24/22 11:05

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Batch

Туре

Prep

Prep

Prep

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Lab Sample ID: 280-160139-1

Analyst

Prepared

or Analyzed

03/31/22 11:02 MB

04/05/22 10:26 LMT

03/31/22 11:02 MB

04/06/22 22:33 MAB

03/30/22 06:59 KMS

03/31/22 19:37 LMT

04/01/22 11:51 MAB

04/01/22 16:10 MAB

04/10/22 11:24 RAF

04/12/22 00:31 RAF

03/29/22 11:34 LRB

Matrix: Water

Lab

TAL DEN

Client Sample ID: MW-24S Date Collected: 03/22/22 11:05 Date Received: 03/24/22 11:05

Lab Sample ID: 280-160139-2 Matrix: Water

Lab Sample ID: 280-160139-3

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			570848	04/05/22 10:30	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			571048	04/06/22 22:37	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	570059	03/30/22 06:59	KMS	TAL DEN
Total/NA	Analysis	6020A		1			570455	03/31/22 19:41	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	570456	04/01/22 11:51	MAB	TAL DEN
Total/NA	Analysis	7470A		1			570572	04/01/22 16:13	MAB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	571341	04/10/22 11:39	RAF	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569847	03/25/22 15:32	ECC	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	570244	03/30/22 13:32	LRB	TAL DEN

Client Sample ID: MW-21S Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			570848	04/05/22 10:34	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			571048	04/06/22 22:41	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	570059	03/30/22 06:59	KMS	TAL DEN
Total/NA	Analysis	6020A		1			570455	03/31/22 19:44	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	570456	04/01/22 11:51	MAB	TAL DEN
Total/NA	Analysis	7470A		1			570572	04/01/22 16:15	MAB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	571341	04/10/22 11:55	RAF	TAL DEN

Eurofins Denver

Matrix: Water

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Client Sample ID: MW-21S Lab Sample ID: 280-160139-3 Date Collected: 03/22/22 12:50 Matrix: Water Date Received: 03/24/22 11:05 Batch Batch Dil Initial Final Batch Prepared Prep Type Method Factor Amount Amount Number or Analyzed Туре Run Analyst Lab Total/NA 9056A 571341 04/10/22 12:10 RAF TAL DEN Analysis 5 10 mL 10 mL Total/NA Analysis SM 2540C 1 25 mL 100 mL 569847 03/25/22 15:32 ECC TAL DEN 03/30/22 13:32 LRB Total/NA Analysis SM 2540C 25 mL 100 mL 570244 TAL DEN 1

Client Sample ID: DUP Date Collected: 03/22/22 12:50 Date Received: 03/24/22 11:05

Lab Sample ID: 280-160139-4 Matrix: Water

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			570848	04/05/22 10:38	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	570348	03/31/22 11:02	MB	TAL DEN
Total Recoverable	Analysis	6010C		1			571048	04/06/22 22:46	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	570059	03/30/22 06:59	KMS	TAL DEN
Total/NA	Analysis	6020A		1			570455	03/31/22 19:48	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	570456	04/01/22 11:51	MAB	TAL DEN
Total/NA	Analysis	7470A		1			570572	04/01/22 16:18	MAB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	571341	04/10/22 12:25	RAF	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	571341	04/10/22 12:40	RAF	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569847	03/25/22 15:32	ECC	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	570244	03/30/22 13:32	LRB	TAL DEN

Laboratory References:

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

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11 12 13

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - North Dakota Sites -AVS Landfill

Laboratory: Eurofins Denver

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

Authority North Dakota Program State

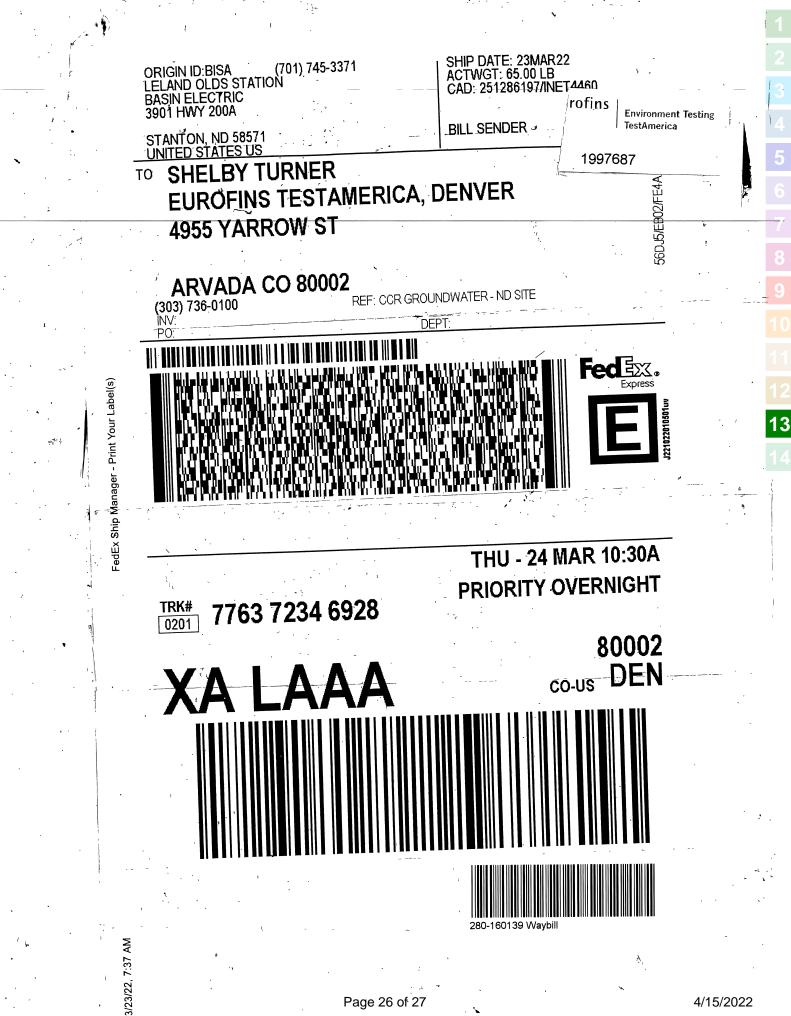
Identification Number R-034

Expiration Date 01-09-23

Job ID: 280-160139-2

SDG: AVS Landfill

Client Information AthRow Kow Some Client Information Client Information Client Contact: Phone: Company: Phone: Company: Phone: Company: Phone: Company: Phone: Company: Phone: Salarian Phone: 3901 Highway 200A Tar Requested: Address: Due Date Requested: 3901 Highway 200A Tar Requested (days): Station Star Jp: ND, 58571 Po<# Phone: Purchase Order Requested Phone: NO # Phone: Po<# Phone: Po<# <	Ma BT=1sss ation O	х 🗒 ———				
Due Date Requested: TAT Requested (days): 5 t _c n d _i d _i c _i) Po #: Po #: </th <th>Ma BT-Test BT-Test</th> <th>hp III) القلاف</th> <th>Isel.com</th> <th></th> <th>Page:</th> <th></th>	Ma BT-Test BT-Test	hp III) القلاف	Isel.com		Page:	
Due Date Requested: TAT Requested (days): 5 hω ducc) Po #: Purchase Order Requested WO #: Project #: SSOW#: Sample Date Time	Matrix Matrix (Matrix Second ourvestical, BT=Tesue, A=Atr) ation Code:		ysis	Requested	:# doL	
IAT Requested (days): Stan doard Poo #: Project #: 28021258 SSOW#: Sample Date Time 0	Matrix (Wanter Second Onvaste/oll, DETERSUE, Acht) BETERSUE, Acht) ation Code:				Preservation Codes: A - HCL M	
S tan dard Po #: Purchase Order Requested Wo #: Project #: 28021258 SSOW#: SSOW#: Sample Date Sample (Matrix Matrix (W=water, S=polid, O=vaste(oil, BT=TEsue, A=AIP) ation Code:				B - NaOH C - Zn Acetate	
Po #: Purchase Order Requested w0 #: 2802/1258 sSOW#: Sample Date Time 0	Matrix Matrix (s=solid ouverse(s) BT=Tesue, n=Art) ation Code:		(VI xit		D - Nitric Acid E - NaHSO4 F - MeOH	P - Na204S Q - Na2S03 R - Na2S203
wo #: Project #: 28021258 SSOW#: SSOW#: Sample Date Time 0	Matrix (w=water, s=solid, o=watefoli, BT-Tissue, A=Ath) ation Code:	-	bhenc		G - Amchlor H - Ascorbic Acid	
Project #: 2802/1258 SSOW#: SSOW#: Sample Date Sample ()	Matrix (W=water, S=solid, O=wate/cli, BT=Tesue, A=AIP) ation Code:	oron (4) (£ ło			
SSOW#: Sample Date Time 0	Matrix (w=water, s=solid, o=T=suer, A=AIP) ation Code:	8 pue	ury (3			Z - other (specify)
Sample ((Matrix (W=water, s=solid, o=wasteioli, BT=TIssue, A=Air) ation Code:	muiole alcium	ithium Merc		of co	
	ation Code:	Perform MS/M model 9 1616 - Total C 9056A_28D - Cl	2540C_Calcd 5010C - Total L 5015_Fa226, 92 7315_Fa226, 92		Total Number So Co Co Ci	Special Instructions/Note:
/		z 2				
3-23-1005 65-23	3	××	X X X		- HG	8.27
3 -23 1120 6	<u>N</u>				DH -	8,23
3-23-32 1250 C	\searrow				- HO	8.13
3-33-33 1250 6	N S	7 1	1 4		-HO	8.13
					-	
		280-16	280-160139 Chain of Custody	tody		
Skin Irritant Doison R I Inknown Radiolonical	ndical	Sample Dispo	sal (A fee may be a	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Hothine For Mon	retained longer than	1 month) Months
		Special Instruc	Special Instructions/QC Requirements:	ints:		
Date:	Tir	Time:		Method of Shipment:		
Date/Time: 3-33-23-0700	\mathcal{BEPC}	Received by:	MAC	JCP4	102 102	STA DEN
	Company	Received by:		Date/Time:		Company
Date/Time:	Company	Received by:		Date/Time:		Company
Custody Seal No.:		Cooler Temp	Cooler Temperature(s) °C and Other Remarks: $O_{1} < C = O_{2} < C$	emarks: TP2 13		



Page 26 of 27

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 160139 List Number: 1 Creator: Rystrom, Joshua R

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

Job Number: 280-160139-2 SDG Number: AVS Landfill

List Source: Eurofins Denver

🛟 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-162908-1

Laboratory Sample Delivery Group: AVS Landfill New Wells Client Project/Site: CCR Groundwater - ND Sites - AVS Landfill

For:

LINKS

Review your project results through

EOL

Have a Question?

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The

www.eurofinsus.com/Env

Visit us at:

Expert

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelby Twiner

Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

Authorized for release by: 6/29/2022 1:58:26 PM

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

3

Qualifiers

Rad

Qualifier	Qualifier Description	
U	Result is less than the sample detection limit.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	ð
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	
MQL	Method Quantitation Limit	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
NEG	Negative / Absent	
POS	Positive / Present	
PQL	Practical Quantitation Limit	
PRES	Presumptive	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	
TNTC	Too Numerous To Count	

Job ID: 280-162908-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - AVS Landfill

Report Number: 280-162908-1

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.

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

RECEIPT

The samples were received on 5/31/2022 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 15.9° C.

The following samples were received at the laboratory outside the required temperature criteria at 15.9C: MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4). This does not meet regulatory requirements. It can be noted that metals and radiochemistry methods do not require thermal preservation. The only impacted methods are 9056A CL/FL/SO4 and 2540C TDS. The client was contacted on 5/31/22 regarding this issue, and the laboratory was instructed to cancel 9056A CL/FL/SO4 and 2540C TDS. The laboratory will only proceed with the requested metals and radiochemistry analyses. The client will recollect volume for Anions and TDS at a later date.

RADIUM-226 (GFPC)

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 06/03/2022 and analyzed on 06/27/2022.

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

RADIUM-228

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 06/03/2022 and analyzed on 06/21/2022.

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

RADIUM-226/RADIUM-228 (GFPC)

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. The samples were analyzed on 06/28/2022.

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

Job ID: 280-162908-1 (Continued)

Laboratory: Eurofins Denver (Continued)

RAD

Methods 903.0, 9315: Radium-226 batch 568241

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

MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3), DUP (280-162908-4), (LCS 160-568241/1-A), (MB 160-568241/21-A), (160-45635-B-1-B) and (160-45635-B-1-C DU)

Methods 904.0, 9320: Radium-228 batch 568242

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

MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3), DUP (280-162908-4), (LCS 160-568242/1-A), (MB 160-568242/21-A), (160-45635-B-1-D) and (160-45635-B-1-E DU)

Method PrecSep_0:

Method PrecSep-21:

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

Detection Summary		
Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill	Job ID: 280-162908-1 SDG: AVS Landfill New Wells	
Client Sample ID: MW-24S	Lab Sample ID: 280-162908-1	
No Detections.		
Client Sample ID: MW-22S	Lab Sample ID: 280-162908-2	
No Detections.		
Client Sample ID: MW-21S	Lab Sample ID: 280-162908-3	
No Detections.		
Client Sample ID: DUP	Lab Sample ID: 280-162908-4	
No Detections.		

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-1 SDG: AVS Landfill New Wells

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

Protocol References:

None = None

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

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

Laboratory References:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-1 SDG: AVS Landfill New Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-162908-1	MW-24S	Water	05/26/22 09:05	05/31/22 09:40
280-162908-2	MW-22S	Water	05/26/22 10:15	05/31/22 09:40
280-162908-3	MW-21S	Water	05/26/22 11:40	05/31/22 09:40
280-162908-4	DUP	Water	05/26/22 11:40	05/31/22 09:40

Client Sample Results

Method: 9315 - Radium-226 (GFPC)

Client Sample ID Date Collected: ()5						Lab Sam	ole ID: 280-16 Matrix	2908-1 : Water
Date Received: 0)5/31/22 09:4	0								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC U		Prepared	Analyzed	Dil Fac
Radium-226	0.108	U	0.152	0.152	1.00	0.257 p	oCi/L	06/03/22 10:08	06/27/22 13:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/03/22 10:08	06/27/22 13:38	1
Client Sample ID		_						Lab Sam	ole ID: 280-16	
Date Collected: (Matrix	Water
Date Received: 0	15/31/22 09:4	0	Count	Total						
			Uncert.	Uncert.						
Analyte	Pocult	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC U	Init	Prepared	Analyzed	Dil Fac
Radium-226	-0.0412		0.0894	0.0895	1.00	0.217 p			06/27/22 13:38	1
Raulum-220	-0.0412	0	0.0094	0.0095	1.00	0.217 p		00/03/22 10:00	00/21/22 13.30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/03/22 10:08	06/27/22 13:38	1
Client Sample ID								Lab Sam	ole ID: 280-16	
Date Collected: (Date Received: (watrix	Water
Date Received.	0.01/22 00.4		Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ+ /-)	RL	MDC U	Jnit	Prepared	Analyzed	Dil Fac
Radium-226	0.101	U	0.0936	0.0941	1.00	0.141 p	oCi/L	06/03/22 10:08	06/27/22 13:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.0		40 - 110					06/03/22 10:08	06/27/22 13:38	1
Client Sample ID								Lah Sami	ole ID: 280-16	2908-4
Date Collected: (0						Lub Guin		Water
Date Received: 0										
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ+/-)	RL	MDC U	Jnit	Prepared	Analyzed	Dil Fac
Radium-226	0.0634	U	0.109	0.109	1.00	0.190 p	oCi/L	06/03/22 10:08	06/27/22 13:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.3		40 - 110					06/03/22 10:08	06/27/22 13:39	1
Method: 9320 -	Radium-2	28 (GFP	C)							
Client Sample ID	: MW-24S							Lab Sami	ole ID: 280-16	2908-1
Date Collected: ()5								Water
Date Received: 0	5/31/22 09:4	0								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ+/-)	RL	MDC U	Jnit	Prepared	Analyzed	Dil Fac
Radium-228	1.09		0.589	0.598	1.00	0.809 p	oCi/L	06/03/22 10:36	06/21/22 12:00	1
								B	A	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-1 SDG: AVS Landfill New Wells

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

Carrier	0/Viold	Qualifian	Limits					Drenered	Analyzad	
Y Carrier	81.9	Qualifier	40 - 110					Prepared 06/03/22 10:36	Analyzed	Dil Fac
r Camer	01.9		40 - 110					00/03/22 10.30	00/21/22 12.00	
Client Sample ID:	MW-22S							Lab Sam	ole ID: 280-16	2908-2
Date Collected: 0		5							Matrix	
Date Received: 08	5/31/22 09:4	0								
			Count	Total						
			Uncert.	Uncert.						
Analyte		Qualifier	(2 σ+/-)	(2σ+/-)	RL	MDC		Prepared	Analyzed	Dil Fa
Radium-228	0.427	U	0.497	0.499	1.00	0.816	pCi/L	06/03/22 10:36	06/21/22 12:00	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	100		40 - 110					06/03/22 10:36	06/21/22 12:00	
Y Carrier	86.4		40 - 110					06/03/22 10:36	06/21/22 12:00	
Client Sample ID:									ole ID: 280-16	
Date Collected: 0									Matrix	: wate
Date Received: 08	5/31/22 09:4	iu .	Count	Total						
			Count Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	0.402		0.420	0.421	1.00	0.681	pCi/L	06/03/22 10:36	06/21/22 12:00	
							1			
Carrier		Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	99.0		40 - 110					06/03/22 10:36	06/21/22 12:00	
' Carrier	84.1		40 - 110					06/03/22 10:36	06/21/22 12:00	
Client Sample ID:	DUP							Lab Sam	ole ID: 280-16	2908-4
Date Collected: 0		0							Matrix	
Date Received: 08	5/31/22 09:4	0								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.782		0.457	0.462	1.00	0.665	pCi/L	06/03/22 10:36	06/21/22 12:00	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	99.3		40 - 110						06/21/22 12:00	
/ Carrier	84.9		40 - 110					06/03/22 10:36	06/21/22 12:00	
				n-226 and						

Date Received: 05/31/22 09:40 Count Total Uncert. Uncert. Analyte **Result Qualifier** (2**σ**+/-) (2**σ**+/-) RL MDC Unit Prepared Analyzed Dil Fac **Combined Radium** 1.20 0.608 0.617 5.00 0.809 pCi/L 06/28/22 14:11 1 226 + 228

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

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

Client Sample ID: M Date Collected: 05/2 Date Received: 05/3	6/22 10:15						Lab Sam	ple ID: 280-1 Matrix	62908-2 c: Water
		Count Uncert.	Total Uncert.						
Analyte	Result Qualifier	(2σ+/-)	<u>(2σ+/-)</u>	RL _	MDC		Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.386 U	0.505	0.507	5.00	0.816	pCi/L		06/28/22 14:11	1
Client Sample ID: M	W-21S						Lab Sam	ple ID: 280-1	62908-3
Date Collected: 05/2								•	: Water
Date Received: 05/3									
		Count	Total						
		Uncert.	Uncert.						
Analyte	Result Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.503 U	0.430	0.431	5.00	0.681	pCi/L		06/28/22 14:11	1
Client Sample ID: D	UP						Lab Sam	ple ID: 280-1	62908-4
Date Collected: 05/2								•	: Water
Date Received: 05/3									
		Count	Total						
		Uncert.	Uncert.						
Analyte	Result Qualifier	(2σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.845	0.470	0.475	5.00	0.665	pCi/L		06/28/22 14:11	1

QC Sample Results

Method: 9315 - Radium-226 (GFPC)

Lab Sample Matrix: Wat											ole ID: Method Prep Type: To	
Analysis Ba		'91									Prep Batch:	
		•		Count	Total							
		MB	МВ	Uncert.	Uncert.							
Analyte		Result	Qualifier	(2 σ+/-)	(2 σ+/-)	RL	MDC	Unit	Рг	repared	Analyzed	Dil Fa
Radium-226		0.08051		0.0717	0.0721	1.00	0.108	pCi/L		-	06/27/22 14:11	
		MB	MD									
Carrier			Qualifier	Limits					Pi	repared	Analyzed	Dil Fa
Ba Carrier		106		40 - 110						3/22 10:08		
Lab Sample Matrix: Wat		1 <mark>60-56</mark> 8	241/1-A					Clie	ent Sar	nple ID:	Lab Control S Prep Type: To	
Analysis Ba		'91									Prep Batch:	
						Total						
			Spike	LCS	LCS	Uncert.					%Rec	
Analyte			Added	Result	Qual	(2 σ +/-)	RL	MDC	Unit	%Rec	Limits	
Radium-226			11.3	12.30		1.30	1.00	0.107	pCi/L	108	75 - 125	
	LCS	105										
Carrier		Qualifier	Limits									
Ba Carrier	101	quamo	40 - 110	-								
lethod: 93 Lab Sample	e ID: MB 1		28 (GFPC 42/21-A)					Clie	ent Samp	ole ID: Methoo Prep Type: To	
lethod: 93 Lab Sample Matrix: Wat	e ID: MB 1 er	60-5682		,	Total				Clie	nt Samp		otal/N
lethod: 93 Lab Sample Matrix: Wat	e ID: MB 1 er	60-5682)20	242/21-A	Count	Total Uncert				Clie	nt Samp	Prep Type: To	otal/N
lethod: 93 Lab Sample Matrix: Wat Analysis Ba	e ID: MB 1 er	60-5682 20 МВ	242/21-A MB	Count Uncert.	Uncert.	RI	MDC	Unit		-	Prep Type: To Prep Batch:	otal/N 56824
lethod: 93 Lab Sample Matrix: Wat Analysis Ba Analyte	e ID: MB 1 er	60-5682 20 MB Result	242/21-A MB Qualifier	Count Uncert. (2σ+/-)	Uncert. (2σ+/-)			Unit pCi/L	Pi	repared	Prep Type: To	otal/N 56824
lethod: 93 Lab Sample Matrix: Wat Analysis Ba Analyte	e ID: MB 1 er	60-5682 20 MB Result -0.1152	MB Qualifier U	Count Uncert.	Uncert.	RL 1.00	MDC 0.410		Pi	repared	Prep Type: To Prep Batch: Analyzed	otal/N 56824
lethod: 93 Lab Sample Matrix: Wat Analysis Ba Analyte Radium-228	e ID: MB 1 er	60-5682 20 MB Result -0.1152 <i>MB</i>	MB Qualifier U MB	Count Uncert. (2σ+/-) 0.200	Uncert. (2σ+/-)				Pr 06/03	repared 3/22 10:36	Prep Type: To Prep Batch: <u>Analyzed</u> 06/21/22 12:03	otal/N 56824 Dil Fa
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lethod: 93 Lab Sample Matrix: Wat Analysis Ba Analyte Radium-228 Carrier Ba Carrier	e ID: MB 1 er	60-5682 20 MB Result -0.1152 <i>MB</i>	MB Qualifier U MB	Count Uncert. (2σ+/-) 0.200	Uncert. (2σ+/-)					repared 3/22 10:36 repared 3/22 10:36	Prep Type: To Prep Batch: <u>Analyzed</u> 06/21/22 12:03	otal/N 56824 Dil Fa
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lethod: 93 Matrix: Wat Analysis Ba Analysis Ba Analyte Radium-228 Carrier Ba Carrier Y Carrier Lab Sample Matrix: Wat Analysis Ba Analyte Radium-228	e ID: MB 1 er atch: 5709 e ID: LCS er atch: 5709	60-5682 20 MB Result -0.1152 MB %Yield 106 93.1 160-568 041	242/21-A MB Qualifier U MB Qualifier 242/1-A Spike Added 8.51	Count Uncert. (2σ+/-) 0.200 Limits 40 - 110 40 - 110 40 - 110 LCS Result	Uncert. (2σ+/-) 0.200	1.00 Total Uncert. (2σ+/-)	0.410	pCi/L Clia	— Pr 06/03 Pr 06/03 06/03 ent Sar	repared 3/22 10:36 repared 3/22 10:36 3/22 10:36 nple ID:	Prep Type: To Prep Batch: 06/21/22 12:03 06/21/22 12:03 06/21/22 12:03 06/21/22 12:03 06/21/22 12:03 Lab Control S Prep Type: To Prep Batch: %Rec Limits	otal/N 56824 <u>Dil Fa</u> <u>Dil Fa</u> Samplotal/N
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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-1 SDG: AVS Landfill New Wells

Rad

Prep Batch: 568241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	PrecSep-21	
280-162908-2	MW-22S	Total/NA	Water	PrecSep-21	
280-162908-3	MW-21S	Total/NA	Water	PrecSep-21	
280-162908-4	DUP	Total/NA	Water	PrecSep-21	
MB 160-568241/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-568241/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 568242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	PrecSep_0	
280-162908-2	MW-22S	Total/NA	Water	PrecSep_0	_
280-162908-3	MW-21S	Total/NA	Water	PrecSep_0	
280-162908-4	DUP	Total/NA	Water	PrecSep_0	_
MB 160-568242/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-568242/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-1 SDG: AVS Landfill New Wells

Matrix: Water

Matrix: Water

Lab Sample ID: 280-162908-1

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			504.73 mL	1.0 g	568241	06/03/22 10:08	MS	TAL SL
Total/NA	Analysis	9315		1			571791	06/27/22 13:38	CLP	TAL SL
Total/NA	Prep	PrecSep_0			504.73 mL	1.0 g	568242	06/03/22 10:36	MS	TAL SL
Total/NA	Analysis	9320		1			570920	06/21/22 12:00	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			572029	06/28/22 14:11	EMH	TAL SL
Client Sam	ple ID: MW	-22S					La	b Sample II	D: 280-	162908-2

Client Sample ID: MW-22S Date Collected: 05/26/22 10:15 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.32 mL	1.0 g	568241	06/03/22 10:08	MS	TAL SL
Total/NA	Analysis	9315		1			571791	06/27/22 13:38	CLP	TAL SL
Total/NA	Prep	PrecSep_0			500.32 mL	1.0 g	568242	06/03/22 10:36	MS	TAL SL
Total/NA	Analysis	9320		1			570920	06/21/22 12:00	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			572029	06/28/22 14:11	EMH	TAL SL

Client Sample ID: MW-21S Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.93 mL	1.0 g	568241	06/03/22 10:08	MS	TAL SL
Total/NA	Analysis	9315		1			571791	06/27/22 13:38	CLP	TAL SL
Total/NA	Prep	PrecSep_0			749.93 mL	1.0 g	568242	06/03/22 10:36	MS	TAL SL
Total/NA	Analysis	9320		1			570920	06/21/22 12:00	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			572029	06/28/22 14:11	EMH	TAL SL

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Lab Sample ID: 280-162908-4 **Matrix: Water**

Lab Sample ID: 280-162908-3

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.12 mL	1.0 g	568241	06/03/22 10:08	MS	TAL SL
Total/NA	Analysis	9315		1			571799	06/27/22 13:39	FLC	TAL SL
Total/NA	Prep	PrecSep_0			749.12 mL	1.0 g	568242	06/03/22 10:36	MS	TAL SL
Total/NA	Analysis	9320		1			570920	06/21/22 12:00	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			572029	06/28/22 14:11	EMH	TAL SL

Laboratory References:

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

Matrix: Water

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-1 SDG: AVS Landfill New Wells

12 13 14

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
laska (UST)	State	20-001	05-06-25
NAB	Dept. of Defense ELAP	L2305	04-06-25
NAB	Dept. of Energy	L2305.01	04-06-25
NAB	ISO/IEC 17025	L2305	04-06-25
izona	State	AZ0813	12-08-22
alifornia	Los Angeles County Sanitation Districts	10259	06-30-22
lifornia	State	2886	07-01-22
nnecticut	State	PH-0241	03-31-23
rida	NELAP	E87689	06-30-22
- RadChem Recognition	State	n/a	06-30-22
nois	NELAP	200023	11-30-22
va	State	373	12-01-22
ansas	NELAP	E-10236	10-31-22
ntucky (DW)	State	KY90125	12-31-22
ntucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
iisiana	NELAP	04080	06-30-22
isiana (DW)	State	LA011	12-31-22
yland	State	310	09-30-22
RadChem Recognition	State	9005	06-30-22
souri	State	780	06-30-22
ada	State	MO000542020-1	07-31-22
/ Jersey	NELAP	MO002	06-30-22
w York	NELAP	11616	04-01-23
rth Dakota	State	R-207	06-30-22
RC	NRC	24-24817-01	12-31-22
lahoma	NELAP	9997	08-31-22
egon	NELAP	4157	09-01-22
nnsylvania	NELAP	68-00540	02-28-23
uth Carolina	State	85002001	06-30-22
as	NELAP	T104704193	07-31-22
Fish & Wildlife	US Federal Programs	058448	07-31-22
DA	US Federal Programs	P330-17-00028	03-11-23
h	NELAP	MO000542021-14	08-01-22
ginia	NELAP	10310	06-14-23
ashington	State	C592	08-30-22
est Virginia DEP	State	381	10-31-22

Eurofinis lestAmerica, Denver Avadas. C0 8002 Avadas. C0 8002 Avadas. C1 (303) 736-0106 Fax (303) 431-7171 Avadas. Cleint Information Client Context. Mr. Aaron Knutson Client Context. Mr. Aaron Knutson Client Context. Mr. Aaron Knutson Sales Zer Mr. L. 2015 Control SeST 1 Station Set Zer Mr. L. 2015 Control Sest 1 Mr. L. 2015 Context 2 Mr. L.	Pier: C Pier: 70 1 - 7 Pier: 70 1 - 7 Pier: A Requested (day) V:1258 V:1	hain of Cus Hain of Cus Requested Requested Requested INHC INHC Rediological Mathematical Reduced Red	Company Compan	Record Record MS/MSD Calcium and Boron (App III) Record Record Record MS/MSD Res or No)	Record Record <th>Cord Region</th> <th>ested ested hethod of heth</th> <th>CCC No: CCC No: Page:</th> <th>Coc No. Page: Page: Page: Preservation Codes: Preservation Codes: A - HCL Job #: Preservation Codes: A - HCL None B - NaOH B - NaOH C - ANAGO C - ANAGO C - Anatoria B - NaOH B - NaOH C - ANAGO C -</th>	Cord Region	ested ested hethod of heth	CCC No: CCC No: Page:	Coc No. Page: Page: Page: Preservation Codes: Preservation Codes: A - HCL Job #: Preservation Codes: A - HCL None B - NaOH B - NaOH C - ANAGO C - ANAGO C - Anatoria B - NaOH B - NaOH C - ANAGO C -
	ら、 Date/Time:	0200	Company	Rec.	Received by:	NAM		1/2 0940	Company
	Date/Time:		Company	Rec	Received by:				Company
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No						Cooler Temperature(s) °C and Other Remarks:	Remarks:		TPiA Ver: 01/16/2019





Eurofins Denver 4955 Yarrow Street Arvada, CO 80002 Phone: 303-736-0100 Fax: 303-431-7171		ain of	f Cust	Chain of Custody Record	cord							🔅 eurofins	6 Environment Testing	sting
Client Information (Sub Contract Lab)	Sampler			Lab PM Turnei	Lab PM: Turner, Shelby R	_~			Carrier Tracking No(s)	(s)oN BL		COC No: 280-616695 1		Г
Client Contact Shipping/Receiving	Phone:			E-Mail: Shelby	E-Mail: Shelby.Turner@et.eurofinsus.com	Det.eur	ofinsus	com	State of Origin: North Dakota			Page: Parie 1 of 1		Τ
Company: TestAmerica Laboratories, Inc.				. <u>A</u> 0)	Accreditations Required (See note) State - North Dakota	s Requir rth Dak	ed (See	lote).				Job #-		Т
Address: 13715 Rider Trail North,	Due Date Requested: 6/29/2022							nalvsis	Analvsis Requested			Preservation Codes:	8	Т
City Earth City State, Zip	TAT Requested (days):											A - HCL B - NaOH C - Zn Acetate	w - Hexane N - None O - AsNaO2 P - Na2O4S	
MO, 63045 Phone 314.208.8666/Tail: 314.308.8757/co.v.	# 04			Τ	get List	tei List						E - NaHSO4 F - MeOH		
	# OM				(0	gneT bre						H - Ascorbic Acid 1 - Ice		drate
Project Name. CCR Groundwater - ND Sites - AVS Landfill	Project #: 28021258				N JO SE	sbriet2 (K - EDA L - EDA	W - pH 4-5 Y - Trizma Z - other (specify)	
Site:	SSOW#				er) as		ЪС					Other:		
Samule Identification - Client ID (Lab ID)				Matrix (w-water, S-wolld, O-wastafoll, ieid Filtered	erform MS/M 914\2569_818	en9/82289_028	45_822s9352s				o redmuki lato			
			Preservation Code:	3	d X	-	8					Special Ir	Special Instructions/Note:	
MW-24S (280-162908-1)	5/26/22	09:05 Central		Water	×	×	×				~			
MW-22S (280-162908-2)	5/26/22	10:15 Central		Water	×	×	×				2			Τ
MW-21S (280-162908-3)	5/26/22	11:40 Central		Water	×	×	×				2			
DUP (280-162908-4)	5/26/22	11:40 Central		Water	×	×	×				2			
							_							
							+-					5		
Note: Since laboratory accreditations are subject to change. Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory are the shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analyse/lists/matrix being analyzed, the samples must be shipmed back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brough to Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation set or unter the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.	a places the ownership of being analyzed, the sampl date, return the signed Ch	method, analy les must be sh ain of Custody	te & accredita nipped back to	tion compliance the Eurofins Te aid complicance	upon out s stAmerica I to Eurofine	ubcontra aborator s TestArr	I Ict labora y or othe ierica.	tories. This	ample shipment is f will be provided. An	orwarded und y changes to	er chain-of-cu accreditation	status should be b	ratory does not curren prought to Eurofins	4
Possible Hazard Identification					Sample	Dispo	sal (A	fee may	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	samples ar	e retained	l longer than 1	1 month)	Τ
Unconfirmed Deliverable Requested: 1.11.11.1V. Other (snacify)	Driman, Daliverable	Donk: 0				Return To Client	o Cliei		Disposal By Lab	ab [Archive For	e For	Months	
					special	Instruc	tions/C	special instructions/QC Requirements:	ments:					
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Custody Seals Intact: Custody Seal No.: △ Yes △ No					Coole	ar Tempe	arature(s	Cooler Temperature(s) °C and Other Remarks	r Remarks					Τ
					-								1000/00/20	7

Ver: 06/08/2021

13 14

Client: Basin Electric Power Cooperative

Login Number: 162908 List Number: 1 Creator: Kazenga, Oliver M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 280-162908-1

List Source: Eurofins Denver

SDG Number: AVS Landfill New Wells

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 162908 List Number: 2 Creator: Worthington, Sierra M

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

Job Number: 280-162908-1

SDG Number: AVS Landfill New Wells

List Source: Eurofins St. Louis

List Creation: 06/02/22 09:35 AM

Tracer/Carrier Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Prep Type: Total/NA

Prep Type: Total/NA

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

			Percent Yield (Acceptance Limits)	
		Ва		
Lab Sample ID	Client Sample ID	(40-110)		5
280-162908-1	MW-24S	101		
280-162908-2	MW-22S	100		
280-162908-3	MW-21S	99.0		
280-162908-4	DUP	99.3		
LCS 160-568241/1-A	Lab Control Sample	101		
MB 160-568241/21-A	Method Blank	106		\$
Tracer/Carrier Legen	d			

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

				Percent Yield (Acceptance Limits)	
		Ва	Y		
Lab Sample ID	Client Sample ID	(40-110)	(40-110)		
280-162908-1	MW-24S	101	81.9		
280-162908-2	MW-22S	100	86.4		13
280-162908-3	MW-21S	99.0	84.1		
280-162908-4	DUP	99.3	84.9		
LCS 160-568242/1-A	Lab Control Sample	101	90.8		
MB 160-568242/21-A	Method Blank	106	93.1		15

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

🛟 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-162908-2

Laboratory Sample Delivery Group: AVS Landfill New Wells Client Project/Site: CCR Groundwater - ND Sites - AVS Landfill

For:

LINKS

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Visit us at:

Expert

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelby Twiner

Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

Authorized for release by: 6/24/2022 2:50:17 PM

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Qualifiers

Qualifiers		3
Metals		
Qualifier	Qualifier Description	_ 4
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	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	0
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
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)	
	Toxicity Equivalent Quotient (Dioxin)	

TNTC Too Numerous To Count

Job ID: 280-162908-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - AVS Landfill

Report Number: 280-162908-2

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

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

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

RECEIPT

The samples were received on 5/31/2022 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 15.9° C.

The following samples were received at the laboratory outside the required temperature criteria at 15.9C: MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4). This does not meet regulatory requirements. It can be noted that metals and radiochemistry methods do not require thermal preservation. The only impacted methods are 9056A CL/FL/SO4 and 2540C TDS. The client was contacted on 5/31/22 regarding this issue, and the laboratory was instructed to cancel 9056A CL/FL/SO4 and 2540C TDS. The laboratory will only proceed with the requested metals and radiochemistry analyses. The client will recollect volume for Anions and TDS at a later date.

TOTAL RECOVERABLE METALS

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/20/2022 and analyzed on 06/21/2022 and 06/22/2022.

The low level continuing calibration verification (CCVL) associated with batch 280-578742 recovered above the upper control limit for Lithium. The samples associated with this CCV did not contain the affected analyte at a level greater than the reporting limit (RL); therefore, the data has been reported.

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

TOTAL METALS (ICPMS)

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 6020A. The samples were prepared and analyzed on 06/08/2022.

The interference check standard solution (ICSA) associated with batch 280-577562 had results for one or more elements at a level greater than the RL. The initial ICSA result (3.46 ppb) was >2x RL of 1 ppb for Barium. The vendor acknowledges that these elements are trace impurities in the ICSA standard. These results are not indicative of a matrix interference.

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

Job ID: 280-162908-2 (Continued)

Laboratory: Eurofins Denver (Continued)

TOTAL MERCURY

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 06/08/2022 and analyzed on 06/09/2022.

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

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Client Sample ID: MW-24S

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

5

Lab Sample ID: 280-162908-1

Lab Sample ID: 280-162908-2

Lab Sample ID: 280-162908-4

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Boron	125	100		ug/L	1	6010C	Total
							Recoverable
Calcium	5070	200		ug/L	1	6010C	Total
							Recoverable
Lithium	61.3	20.0		ug/L	1	6010C	Total
							Recoverable
Barium	82.7 ^6+	1.00		ug/L	1	6020A	Total/NA
Chromium	3.54	2.00		ug/L	1	6020A	Total/NA
Cobalt	1.45	1.00		ug/L	1	6020A	Total/NA
Molybdenum	11.5	2.00		ug/L	1	6020A	Total/NA

Client Sample ID: MW-22S

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	143	100		ug/L	1	_	6010C	Total
								Recoverable
Calcium	2430	200		ug/L	1		6010C	Total
								Recoverable
Lithium	47.1	20.0		ug/L	1		6010C	Total
								Recoverable
Barium	64.6 ^6+	1.00		ug/L	1		6020A	Total/NA
Client Sample ID: MV	V-21S				Lab Sa	am	ple ID: 2	80-162908-3

Client Sample ID: MW-21S

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	140		100		ug/L	1		6010C	Total
									Recoverable
Calcium	5250		200		ug/L	1		6010C	Total
									Recoverable
Lithium	43.1		20.0		ug/L	1		6010C	Total
									Recoverable
Barium	51.4	^6+	1.00		ug/L	1		6020A	Total/NA
Molybdenum	3.07		2.00		ug/L	1		6020A	Total/NA

Client Sample ID: DUP

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	140		100		ug/L	1	_	6010C	Total
									Recoverable
Calcium	5240		200		ug/L	1		6010C	Total
									Recoverable
Lithium	41.6		20.0		ug/L	1		6010C	Total
									Recoverable
Barium	48.1	^6+	1.00		ug/L	1		6020A	Total/NA
Molybdenum	2.95		2.00		ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
3020A	Preparation, Total Metals	SW846	TAL DEN
7470A	Preparation, Mercury	SW846	TAL DEN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

280-162908-1 MW-24S Water 05/26/22 09:05 05/31/22 09:40 280-162908-0 MW-10000 05/26/22 09:05 05/31/22 09:40 05/26/22 09:05 05/31/22 09:40
280-162908-2 MW-22S Water 05/26/22 10:15 05/31/22 09:40
280-162908-3 MW-21S Water 05/26/22 11:40 05/31/22 09:40
280-162908-4 DUP Water 05/26/22 11:40 05/31/22 09:40

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

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

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40							Lab Sam	ole ID: 280-16 Matrix:	2908-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	125		100		ug/L		06/20/22 08:27	06/21/22 16:48	1
Calcium	5070		200		ug/L		06/20/22 08:27	06/21/22 16:48	1
Lithium	61.3		20.0		ug/L		06/20/22 08:27	06/22/22 14:54	1
Client Sample ID: MW-22S							Lab Sam	ole ID: 280-16	2908-2
Date Collected: 05/26/22 10:15									Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	143		100		ug/L		06/20/22 08:27	06/21/22 16:53	1
Calcium	2430		200		ug/L		06/20/22 08:27	06/21/22 16:53	1
Lithium	47.1		20.0		ug/L		06/20/22 08:27	06/22/22 14:58	1
Client Sample ID: MW-21S							Lab Sam	ole ID: 280-16	2908-3
Date Collected: 05/26/22 11:40								Matrix	: Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140		100		ug/L		06/20/22 08:27	06/21/22 17:13	1
Calcium	5250		200		ug/L		06/20/22 08:27	06/21/22 17:13	1
Lithium	43.1		20.0		ug/L		06/20/22 08:27	06/22/22 15:02	1
Client Sample ID: DUP							Lab Sam	ole ID: 280-16	2908-4
Date Collected: 05/26/22 11:40									Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140		100		ug/L		06/20/22 08:27	06/21/22 17:17	1
Calcium	5240		200		ug/L		06/20/22 08:27	06/21/22 17:17	1
Lithium	41.6		20.0		ug/L		06/20/22 08:27	06/22/22 15:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-24S							Lab Sam	ple ID: 280-16	2908-1
Date Collected: 05/26/22 09:05								Matrix	Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Barium	82.7	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Chromium	3.54		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Cobalt	1.45		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Molybdenum	11.5		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Client Sample ID: MW-22S							Lab Sam	ple ID: 280-16	2908-2
Date Collected: 05/26/22 10:15								Matrix	Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1

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

Client Sample ID: MW-22S Date Collected: 05/26/22 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Barium	64.6	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Molybdenum	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1

Client Sample ID: MW-21S

Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	ŝ
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Barium	51.4	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	2
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Molybdenum	3.07		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Barium	48.1	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Molybdenum	2.95		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40						Lab Sam	ple ID: 280-16 Matrix:	
Analyte Mercury	Result ND	Qualifier	RL 0.000200	 Unit mg/L	D	Prepared 06/08/22 16:33	Analyzed 06/09/22 17:04	Dil Fac

Eurofins Denver

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Lab Sample ID: 280-162908-2 Matrix: Water

Lab Sample ID: 280-162908-3

Lab Sample ID: 280-162908-4

Matrix: Water

Matrix: Water

SDG: AVS Landfill New Wells

Job ID: 280-162908-2

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-22S Date Collected: 05/26/22 10:15 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-2 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:07	1
Client Sample ID: MW-21S Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-3 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:09	1
Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-4 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:12	1

QC Sample Results

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 578367

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-578367/1-A Matrix: Water Analysis Batch: 578742 MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100		ug/L		06/20/22 08:27	06/21/22 15:52	1
Calcium	ND		200		ug/L		06/20/22 08:27	06/21/22 15:52	1
Lithium	ND		20.0		ug/L		06/20/22 08:27	06/21/22 15:52	1

Lab Sample ID: LCS 280-578367/2-A **Matrix: Water**

	Analysis Batch: 5/8/42							Ргер ва	icn: 5/836/
		Spike	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Boron	2000	2038		ug/L		102	86 - 110	
	Calcium	50000	50550		ug/L		101	90 - 111	
l	Lithium	1000	1041		ug/L		104	90 - 112	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-577346/1-A Matrix: Water Analysis Batch: 577562

MB MB Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac ND Antimony 2.00 06/08/22 06:59 06/08/22 20:39 ug/L 1 ND 06/08/22 06:59 06/08/22 20:39 Arsenic 5.00 ug/L 1 Barium ND ug/L 06/08/22 06:59 06/08/22 20:39 ^6+ 1.00 1 Beryllium ND 06/08/22 06:59 06/08/22 20:39 1.00 ug/L 1 Cadmium ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Chromium ND 2.00 06/08/22 06:59 06/08/22 20:39 ug/L 1 Cobalt ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Lead ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 ND 2.00 ug/L Molybdenum 06/08/22 06:59 06/08/22 20:39 1 Selenium ND 5.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Thallium ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1

Lab Sample ID: LCS 280-577346/2-A Matrix: Water Analysis Batch: 577562

Alialysis Dalch. 577502							Prep Datch. 577 540
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Antimony	40.0	42.57		ug/L		106	85 - 115
Arsenic	40.0	39.50		ug/L		99	85 - 117
Barium	40.0	43.24	^6+	ug/L		108	85 - 118
Beryllium	40.0	40.83		ug/L		102	80 - 125
Cadmium	40.0	36.97		ug/L		92	85 - 115
Chromium	40.0	40.18		ug/L		100	84 - 121
Cobalt	40.0	39.71		ug/L		99	85 - 120
Lead	40.0	40.93		ug/L		102	85 - 118
Molybdenum	40.0	39.36		ug/L		98	85 - 119
Selenium	40.0	40.66		ug/L		102	77 - 122
Thallium	40.0	40.74		ug/L		102	85 - 118

Prep Type: Total/NA Prep Batch: 577346

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 577346

QC Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-57750 Matrix: Water Analysis Batch: 577670		МВ						Clie	ent Samp	ole ID: Method Prep Type: To Prep Batch:	otal/NA
Analyte	Result	Qualifier	R	_	MDL	Unit	D	Ρ	repared	Analyzed	Dil Fac
Mercury	ND		0.00020	0		mg/L		06/0	8/22 16:33	06/09/22 16:31	1
Lab Sample ID: LCS 280-5775 Matrix: Water Analysis Batch: 577670	504/2-A						Client	Sar	nple ID:	Lab Control S Prep Type: To Prep Batch:	otal/NA
			Spike	LCS	LCS					%Rec	
Analyte			Added	Result	Qual	ifier	Unit	D	%Rec	Limits	
Mercury			0.00500	0.004861			mg/L		97	84 - 120	

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Metals

Prep Batch: 577346

letals					
rep Batch: 577346					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	3020A	
280-162908-2	MW-22S	Total/NA	Water	3020A	
280-162908-3	MW-21S	Total/NA	Water	3020A	
280-162908-4	DUP	Total/NA	Water	3020A	
MB 280-577346/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-577346/2-A	Lab Control Sample	Total/NA	Water	3020A	
rep Batch: 577504					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	7470A	
280-162908-2	MW-22S	Total/NA	Water	7470A	
280-162908-3	MW-21S	Total/NA	Water	7470A	
280-162908-4	DUP	Total/NA	Water	7470A	
MB 280-577504/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-577504/2-A	Lab Control Sample	Total/NA	Water	7470A	
nalysis Batch: 577	562				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	6020A	577346
280-162908-2	MW-22S	Total/NA	Water	6020A	577346
280-162908-3	MW-21S	Total/NA	Water	6020A	577346
280-162908-4	DUP	Total/NA	Water	6020A	577346
MB 280-577346/1-A	Method Blank	Total/NA	Water	6020A	577346
LCS 280-577346/2-A	Lab Control Sample	Total/NA	Water	6020A	577346
nalysis Batch: 577	670				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	7470A	577504
280-162908-2	MW-22S	Total/NA	Water	7470A	577504
280-162908-3	MW-21S	Total/NA	Water	7470A	577504
280-162908-4	DUP	Total/NA	Water	7470A	577504
MB 280-577504/1-A	Method Blank	Total/NA	Water	7470A	577504
LCS 280-577504/2-A	Lab Control Sample	Total/NA	Water	7470A	577504
Prep Batch: 578367					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total Recoverable	Water	3005A	

Lab Sample ID		гіер туре	IVIALITA	Methou	Fiep Batch
280-162908-1	MW-24S	Total Recoverable	Water	3005A	
280-162908-2	MW-22S	Total Recoverable	Water	3005A	
280-162908-3	MW-21S	Total Recoverable	Water	3005A	
280-162908-4	DUP	Total Recoverable	Water	3005A	
MB 280-578367/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-578367/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 578742

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total Recoverable	Water	6010C	578367
280-162908-2	MW-22S	Total Recoverable	Water	6010C	578367
280-162908-3	MW-21S	Total Recoverable	Water	6010C	578367
280-162908-4	DUP	Total Recoverable	Water	6010C	578367
MB 280-578367/1-A	Method Blank	Total Recoverable	Water	6010C	578367
LCS 280-578367/2-A	Lab Control Sample	Total Recoverable	Water	6010C	578367

Eurofins Denver

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

> 5 6 7

10

Metals

Analysis Batch: 578890

Lab Sample ID 280-162908-1	Client Sample ID MW-24S	Prep Type Total Recoverable	Matrix Water	Method	Prep Batch 578367
280-162908-2	MW-22S	Total Recoverable	Water	6010C	578367
280-162908-3	MW-21S	Total Recoverable	Water	6010C	578367
280-162908-4	DUP	Total Recoverable	Water	6010C	578367

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Lab Sample ID: 280-162908-1

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 16:48	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 14:54	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:35	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:04	CEH	TAL DEN

Lab Sample ID: 280-162908-2

Matrix: Water

Matrix: Water

5 6

11

Date Collected: 05/26/22 10:15 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 16:53	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 14:58	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:39	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:07	CEH	TAL DEN

Client Sample ID: MW-21S

Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Lab Sample ID: 280-162908-3

Lab Sample ID: 280-162908-4

Matrix: Water

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 17:13	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 15:02	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:43	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:09	CEH	TAL DEN

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 17:17	MAB	TAL DEN

Eurofins Denver

Matrix: Water

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Matrix: Water

Lab Sample ID: 280-162908-4

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 15:06	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:47	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:12	CEH	TAL DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

12 13

Laboratory: Eurofins Denver

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

uthority	Pr	ogram	Identification Numbe	r Expiration Date
orth Dakota	Sta	ate	R-034	01-08-23
The following analyte:	s are included in this repo	ort. but the laboratory is r	not certified by the governing authorit	v. This list may include analytes for v
The following analytes the agency does not o	•	ort, but the laboratory is r	not certified by the governing authorit	y. This list may include analytes for v
0,	•	ort, but the laboratory is r Matrix	not certified by the governing authorit Analyte	y. This list may include analytes for v

Eurofins TestAmerica, Denver 4955 Yarrow Street Arvada, CO 80002 Phone (303) 736-0100 Fax (303) 431-7171	Chain of C	of Custody Record	ecord			Carrier Tracking No(s):	COC No:
Client Information	ē	Turne	Turner, Shelby R				d
client Contact Mr. Aaron Knutson	Phone: 701-745-723	Z Shelt	E-Mail: Shelby.Turner@Eurofinset.com	Irofinset.c	Шо		Page:
_{Company:} Basin Electric Power Cooperative				'	Analysis R	Requested	Job #:
Address: 3901 Highway 200A	Due Date Requested:		26.00		to f		
Cly: Stanton stata Zito	TAT Requested (days):				(A - FICL WIT - FICKATIE B - NaOH N - None C - Zn Acetate O - ASNAO2 D - Nirtic Acid P - Na2O4S
olate, zip. ND, 58571			((VI Xib	L	
Phone: 701-745-7238(Tel)	PO#: Purchase Order Requested		(III qqA		/bbeuc		
Email: <u>aknutson@bepc.com</u>			ио)		4) (E 1o		I - Ice J - DI Water ע בהדא
Project Name: CCR Groundwater - North Dakota Sites	Prdject #: 28021258		and Bo		ııλ (3 c		k - EDA L - EDA
AVS LAWDRILL NEW WORLS	SSOW#:		ry) asi muiole		l Mercu		of con
	Sample Type	Matrix (w=water, s=solid,	d Filtered : form MS/M)C - Total Ca SA_28D - Ch	r - bols0_0(5 - Total Li 470A - Tota 10A - Tota 20 470A - Tota 20 40 50 50 50 50 50 50 50 50 50 50 50 50 50		19dmuM Is
Sample Identification	-	BT=Tissue, A=Air)) 601		1 631		E Special Instructions/Note:
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			Sample D	le Disposal (A i	A fee may be	nples are re	ained longer than 1 month)
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Empty Kit Relinquished by:	Date:		Time:			Method of Shipment:	
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Custody Seals Intact: Custody Seal No.:	-		Cooler T	emperature(Cooler Temperature(s) ^o C and Other Remarks: (Remarks: 5' 8 CF	Q1 TRID
			1	1	1	ر ع 1	Ver: 01/16/2019
			4	3	1 2	7 3 9	





Client: Basin Electric Power Cooperative

Login Number: 162908 List Number: 1 Creator: Kazenga, Oliver M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

🛟 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-162908-2

Laboratory Sample Delivery Group: AVS Landfill New Wells Client Project/Site: CCR Groundwater - ND Sites - AVS Landfill

For:

..... Links

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Expert

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelby Twiner

Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

Authorized for release by: 6/24/2022 2:50:17 PM

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Certification Summary	18
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Qualifiers

Qualifiers		3
Metals		
Qualifier		
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	
MQL	Method Quantitation Limit	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
NEG	Negative / Absent	
POS	Positive / Present	
PQL	Practical Quantitation Limit	
PRES	Presumptive	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

TNTC Too Numerous To Count

Job ID: 280-162908-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - AVS Landfill

Report Number: 280-162908-2

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

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

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

RECEIPT

The samples were received on 5/31/2022 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 15.9° C.

The following samples were received at the laboratory outside the required temperature criteria at 15.9C: MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4). This does not meet regulatory requirements. It can be noted that metals and radiochemistry methods do not require thermal preservation. The only impacted methods are 9056A CL/FL/SO4 and 2540C TDS. The client was contacted on 5/31/22 regarding this issue, and the laboratory was instructed to cancel 9056A CL/FL/SO4 and 2540C TDS. The laboratory will only proceed with the requested metals and radiochemistry analyses. The client will recollect volume for Anions and TDS at a later date.

TOTAL RECOVERABLE METALS

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/20/2022 and analyzed on 06/21/2022 and 06/22/2022.

The low level continuing calibration verification (CCVL) associated with batch 280-578742 recovered above the upper control limit for Lithium. The samples associated with this CCV did not contain the affected analyte at a level greater than the reporting limit (RL); therefore, the data has been reported.

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

TOTAL METALS (ICPMS)

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 6020A. The samples were prepared and analyzed on 06/08/2022.

The interference check standard solution (ICSA) associated with batch 280-577562 had results for one or more elements at a level greater than the RL. The initial ICSA result (3.46 ppb) was >2x RL of 1 ppb for Barium. The vendor acknowledges that these elements are trace impurities in the ICSA standard. These results are not indicative of a matrix interference.

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

Job ID: 280-162908-2 (Continued)

Laboratory: Eurofins Denver (Continued)

TOTAL MERCURY

Samples MW-24S (280-162908-1), MW-22S (280-162908-2), MW-21S (280-162908-3) and DUP (280-162908-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 06/08/2022 and analyzed on 06/09/2022.

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

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Client Sample ID: MW-24S

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

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Lab Sample ID: 280-162908-1

Lab Sample ID: 280-162908-2

Lab Sample ID: 280-162908-4

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Boron	125	100		ug/L	1	6010C	Total
							Recoverable
Calcium	5070	200		ug/L	1	6010C	Total
							Recoverable
Lithium	61.3	20.0		ug/L	1	6010C	Total
							Recoverable
Barium	82.7 ^6+	1.00		ug/L	1	6020A	Total/NA
Chromium	3.54	2.00		ug/L	1	6020A	Total/NA
Cobalt	1.45	1.00		ug/L	1	6020A	Total/NA
Molybdenum	11.5	2.00		ug/L	1	6020A	Total/NA

Client Sample ID: MW-22S

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	143	100		ug/L	1	_	6010C	Total
								Recoverable
Calcium	2430	200		ug/L	1		6010C	Total
								Recoverable
Lithium	47.1 20.0 ug/L 1 6010C	Total						
								Recoverable
Barium	64.6 ^6+	1.00		ug/L	1		6020A	Total/NA
Client Sample ID: MV	V-21S				Lab Sa	am	ple ID: 2	80-162908-3

Client Sample ID: MW-21S

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	140		100		ug/L	1		6010C	Total
									Recoverable
Calcium	5250		200		ug/L	1		6010C	Total
									Recoverable
Lithium	43.1		20.0		ug/L	1		6010C	Total
									Recoverable
Barium	51.4	^6+	1.00		ug/L	1		6020A	Total/NA
Molybdenum	3.07		2.00		ug/L	1		6020A	Total/NA

Client Sample ID: DUP

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	140		100		ug/L	1	_	6010C	Total
									Recoverable
Calcium	5240		200		ug/L	1		6010C	Total
									Recoverable
Lithium	41.6		20.0		ug/L	1		6010C	Total
									Recoverable
Barium	48.1	^6+	1.00		ug/L	1		6020A	Total/NA
Molybdenum	2.95		2.00		ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
3020A	Preparation, Total Metals	SW846	TAL DEN
7470A	Preparation, Mercury	SW846	TAL DEN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

280-162908-1 MW-24S Water 05/26/22 09:05 05/31/22 09:40 280-162908-0 MW-10000 05/26/22 09:05 05/31/22 09:40 05/26/22 09:05 05/31/22 09:40
280-162908-2 MW-22S Water 05/26/22 10:15 05/31/22 09:40
280-162908-3 MW-21S Water 05/26/22 11:40 05/31/22 09:40
280-162908-4 DUP Water 05/26/22 11:40 05/31/22 09:40

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

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

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40							Lab Sam	ole ID: 280-16 Matrix:	2908-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	125		100		ug/L		06/20/22 08:27	06/21/22 16:48	1
Calcium	5070		200		ug/L		06/20/22 08:27	06/21/22 16:48	1
Lithium	61.3		20.0		ug/L		06/20/22 08:27	06/22/22 14:54	1
Client Sample ID: MW-22S							Lab Sam	ole ID: 280-16	2908-2
Date Collected: 05/26/22 10:15									Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	143		100		ug/L		06/20/22 08:27	06/21/22 16:53	1
Calcium	2430		200		ug/L		06/20/22 08:27	06/21/22 16:53	1
Lithium	47.1		20.0		ug/L		06/20/22 08:27	06/22/22 14:58	1
Client Sample ID: MW-21S							Lab Sam	ole ID: 280-16	2908-3
Date Collected: 05/26/22 11:40								Matrix	: Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140		100		ug/L		06/20/22 08:27	06/21/22 17:13	1
Calcium	5250		200		ug/L		06/20/22 08:27	06/21/22 17:13	1
Lithium	43.1		20.0		ug/L		06/20/22 08:27	06/22/22 15:02	1
Client Sample ID: DUP							Lab Sam	ole ID: 280-16	2908-4
Date Collected: 05/26/22 11:40									Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140		100		ug/L		06/20/22 08:27	06/21/22 17:17	1
Calcium	5240		200		ug/L		06/20/22 08:27	06/21/22 17:17	1
Lithium	41.6		20.0		ug/L		06/20/22 08:27	06/22/22 15:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-24S							Lab Sam	ple ID: 280-16	2908-1
Date Collected: 05/26/22 09:05								Matrix	Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Barium	82.7	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Chromium	3.54		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Cobalt	1.45		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Molybdenum	11.5		2.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:35	1
Client Sample ID: MW-22S							Lab Sam	ple ID: 280-16	2908-2
Date Collected: 05/26/22 10:15								Matrix	Water
Date Received: 05/31/22 09:40									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1

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

Client Sample ID: MW-22S Date Collected: 05/26/22 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Barium	64.6	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Molybdenum	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:39	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:39	1

Client Sample ID: MW-21S

Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	ŝ
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Barium	51.4	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	2
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Molybdenum	3.07		2.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:43	1	

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Arsenic	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Barium	48.1	^6+	1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Beryllium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Cadmium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Chromium	ND		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Cobalt	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Lead	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Molybdenum	2.95		2.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Selenium	ND		5.00		ug/L		06/08/22 06:59	06/08/22 21:47	1
Thallium	ND		1.00		ug/L		06/08/22 06:59	06/08/22 21:47	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40						Lab Sam	ple ID: 280-16 Matrix:	
Analyte Mercury	Result ND	Qualifier	RL 0.000200	 Unit mg/L	D	Prepared 06/08/22 16:33	Analyzed 06/09/22 17:04	Dil Fac

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Lab Sample ID: 280-162908-2 Matrix: Water

Lab Sample ID: 280-162908-3

Lab Sample ID: 280-162908-4

Matrix: Water

Matrix: Water

SDG: AVS Landfill New Wells

Job ID: 280-162908-2

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-22S Date Collected: 05/26/22 10:15 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-2 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:07	1
Client Sample ID: MW-21S Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-3 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:09	1
Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40							Lab Sam	ple ID: 280-16 Matrix:	2908-4 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/08/22 16:33	06/09/22 17:12	1

QC Sample Results

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 578367

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-578367/1-A Matrix: Water Analysis Batch: 578742 MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100		ug/L		06/20/22 08:27	06/21/22 15:52	1
Calcium	ND		200		ug/L		06/20/22 08:27	06/21/22 15:52	1
Lithium	ND		20.0		ug/L		06/20/22 08:27	06/21/22 15:52	1

Lab Sample ID: LCS 280-578367/2-A **Matrix: Water**

	Analysis Batch: 5/8/42							Ргер ва	icn: 5/836/
		Spike	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Boron	2000	2038		ug/L		102	86 - 110	
	Calcium	50000	50550		ug/L		101	90 - 111	
l	Lithium	1000	1041		ug/L		104	90 - 112	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-577346/1-A Matrix: Water Analysis Batch: 577562

MB MB Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac ND Antimony 2.00 06/08/22 06:59 06/08/22 20:39 ug/L 1 ND 06/08/22 06:59 06/08/22 20:39 Arsenic 5.00 ug/L 1 Barium ND ug/L 06/08/22 06:59 06/08/22 20:39 ^6+ 1.00 1 Beryllium ND 06/08/22 06:59 06/08/22 20:39 1.00 ug/L 1 Cadmium ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Chromium ND 2.00 06/08/22 06:59 06/08/22 20:39 ug/L 1 Cobalt ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Lead ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 ND 2.00 ug/L Molybdenum 06/08/22 06:59 06/08/22 20:39 1 Selenium ND 5.00 ug/L 06/08/22 06:59 06/08/22 20:39 1 Thallium ND 1.00 ug/L 06/08/22 06:59 06/08/22 20:39 1

Lab Sample ID: LCS 280-577346/2-A Matrix: Water Analysis Batch: 577562

Alialysis Dalch. 577502							Prep Datch. 577 540
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Antimony	40.0	42.57		ug/L		106	85 - 115
Arsenic	40.0	39.50		ug/L		99	85 - 117
Barium	40.0	43.24	^6+	ug/L		108	85 - 118
Beryllium	40.0	40.83		ug/L		102	80 - 125
Cadmium	40.0	36.97		ug/L		92	85 - 115
Chromium	40.0	40.18		ug/L		100	84 - 121
Cobalt	40.0	39.71		ug/L		99	85 - 120
Lead	40.0	40.93		ug/L		102	85 - 118
Molybdenum	40.0	39.36		ug/L		98	85 - 119
Selenium	40.0	40.66		ug/L		102	77 - 122
Thallium	40.0	40.74		ug/L		102	85 - 118

Prep Type: Total/NA Prep Batch: 577346

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 577346

QC Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-57750 Matrix: Water Analysis Batch: 577670		МВ						Clie	ent Samp	ole ID: Method Prep Type: To Prep Batch:	otal/NA
Analyte	Result	Qualifier	R	_	MDL	Unit	D	Ρ	repared	Analyzed	Dil Fac
Mercury	ND		0.00020	0		mg/L		06/0	8/22 16:33	06/09/22 16:31	1
Lab Sample ID: LCS 280-5775 Matrix: Water Analysis Batch: 577670	504/2-A						Client	Sar	nple ID:	Lab Control S Prep Type: To Prep Batch:	otal/NA
			Spike	LCS	LCS					%Rec	
Analyte			Added	Result	Qual	ifier	Unit	D	%Rec	Limits	
Mercury			0.00500	0.004861			mg/L		97	84 - 120	

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Metals

Prep Batch: 577346

letals					
rep Batch: 577346					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	3020A	
280-162908-2	MW-22S	Total/NA	Water	3020A	
280-162908-3	MW-21S	Total/NA	Water	3020A	
280-162908-4	DUP	Total/NA	Water	3020A	
MB 280-577346/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-577346/2-A	Lab Control Sample	Total/NA	Water	3020A	
rep Batch: 577504					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	7470A	
280-162908-2	MW-22S	Total/NA	Water	7470A	
280-162908-3	MW-21S	Total/NA	Water	7470A	
280-162908-4	DUP	Total/NA	Water	7470A	
MB 280-577504/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-577504/2-A	Lab Control Sample	Total/NA	Water	7470A	
nalysis Batch: 577	562				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	6020A	577346
280-162908-2	MW-22S	Total/NA	Water	6020A	577346
280-162908-3	MW-21S	Total/NA	Water	6020A	577346
280-162908-4	DUP	Total/NA	Water	6020A	577346
MB 280-577346/1-A	Method Blank	Total/NA	Water	6020A	577346
LCS 280-577346/2-A	Lab Control Sample	Total/NA	Water	6020A	577346
nalysis Batch: 577	670				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total/NA	Water	7470A	577504
280-162908-2	MW-22S	Total/NA	Water	7470A	577504
280-162908-3	MW-21S	Total/NA	Water	7470A	577504
280-162908-4	DUP	Total/NA	Water	7470A	577504
MB 280-577504/1-A	Method Blank	Total/NA	Water	7470A	577504
LCS 280-577504/2-A	Lab Control Sample	Total/NA	Water	7470A	577504
Prep Batch: 578367					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total Recoverable	Water	3005A	

Lab Sample ID		гтер туре	Wallix	Wethou	Flep Batch
280-162908-1	MW-24S	Total Recoverable	Water	3005A	
280-162908-2	MW-22S	Total Recoverable	Water	3005A	
280-162908-3	MW-21S	Total Recoverable	Water	3005A	
280-162908-4	DUP	Total Recoverable	Water	3005A	
MB 280-578367/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-578367/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 578742

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-162908-1	MW-24S	Total Recoverable	Water	6010C	578367
280-162908-2	MW-22S	Total Recoverable	Water	6010C	578367
280-162908-3	MW-21S	Total Recoverable	Water	6010C	578367
280-162908-4	DUP	Total Recoverable	Water	6010C	578367
MB 280-578367/1-A	Method Blank	Total Recoverable	Water	6010C	578367
LCS 280-578367/2-A	Lab Control Sample	Total Recoverable	Water	6010C	578367

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QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-162908-2 SDG: AVS Landfill New Wells

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Metals

Analysis Batch: 578890

Lab Sample ID 280-162908-1	Client Sample ID MW-24S	Prep Type Total Recoverable	Matrix Water	Method	Prep Batch 578367
280-162908-2	MW-22S	Total Recoverable	Water	6010C	578367
280-162908-3	MW-21S	Total Recoverable	Water	6010C	578367
280-162908-4	DUP	Total Recoverable	Water	6010C	578367

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Lab Sample ID: 280-162908-1

Client Sample ID: MW-24S Date Collected: 05/26/22 09:05 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 16:48	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 14:54	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:35	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:04	CEH	TAL DEN

Lab Sample ID: 280-162908-2

Matrix: Water

Matrix: Water

5 6

11

Date Collected: 05/26/22 10:15 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 16:53	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 14:58	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:39	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:07	CEH	TAL DEN

Client Sample ID: MW-21S

Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

Lab Sample ID: 280-162908-3

Lab Sample ID: 280-162908-4

Matrix: Water

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 17:13	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 15:02	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:43	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:09	CEH	TAL DEN

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578742	06/21/22 17:17	MAB	TAL DEN

Eurofins Denver

Matrix: Water

Job ID: 280-162908-2 SDG: AVS Landfill New Wells

Matrix: Water

Lab Sample ID: 280-162908-4

Client Sample ID: DUP Date Collected: 05/26/22 11:40 Date Received: 05/31/22 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	578367	06/20/22 08:27	PFM	TAL DEN
Total Recoverable	Analysis	6010C		1			578890	06/22/22 15:06	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	577346	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	6020A		1			577562	06/08/22 21:47	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	577504	06/08/22 16:33	CEH	TAL DEN
Total/NA	Analysis	7470A		1			577670	06/09/22 17:12	CEH	TAL DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

12 13

Laboratory: Eurofins Denver

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

uthority	Pr	ogram	Identification Numbe	r Expiration Date
orth Dakota	Sta	ate	R-034	01-08-23
The following analyte:	s are included in this repo	ort. but the laboratory is r	not certified by the governing authorit	v. This list may include analytes for v
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Eurofins TestAmerica, Denver 4955 Yarrow Street Arvada, CO 80002 Phone (303) 736-0100 Fax (303) 431-7171	Chain of C	of Custody Record	ecord			Carrier Tracking No(s):	COC No:
Client Information	ē	Turne	Turner, Shelby R				d
client Contact Mr. Aaron Knutson	Phone: 701-745-723	Z Shelt	E-Mail: Shelby.Turner@Eurofinset.com	Irofinset.c	Шо		Page:
_{Company:} Basin Electric Power Cooperative				'	Analysis R	Requested	Job #:
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Email: <u>aknutson@bepc.com</u>			ио)		4) (E 1o		I - Ice J - DI Water ע בהדא
Project Name: CCR Groundwater - North Dakota Sites	Prdject #: 28021258		and Bo		ııλ (3 c		K - EDA L - EDA
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Sample Identification	-	BT=Tissue, A=Air)) 601		1 631		E Special Instructions/Note:
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Client: Basin Electric Power Cooperative

Login Number: 162908 List Number: 1 Creator: Kazenga, Oliver M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

🛟 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-164440-1

Laboratory Sample Delivery Group: AVS Landfill Client Project/Site: CCR Groundwater - ND Sites - AVS Landfill

For:

..... LINKS

Review your project results through

EOL

Have a Question?

Ask-

The

www.eurofinsus.com/Env

Visit us at:

Expert

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelby Twiner

Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

Authorized for release by: 7/27/2022 11:38:42 AM

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Definitions/Glossary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Glossary		- 3
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	5
CFU	Colony Forming Unit	5
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)	8
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	9
LOQ	Limit of Quantitation (DoD/DOE)	
MCL	EPA recommended "Maximum Contaminant Level"	10
MDA	Minimum Detectable Activity (Radiochemistry)	
MDC	Minimum Detectable Concentration (Radiochemistry)	11
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	12
MPN	Most Probable Number	
MQL	Method Quantitation Limit	13
NC	Not Calculated	13
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	4.4
NEG	Negative / Absent	14
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	

Eurofins Denver

7/27/2022

Job ID: 280-164440-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - AVS Landfill

Report Number: 280-164440-1

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

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

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

RECEIPT

The samples were received on 7/15/2022 9:50 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-15S (280-164440-1), MW-16S (280-164440-2), MW-17S (280-164440-3), MW-18S (280-164440-4), MW-19S (280-164440-5), MW-20S (280-164440-6) and DUP (280-164440-7) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 07/25/2022 and analyzed on 07/25/2022 and 07/26/2022.

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

TOTAL DISSOLVED SOLIDS

Samples MW-15S (280-164440-1), MW-16S (280-164440-2), MW-17S (280-164440-3), MW-18S (280-164440-4), MW-19S (280-164440-5), MW-20S (280-164440-6) and DUP (280-164440-7) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 07/19/2022.

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

ANIONS (28 DAYS)

Samples MW-15S (280-164440-1), MW-16S (280-164440-2), MW-17S (280-164440-3), MW-18S (280-164440-4), MW-19S (280-164440-5), MW-20S (280-164440-6) and DUP (280-164440-7) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 07/16/2022 and 07/19/2022.

Samples MW-15S (280-164440-1)[5X], MW-17S (280-164440-3)[5X], MW-18S (280-164440-4)[5X], MW-19S (280-164440-5)[5X] and DUP (280-164440-7)[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.

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Client Sample ID: MW-15S

Job ID: 280-164440-1
SDG: AVS Landfill

5

Lab Sample	ID: 2	80-1644	40-1

Lab Sample ID: 280-164440-2

Lab Sample ID: 280-164440-3

Lab Sample ID: 280-164440-4

Lab Sample ID: 280-164440-5

Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
147		100		ug/L	1	6010C	Total
							Recoverable
5370		200		ug/L	1	6010C	Total
							Recoverable
10.4		3.00		mg/L	1	9056A	Total/NA
4.44		0.500		mg/L	1	9056A	Total/NA
402		25.0		mg/L	5	9056A	Total/NA
1820		20.0		mg/L	1	SM 2540C	Total/NA
	147 5370 10.4 4.44 402	5370 10.4 4.44 402	147 100 5370 200 10.4 3.00 4.44 0.500 402 25.0	147 100 5370 200 10.4 3.00 4.44 0.500 402 25.0	147 100 ug/L 5370 200 ug/L 10.4 3.00 mg/L 4.44 0.500 mg/L 402 25.0 mg/L	147 100 ug/L 1 5370 200 ug/L 1 10.4 3.00 mg/L 1 4.44 0.500 mg/L 1 402 25.0 mg/L 5	147 100 ug/L 1 6010C 5370 200 ug/L 1 6010C 10.4 3.00 mg/L 1 9056A 4.44 0.500 mg/L 1 9056A 402 25.0 mg/L 5 9056A

Client Sample ID: MW-16S

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Boron	188		100		ug/L	1	6010C	Total
								Recoverable
Calcium	2210		200		ug/L	1	6010C	Total
								Recoverable
Chloride	20.0		3.00		mg/L	1	9056A	Total/NA
Fluoride	1.72		0.500		mg/L	1	9056A	Total/NA
Sulfate	77.0		5.00		mg/L	1	9056A	Total/NA
Total Dissolved Solids (TDS)	816		20.0		mg/L	1	SM 2540C	Total/NA

Client Sample ID: MW-17S

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Metho	bd	Prep Type
Boron	147		100		ug/L	1	60100)	Total
									Recoverable
Calcium	3880		200		ug/L	1	60100)	Total
									Recoverable
Chloride	9.71		3.00		mg/L	1	9056A	۱.	Total/NA
Fluoride	4.24		0.500		mg/L	1	9056A	۱	Total/NA
Sulfate	257		25.0		mg/L	5	9056A	\	Total/NA
Total Dissolved Solids (TDS)	1660		20.0		mg/L	1	SM 25	540C	Total/NA

Client Sample ID: MW-18S

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	119		100		ug/L	1	_	6010C	Total
									Recoverable
Calcium	4920		200		ug/L	1		6010C	Total
									Recoverable
Chloride	5.06		3.00		mg/L	1		9056A	Total/NA
Fluoride	3.93		0.500		mg/L	1		9056A	Total/NA
Sulfate	521		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1680		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-19S

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Туре
Boron	157	100	ug/L	1	6010C	Total
						Recoverable
Calcium	3990	200	ug/L	1	6010C	Total
						Recoverable
Chloride	13.8	3.00	mg/L	1	9056A	Total/NA
Fluoride	4.15	0.500	mg/L	1	9056A	Total/NA
Sulfate	892	25.0	mg/L	5	9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Client Sample ID: MW-19S (Continued)

Job ID: 280-164440-1 SDG: AVS Landfill

3 4 5

Lab Sample ID: 280-164440-5

Result Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type		
2070	20.0	mg/L	1	SM 2540C	Total/NA		

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	140		100		ug/L	1	_	6010C	Total
									Recoverable
Calcium	5250		200		ug/L	1		6010C	Total
									Recoverable
Chloride	21.6		3.00		mg/L	1		9056A	Total/NA
Fluoride	4.52		0.500		mg/L	1		9056A	Total/NA
Sulfate	78.5		5.00		mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	1790		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP

Lab Sample ID: 280-164440-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Type
Boron	151		100		ug/L		6010C	Total
								Recoverable
Calcium	3980		200		ug/L	1	6010C	Total
								Recoverable
Chloride	14.0		3.00		mg/L	1	9056A	Total/NA
Fluoride	4.15		0.500		mg/L	1	9056A	Total/NA
Sulfate	881		25.0		mg/L	5	9056A	Total/NA
Total Dissolved Solids (TDS)	45500		1000		mg/L	1	SM 2540C	Total/NA

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL 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:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Job ID: 280-164440-1 SDG: AVS Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-164440-1	MW-15S	Water	07/13/22 08:40	07/15/22 09:50
280-164440-2	MW-16S	Water	07/13/22 12:00	07/15/22 09:50
280-164440-3	MW-17S	Water	07/13/22 12:25	07/15/22 09:50
280-164440-4	MW-18S	Water	07/13/22 10:45	07/15/22 09:50
280-164440-5	MW-19S	Water	07/13/22 11:40	07/15/22 09:50
280-164440-6	MW-20S	Water	07/13/22 13:25	07/15/22 09:50
280-164440-7	DUP	Water	07/13/22 11:40	07/15/22 09:50

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

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

Client Sample ID: MW-15S Date Collected: 07/13/22 08:40 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	147		100		ug/L			07/26/22 10:31	1
Calcium	5370		200		ug/L			07/25/22 19:52	1
Client Sample ID: MW-16S Date Collected: 07/13/22 12:00 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-2 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	188		100		ug/L		07/25/22 10:15	07/26/22 10:35	1
Calcium	2210		200		ug/L		07/25/22 10:15	07/25/22 19:56	1
Client Sample ID: MW-17S Date Collected: 07/13/22 12:25 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-3 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	147		100		ug/L		07/25/22 10:15	07/26/22 10:39	1
Calcium	3880		200		ug/L		07/25/22 10:15	07/25/22 20:00	1
Client Sample ID: MW-18S Date Collected: 07/13/22 10:45 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-4 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	119		100		ug/L		07/25/22 10:15	07/26/22 10:43	1
Calcium	4920		200		ug/L		07/25/22 10:15	07/25/22 20:04	1
Client Sample ID: MW-19S Date Collected: 07/13/22 11:40 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-5 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	157		100		ug/L		07/25/22 10:15	07/26/22 10:47	1
Calcium	3990		200		ug/L		07/25/22 10:15	07/25/22 20:08	1
Client Sample ID: MW-20S Date Collected: 07/13/22 13:25 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	64440-6 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140		100		ug/L			07/26/22 10:51	1
Calcium	5250		200		ug/L		07/25/22 10:15	07/25/22 20:12	1
_									4440 7
Client Sample ID: DUP Date Collected: 07/13/22 11:40 Date Received: 07/15/22 09:50							Lab Sam	ple ID: 280-16 Matrix	: Water
Date Collected: 07/13/22 11:40 Date Received: 07/15/22 09:50	Result	Qualifier	RL	MDL	Unit	D		Matrix	: Water
Date Collected: 07/13/22 11:40	Result 151	Qualifier	RL 100	MDL	Unit ug/L	<u>D</u>	Prepared		

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

General	Chemistry
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Total Dissolved Solids (TDS)

Client Sample ID: MW-15S Date Collected: 07/13/22 08:40							Lab Sam	ple ID: 280-16 Matrix	64440-1 : Water
Date Received: 07/15/22 09:50 Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.4		3.00		mg/L		Tiepareu	$-\frac{1}{07/16/22}$ 18:24	1
Fluoride	4.44		0.500		mg/L			07/16/22 18:24	1
Sulfate	402		25.0		mg/L			07/16/22 18:39	5
Total Dissolved Solids (TDS)	1820		20.0		mg/L			07/19/22 10:32	1
Client Sample ID: MW-16S							Lab Sam	ple ID: 280-16	64440-2
Date Collected: 07/13/22 12:00								Matrix	: Water
Date Received: 07/15/22 09:50									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.0		3.00		mg/L			07/16/22 18:55	1
Fluoride	1.72		0.500		mg/L			07/16/22 18:55	1
Sulfate	77.0		5.00		mg/L			07/16/22 18:55	1
Total Dissolved Solids (TDS)	816		20.0		mg/L			07/19/22 10:31	1
Client Sample ID: MW-17S Date Collected: 07/13/22 12:25							Lab Sam	ple ID: 280-16 Matrix	64440-3 : Water
Date Received: 07/15/22 09:50									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.71		3.00		mg/L			07/16/22 19:43	1
Fluoride	4.24		0.500		mg/L			07/16/22 19:43	1
Sulfate	257		25.0		mg/L			07/19/22 04:07	5
Total Dissolved Solids (TDS)	1660		20.0		mg/L			07/19/22 10:31	1
Client Sample ID: MW-18S Date Collected: 07/13/22 10:45							Lab Sam	ple ID: 280-16 Matrix	64440-4 : Water
Date Received: 07/15/22 09:50								WathA	. Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.06		3.00		mg/L			07/16/22 19:59	1
Fluoride	3.93		0.500		mg/L			07/16/22 19:59	1
Sulfate	521		25.0		mg/L			07/16/22 20:14	5
Total Dissolved Solids (TDS)	1680		20.0		mg/L			07/19/22 10:32	1
Client Sample ID: MW-19S							Lab Sam	ple ID: 280-16	
Date Collected: 07/13/22 11:40								Matrix	: Water
Date Received: 07/15/22 09:50									
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	13.8		3.00	_	mg/L	_		07/16/22 20:30	1
Fluoride	4.15		0.500		mg/L			07/16/22 20:30	1
Sulfate	892		25.0		mg/L			07/16/22 20:46	5
_Total Dissolved Solids (TDS)	2070		20.0		mg/L			07/19/22 10:32	1
Client Sample ID: MW-20S							Lab Sam	ple ID: 280-16	
Date Collected: 07/13/22 13:25 Date Received: 07/15/22 09:50								Matrix	: Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.6		3.00		mg/L			07/16/22 21:02	1
Fluoride	4.52		0.500		mg/L			07/16/22 21:02	1
Sulfate	4.52 78.5		5.00		mg/L			07/16/22 21:02	1
Vunule	10.0		20.0					07/10/22 21:02	

07/19/22 10:32

1

20.0

mg/L

1790

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

General Chemistry

General Chemistry										
Client Sample ID: DUP Date Collected: 07/13/22 11:40							Lab San	nple ID: 280-16 Matrix	4440-7 Water	
Date Received: 07/15/22 09:50 Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	5
Chloride	14.0		3.00		mg/L		· ·	07/16/22 21:18	1	
Fluoride	4.15		0.500		mg/L			07/16/22 21:18	1	6
Sulfate	881		25.0		mg/L			07/16/22 21:34	5	
Total Dissolved Solids (TDS)	45500		1000		mg/L			07/19/22 10:32	1	
										8
										9
										13

QC Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-581778/1-A Matrix: Water											nt Samp rep Typ			
Analysis Batch: 581905												Prep B	atch: {	58177
-	MB	MB												
Analyte	Result	Qualifier		RL	I	MDL	Unit		D	Pr	repared	Analy	zed	Dil Fa
Boron	ND			100			ug/L			07/2	5/22 10:15	07/25/22	2 18:11	
Calcium	ND			200			ug/L			07/2	5/22 10:15	07/25/22	2 18:11	
Lab Sample ID: LCS 280-581778/2-	A							Cli	ient	Sar	nple ID:	Lab Co	ntrol S	ampl
Matrix: Water											rep Typ			
Analysis Batch: 581905										-		Prep B		
,			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Boron			2000		1929			ug/L		—	96	86 - 110		
Calcium			50000		48990			ug/L			98	90 _ 111		
/ /lethod: 9056A - Anions, Ion (hrom	atogra	nhv											
letiou. 3030A - Allons, Ion C		latogra												
Lab Sample ID: MB 280-581039/6										Clie	nt Samp			
Matrix: Water												Prep Ty	pe: To	otal/N
Analysis Batch: 581039														
		MB												
Analyte		Qualifier		RL		MDL			D	P	repared	Analy		Dil Fa
Chloride	ND			3.00			mg/L					07/16/22		
Fluoride	ND			0.500			mg/L					07/16/22	2 14:56	
Sulfate	ND			5.00			mg/L					07/16/22	2 14:56	
Sulfate Lab Sample ID: LCS 280-581039/4	ND			5.00			mg/L	Cli	ient	Sar	nple ID:			Sampl
	ND			5.00			mg/L	Cli	ient	Sar	nple ID:		ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water	ND			5.00			mg/L	Cli	ient	Sar	nple ID:	Lab Co	ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water	ND		Spike	5.00	LCS	LCS		Cli	ient	Sar	nple ID:	Lab Co	ntrol S	
Lab Sample ID: LCS 280-581039/4	ND		Spike Added	5.00	LCS Result			Cli Unit	ient	Sar D	nple ID: %Rec	Lab Co Prep Ty	ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039	ND		•	5.00					ient			Lab Co Prep Ty %Rec	ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte	ND		Added	5.00	Result			Unit	ient		%Rec	Lab Co Prep Ty %Rec Limits	ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride	ND		Added 100	5.00	Result 97.30			Unit mg/L	ient		<u>%Rec</u>	Lab Co Prep Ty %Rec Limits 90 - 110	ntrol S	
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate			Added 100 5.00	5.00	Result 97.30 4.840		lifier	Unit mg/L mg/L mg/L		<u>D</u>	<mark>%Rec</mark> 97 97 105	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110	ntrol S vpe: Tc	otal/N
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/			Added 100 5.00	5.00	Result 97.30 4.840		lifier	Unit mg/L mg/L mg/L		<u>D</u>	<mark>%Rec</mark> 97 97	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control	ntrol S /pe: Tc 	le Du
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water			Added 100 5.00	5.00	Result 97.30 4.840		lifier	Unit mg/L mg/L mg/L		<u>D</u>	<mark>%Rec</mark> 97 97 105	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110	ntrol S /pe: Tc 	le Du
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride			Added 100 5.00 100	5.00	Result 97.30 4.840 104.9	Qua	lifier C	Unit mg/L mg/L mg/L		<u>D</u>	<mark>%Rec</mark> 97 97 105	Lab Con Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty	ntrol S /pe: Tc 	le Du btal/N
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039			Added 100 5.00 100 Spike	5.00	Result 97.30 4.840 104.9	Qua	<u>lifier</u> C	Unit mg/L mg/L mg/L		D_ ple	%Rec 97 97 105 ID: Lab	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec	ntrol S /pe: Tc Samp /pe: Tc	le Du btal/N
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte			Added 100 5.00 100 Spike Added	5.00	Result 97.30 4.840 104.9 LCSD Result	Qua	<u>lifier</u> C	Unit mg/L mg/L client \$		<u>D</u>	%Rec 97 97 105 ID: Lab %Rec	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits	ntrol S /pe: To Samp /pe: To 	le Du btal/N RP Lim
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride			Added 100 5.00 100 Spike Added 100	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43	Qua	<u>lifier</u> C	Unit mg/L mg/L client \$		D_ ple	%Rec 97 97 105 ID: Lab %Rec 97	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110	ntrol S ype: To Samp ype: To RPD 0	le Du btal/N ptal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride			Added 100 5.00 100 Spike Added 100 5.00	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865	Qua	<u>lifier</u> C	Unit mg/L mg/L client S Unit mg/L mg/L		D_ ple	%Rec 97 97 105 ID: Lab %Rec 97 97	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110	Samp pe: To pe: To RPD 0 0	le Du btal/N ptal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate			Added 100 5.00 100 Spike Added 100	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43	Qua	<u>lifier</u> C	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97 105	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To RPD 0 0 0 0 0	le Du ptal/N ptal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3			Added 100 5.00 100 Spike Added 100 5.00	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865	Qua	<u>lifier</u> C	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3 Matrix: Water			Added 100 5.00 100 Spike Added 100 5.00	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865	Qua	<u>lifier</u> C	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97 105	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3 Matrix: Water			Added 100 5.00 100 Spike Added 100 5.00 100	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865 105.0	Qua LCS Qua	lifier D lifier	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97 105	Lab Cor Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3 Matrix: Water			Added 100 5.00 100 Spike Added 100 5.00 100 5.00 100	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865	Qua LCS Qua	lifier D lifier	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97 105	Lab Cor Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3 Matrix: Water Analysis Batch: 581039 Analyte			Added 100 5.00 100 Spike Added 100 5.00 100 5.00 100 Spike Added	5.00	Result 97.30 4.840 104.9 Result 97.43 4.865 105.0 MRL Result	Qua LCS Qua	D lifier	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L	Sam	D ple	%Rec 97 97 105 ID: Lab %Rec 97 97 105	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 %Rec Limits	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3 Matrix: Water Analysis Batch: 581039 Analyte			Added 100 5.00 100 Spike Added 100 5.00 100 5.00 100	5.00	Result 97.30 4.840 104.9 LCSD Result 97.43 4.865 105.0	Qua LCS Qua	D lifier	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L Cli	Sam	D_ ple	%Rec 97 97 97 105 ID: Lab %Rec 97 97 105 mple ID: ID: ID: ID: ID: ID: ID: ID: ID: ID: ID:	Lab Cor Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP
Lab Sample ID: LCS 280-581039/4 Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: LCSD 280-581039/ Matrix: Water Analysis Batch: 581039 Analyte Chloride Fluoride Sulfate Lab Sample ID: MRL 280-581039/3			Added 100 5.00 100 Spike Added 100 5.00 100 5.00 100 Spike Added	5.00	Result 97.30 4.840 104.9 Result 97.43 4.865 105.0 MRL Result	Qua LCS Qua	D lifier	Unit mg/L mg/L client \$ Unit mg/L mg/L mg/L Cli	Sam	D_ ple	%Rec 97 97 105 ID: Lab %Rec 97	Lab Co Prep Ty %Rec Limits 90 - 110 90 - 110 90 - 110 Control Prep Ty %Rec Limits 90 - 110 90 - 110 %Rec Limits	Samp ype: To ype: To <u>RPD</u> 0 0 0 0 0 0 0 0 0	le Du otal/N RP

QC Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

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

Lab Sample ID: MB 280-581081/44 Matrix: Water								C	lie	nt Sam	ple ID: Meth Prep Type:		
Analysis Batch: 581081													
· ····, ··· · · · · · · · · · · · · · ·	МВ	МВ											
Analyte	Result	Qualifier		RL	I	MDL Unit		D	Р	epared	Analyzed	Dil	Fac
Sulfate	ND			5.00		mg/L				-	07/19/22 00:	57	1
Lab Sample ID: LCS 280-581081/40)						Cli	ent S	Sar	nple ID:	: Lab Contro		
Matrix: Water											Prep Type:	Total	/NA
Analysis Batch: 581081													
			Spike			LCS					%Rec		
Analyte			Added			Qualifier			D	%Rec	Limits		
Sulfate			100		102.3		mg/L			102	90 - 110		
	42						Client C				Control So	mala F	
Lab Sample ID: LCSD 280-581081/ Matrix: Water	43						Sherit a	bamp	ле	ID. Lau	Control Sa		
											Prep Type:	Iotal	/NA
Analysis Batch: 581081			Calles			LCSD					%Rec		חחח
Anchite			Spike				11		-	0/ Dee			RPD
Analyte			Added 100		102.0	Qualifier			D	%Rec 102		$\frac{\mathbf{RPD}}{0}$	-imit 10
Suirale			100		102.0		mg/L			102	90 - 110	0	10
Lab Sample ID: MRL 280-581081/3							Cli	ent S	Sar	nnle ID [.]	: Lab Contro	l Sam	nle
Matrix: Water							0.1		Jui		Prep Type:		
Analysis Batch: 581081											1100 1900	lotan	
			Spike		MRL	MRL					%Rec		
Analyte			Added			Qualifier	Unit		D	%Rec	Limits		
Sulfate			5.00		ND		mg/L		_	73	50 - 150		
Method: SM 2540C - Solids, To	otal D	issolve	d (TDS	5)									
Lab Sample ID: MB 280-581227/1								C	lie	nt Sam	ple ID: Meth	od Bla	ank
Matrix: Water												T 1 1 1 1	
A set of Decide FOA007											Prep Type:	Total	/NA
Analysis Batch: 581227											Prep Type:	Total	/NA
		МВ						_	_				
Analyte	Result	MB Qualifier		RL	I	MDL Unit		<u>D</u>	Pı	epared	Analyzed	Dil	Fac
				RL 10.0	I	MDL Unit		<u>D</u>	Pı	epared		Dil	
Analyte Total Dissolved Solids (TDS)	Result				I		-			•	Analyzed	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS)	Result				I		-			•	Analyzed 07/19/22 10:3 : Lab Contro	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water	Result				I		-			•	Analyzed	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS)	Result		Snike			mg/L	-			•	Analyzed 07/19/22 10:3 : Lab Contro Prep Type:	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227	Result		Spike		LCS	LCS	Cli		Sar	nple ID:	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte	Result		Added		LCS Result	mg/L	Cli			nple ID	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227	Result		•		LCS	LCS	Cli		Sar	nple ID:	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec	Dil 31	Fac 1
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte	Result		Added		LCS Result	LCS	Cli		Sar D	nple ID %Rec 96	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits	Dil 31 Di Sam Total	Fac 1 ple /NA
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte Total Dissolved Solids (TDS)	Result		Added		LCS Result	LCS	Cli		Sar D	nple ID %Rec 96	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits 88 - 114	Dil Jan Di Sam Total	Fac 1 nple /NA
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-581229/1	Result		Added		LCS Result	LCS	Cli		Sar D	nple ID %Rec 96	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits 88 - 114 ple ID: Meth	Dil Jan Di Sam Total	Fac 1 nple /NA
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-581229/1 Matrix: Water	Result ND		Added		LCS Result	LCS	Cli		Sar D	nple ID %Rec 96	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits 88 - 114 ple ID: Meth	Dil Jan Di Sam Total	Fac 1 nple /NA
Analyte Total Dissolved Solids (TDS) Lab Sample ID: LCS 280-581227/2 Matrix: Water Analysis Batch: 581227 Analyte Total Dissolved Solids (TDS) Lab Sample ID: MB 280-581229/1 Matrix: Water	Result ND	Qualifier	Added		LCS Result 480.0	LCS	Cli <u>Unit</u> mg/L		Sar D Slie	nple ID %Rec 96	Analyzed 07/19/22 10:3 : Lab Contro Prep Type: %Rec Limits 88 - 114 ple ID: Meth	Dil 31 Di Sam Total od Bla Total	Fac 1 nple /NA

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

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

Lab Sample ID: LCS 280-581229/2 Matrix: Water Analysis Batch: 581229				Clie	ent Sai	mple ID	: Lab Cor Prep Ty		
Analysis Daten. 501225	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Total Dissolved Solids (TDS)	502	481.0		mg/L		96	88 - 114		
Lab Sample ID: LCSD 280-581229/3 Matrix: Water Analysis Batch: 581229			C	Client Sa	ample	ID: Lat	o Control Prep Ty		
······ , ··· -································	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Dissolved Solids (TDS)	502	483.0		mg/L		96	88 - 114	0	20

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

Metals

Prep Batch: 581778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164440-1	MW-15S	Total Recoverable	Water	3005A	
280-164440-2	MW-16S	Total Recoverable	Water	3005A	
280-164440-3	MW-17S	Total Recoverable	Water	3005A	
280-164440-4	MW-18S	Total Recoverable	Water	3005A	
280-164440-5	MW-19S	Total Recoverable	Water	3005A	
280-164440-6	MW-20S	Total Recoverable	Water	3005A	
280-164440-7	DUP	Total Recoverable	Water	3005A	
MB 280-581778/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-581778/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 581905

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	10
280-164440-1	MW-15S	Total Recoverable	Water	6010C	581778	
280-164440-2	MW-16S	Total Recoverable	Water	6010C	581778	
280-164440-3	MW-17S	Total Recoverable	Water	6010C	581778	
280-164440-4	MW-18S	Total Recoverable	Water	6010C	581778	
280-164440-5	MW-19S	Total Recoverable	Water	6010C	581778	
280-164440-6	MW-20S	Total Recoverable	Water	6010C	581778	4.9
280-164440-7	DUP	Total Recoverable	Water	6010C	581778	13
MB 280-581778/1-A	Method Blank	Total Recoverable	Water	6010C	581778	
LCS 280-581778/2-A	Lab Control Sample	Total Recoverable	Water	6010C	581778	

Analysis Batch: 581983

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-164440-1	MW-15S	Total Recoverable	Water	6010C	581778
280-164440-2	MW-16S	Total Recoverable	Water	6010C	581778
280-164440-3	MW-17S	Total Recoverable	Water	6010C	581778
280-164440-4	MW-18S	Total Recoverable	Water	6010C	581778
280-164440-5	MW-19S	Total Recoverable	Water	6010C	581778
280-164440-6	MW-20S	Total Recoverable	Water	6010C	581778
280-164440-7	DUP	Total Recoverable	Water	6010C	581778

General Chemistry

Analysis Batch: 581039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164440-1	MW-15S	Total/NA	Water	9056A	
280-164440-1	MW-15S	Total/NA	Water	9056A	
280-164440-2	MW-16S	Total/NA	Water	9056A	
280-164440-3	MW-17S	Total/NA	Water	9056A	
280-164440-4	MW-18S	Total/NA	Water	9056A	
280-164440-4	MW-18S	Total/NA	Water	9056A	
280-164440-5	MW-19S	Total/NA	Water	9056A	
280-164440-5	MW-19S	Total/NA	Water	9056A	
280-164440-6	MW-20S	Total/NA	Water	9056A	
280-164440-7	DUP	Total/NA	Water	9056A	
280-164440-7	DUP	Total/NA	Water	9056A	
MB 280-581039/6	Method Blank	Total/NA	Water	9056A	
LCS 280-581039/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-581039/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-581039/3	Lab Control Sample	Total/NA	Water	9056A	

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

General Chemistry

Analysis Batch: 581081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164440-3	MW-17S	Total/NA	Water	9056A	
MB 280-581081/44	Method Blank	Total/NA	Water	9056A	
LCS 280-581081/40	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-581081/43	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-581081/3	Lab Control Sample	Total/NA	Water	9056A	
Analysis Batch: 5812	227				

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164440-2	MW-16S	Total/NA	Water	SM 2540C	
280-164440-3	MW-17S	Total/NA	Water	SM 2540C	
MB 280-581227/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-581227/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 581229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164440-1	MW-15S	Total/NA	Water	SM 2540C	
280-164440-4	MW-18S	Total/NA	Water	SM 2540C	
280-164440-5	MW-19S	Total/NA	Water	SM 2540C	1
280-164440-6	MW-20S	Total/NA	Water	SM 2540C	
280-164440-7	DUP	Total/NA	Water	SM 2540C	
MB 280-581229/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-581229/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-581229/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Job ID: 280-164440-1 SDG: AVS Landfill

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

Client Sample ID: MW-15S Date Collected: 07/13/22 08:40 Date Received: 07/15/22 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 19:52	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:31	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 18:24	MEC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	581039	07/16/22 18:39	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581229	07/19/22 10:32	ASP	TAL DEN

Client Sample ID: MW-16S Date Collected: 07/13/22 12:00

Date Received: 07/15/22 09:50

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 19:56	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:35	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 18:55	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581227	07/19/22 10:31	ASP	TAL DEN

Client Sample ID: MW-17S Date Collected: 07/13/22 12:25 Date Received: 07/15/22 09:50

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 20:00	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:39	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 19:43	MEC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	581081	07/19/22 04:07	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581227	07/19/22 10:31	ASP	TAL DEN

Client Sample ID: MW-18S Date Collected: 07/13/22 10:45 Date Received: 07/15/22 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 20:04	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:43	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 19:59	MEC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	581039	07/16/22 20:14	MEC	TAL DEN

Eurofins Denver

Matrix: Water

Matrix: Water

5

11 12 13

Lab Sample ID: 280-164440-2 Matrix: Water

Lab Sample ID: 280-164440-3

Matrix: Water

Lab Sample ID: 280-164440-4

Lab Chronicle

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill Job ID: 280-164440-1 SDG: AVS Landfill

Matrix: Water

Matrix: Water

Lab Sample ID: 280-164440-4

Lab Sample ID: 280-164440-5

Client Sample ID: MW-18S Date Collected: 07/13/22 10:45 Date Received: 07/15/22 09:50

Prep Total/f		Batch Type Analysis	Batch Method SM 2540C	Run	Dil Factor	Initial Amount 50 mL	Final Amount 100 mL	Batch Number 581229	Prepared or Analyzed 07/19/22 10:32	Analyst ASP	Lab TAL DEN	_
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Client Sample ID: MW-19S Date Collected: 07/13/22 11:40 Date Received: 07/15/22 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 20:08	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:47	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 20:30	MEC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	581039	07/16/22 20:46	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581229	07/19/22 10:32	ASP	TAL DEN

Client Sample ID: MW-20S Date Collected: 07/13/22 13:25 Date Received: 07/15/22 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 20:12	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:51	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 21:02	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581229	07/19/22 10:32	ASP	TAL DEN

Client Sample ID: DUP Date Collected: 07/13/22 11:40 Date Received: 07/15/22 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581905	07/25/22 20:16	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	581778	07/25/22 10:15	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			581983	07/26/22 10:55	LMT	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581039	07/16/22 21:18	MEC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	581039	07/16/22 21:34	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	581229	07/19/22 10:32	ASP	TAL DEN

Laboratory References:

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

Matrix: Water

Lab Sample ID: 280-164440-6 Matrix: Water

Lab Sample ID: 280-164440-7

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7/27/2022

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - ND Sites - AVS Landfill

Laboratory: Eurofins Denver

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

Authority Program Identification Number Expiration Date
North Dakota State R-034 01-08-23

Securofins Environment Testing America SOC No: Page: 1 cf 1 Job #: Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitro Acid C - Aneohor S - Aneohor C - Na2SO3 C - Other (specify) D H - G, C - Aneohor C - Aneo	Image: Story Record Story Record Image: Story Record Image: Story Record Image: Story Record Story	Sampler: A. Knut Phone: 701 - 70 TAT Requested (a Str.nd Po* Purchase Orde W0 * Sample Date Sample Date Sample Date 1-13-22 7-13-22 7-13-22 7-13-22	Eurofins TestAmerica, Denver 4955 Yarrow Street Avada, CO 80002 Phone (303) 736-0100 Fax (303) 431-7171 Client Information Comany: Basin Electric Power Cooperative Adress: 3901 Highway 200A Site, Zip: ND, 58571 Phone: T01-745-7238(Tel) Email: <u>atmail: atmail: BW 5 LAJUDF1LC</u> MLU - 15 <u>5</u> MLU - 17 <u>5</u> M
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Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 164440 List Number: 1 Creator: Turner, Shelby R

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

Job Number: 280-164440-1 SDG Number: AVS Landfill

List Source: Eurofins Denver

🔅 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-164684-1

Laboratory Sample Delivery Group: AVS NEW WELLS Client Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

For:

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelly Twiner

Authorized for release by: 8/23/2022 3:08:05 PM Shelby Turner, Project Manager I (303)736-0100

Shelby.Turner@et.eurofinsus.com

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

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

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

..... Links **Review your project** results through EOL Have a Question? Ask-The Expert Visit us at: www.eurofinsus.com/Env

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

3

Qualifiers

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Qualifier	Qualifier Description	
G	The Sample MDC is greater than the requested RL.	
U	Result is less than the sample detection limit.	5

Glossary

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

Job ID: 280-164684-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - NDS - AVS NEW WELLS

Report Number: 280-164684-1

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.

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

RECEIPT

The samples were received on 7/21/2022 9:30 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 0.7° C.

RADIUM-226 (GFPC)

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 08/01/2022 and analyzed on 08/19/2022.

The following samples were prepared at a reduced aliquot due to Matrix: MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4). It can be noted that insufficient sample volume was available to perform a sample duplicate. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

RADIUM-228

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 08/01/2022 and analyzed on 08/11/2022.

The detection goal was not met for the following samples: MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4). The samples were prepped at a reduced volume due to the presence of matrix interferences. Analytical results are reported with the detection limit achieved.

The following samples were prepared at a reduced aliquot due to Matrix: MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4). It can be noted that insufficient sample volume was available to perform a sample duplicate. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 (Continued)

Laboratory: Eurofins Denver (Continued)

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

RADIUM-226/RADIUM-228 (GFPC)

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. The samples were analyzed on 08/23/2022.

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

Detection Summary	
	D: 280-164684-1 /S NEW WELLS 2
Client Sample ID: MW-24S Lab Sample ID: 2	280-164684-1
No Detections.	
Client Sample ID: MW-21S Lab Sample ID: 2	280-164684-2
No Detections.	5
Client Sample ID: MW-22S Lab Sample ID: 2	280-164684-3 6
No Detections.	
Client Sample ID: DUP Lab Sample ID: 2	280-164684-4
No Detections.	8
	9
	13

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

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

Protocol References:

None = None

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

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

Laboratory References:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 SDG: AVS NEW WELLS

Lab Sample ID Client Sample ID Matrix Collected Received
Z80-164684-1 MW-24S Water 07/19/22 09:20 07/21/22 09:30
280-164684-2 MW-21S Water 07/19/22 10:50 07/21/22 09:30
280-164684-3 MW-22S Water 07/19/22 12:45 07/21/22 09:30
280-164684-4 DUP Water 07/19/22 12:45 07/21/22 09:30

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 SDG: AVS NEW WELLS

Method: 9315 - Radium-226 (GFPC)

_										
Client Sample ID:								Lab Sam	ple ID: 280-16	
Date Collected: 0									Matrix	: Water
Date Received: 0	7/21/22 09:3	80								
			Count	Total						
		a	Uncert.	Uncert.						
Analyte		Qualifier	<u>(2σ+/-)</u>	<u>(2σ+/-)</u>			Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.287	U	0.251	0.252	1.00	0.372	pCi/L	08/01/22 08:32	08/19/22 13:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.0		40 - 110						08/19/22 13:36	1
Client Complex ID:	MM 040							Lab Carry		4004 4
Client Sample ID: Date Collected: 0		50						Lab Sam	ple ID: 280-16 Matrix	
Date Received: 0									Watrix	. wale
Date Received. U	//2//22/09.5		Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0470		0.274	0.274	1.00	0.570	pCi/L		08/19/22 13:36	
0	A/1-21	0							A	.
Carrier Re Corrier	_ <u>%Yield</u> 81.8	Qualifier	Limits 40 - 110					Prepared	Analyzed 08/19/22 13:36	Dil Fac
Ba Carrier	81.8		40 - 110					08/01/22 08:32	08/19/22 13:30	
Client Sample ID:	MW-22S							Lab Sam	ple ID: 280-16	64684-3
Date Collected: 0	7/19/22 12:4	45							Matrix	
Date Received: 0	7/21/22 09:3	80								
			Count	Total						
			Uncert.	Uncert.						
Analyte		Qualifier	(2σ+/-)	(2σ+/-)	RL		Unit	Prepared	Analyzed	Dil Fa
Radium-226	0.133	U	0.234	0.234	1.00	0.417	pCi/L	08/01/22 08:32	08/19/22 13:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	101		40 - 110						08/19/22 13:37	·
Client Sample ID:								Lab Sam	ple ID: 280-16	
Date Collected: 0		15						Lab Salin		: Water
Date Received: 0									matrix	· ···
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2 σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-226	-0.202	U	0.143	0.145	1.00	0.431	pCi/L	08/01/22 08:32	08/19/22 13:47	1
Carrier	%Viold	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier		Guunner	40 - 110						08/19/22 13:47	
- lathad: 0220	Dadium 1	20 (CED	\sim							
Method: 9320 -	Raulum-2	20 (GFP	0)							
Client Sample ID:	MW-24S							Lab Sam	ple ID: 280-16	54684- 1
Date Collected: 0									Matrix	: Wate
	7/21/22 09:3	80								
Date Received: 0			Count	Total						
Date Received: 0				••						
			Uncert.	Uncert.						
Analyte		Qualifier	(2σ+/-)	(2σ+/-)	RL		Unit	Prepared	Analyzed	Dil Fa
Date Received: 0 Analyte Radium-228					RL 1.00		Unit pCi/L	Prepared 08/01/22 08:40	Analyzed 08/11/22 11:24	
Analyte	0.767		(2σ+/-)	(2σ+/-)						Dil Fac

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-1 SDG: AVS NEW WELLS

> 3 4 5

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

Client Sample ID: Date Collected: 0		20						Labouin	ole ID: 280-16 Matrix	
Date Received: 07	7/21/22 09:3	80								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
/ Carrier	81.9		40 - 110					08/01/22 08:40	08/11/22 11:24	
Client Sample ID:	MW-21S							Lab Sam	ole ID: 280-16	64684-2
Date Collected: 0	7/19/22 10:5	50							Matrix	: Wate
Date Received: 07	<mark>7/21/22 09:</mark> 3	80								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	1.31	UG	1.37	1.37	1.00	2.21	pCi/L	08/01/22 08:40	08/11/22 11:24	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	81.8		40 - 110					08/01/22 08:40	08/11/22 11:24	
' Carrier	89.0		40 - 110					08/01/22 08:40	08/11/22 11:24	
lient Sample ID:	MW-22S							Lab Sam	ole ID: 280-16	64684-
Date Collected: 0	7/19/22 12:4	45							Matrix	: Wate
Date Received: 07	7/21/22 09:3	80								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	1.23	UG	1.08	1.08	1.00	1.69	pCi/L	08/01/22 08:40	08/11/22 11:24	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	101		40 - 110					08/01/22 08:40	08/11/22 11:24	
' Carrier	91.6		40 - 110					08/01/22 08:40	08/11/22 11:24	
Client Sample ID:	DUP							Lab Sam	ole ID: 280-16	64684-
Date Collected: 0	7/ <mark>19/22 12:</mark> 4	45							Matrix	: Wate
Date Received: 07	<mark>7/21/22 09:</mark> 3	80								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fa
Radium-228	1.51	UG	1.27	1.27	1.00	1.99	pCi/L	08/01/22 08:40	08/11/22 11:24	
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fa
Ba Carrier	101		40 - 110					08/01/22 08:40	08/11/22 11:24	
/ Carrier	88.6		40 - 110					08/01/22 08:40	08/11/22 11:24	
ethod: Ra226										

Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30										Water
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2 σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05	U	1.16	1.16	5.00	1.90	pCi/L		08/23/22 11:21	1

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

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

Client Sample ID: M Date Collected: 07/1 Date Received: 07/2	9/22 10:5							Lab Sam	ple ID: 280-1 Matrix	64684-2 <: Water
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2 σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.26	U	1.40	1.40	5.00	2.21	pCi/L		08/23/22 11:21	1
Client Sample ID: M Date Collected: 07/1 Date Received: 07/2	9/22 12:4							Lab Sam	ple ID: 280-1 Matrix	64684-3 c: Water
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.37	U	1.11	1.11	5.00	1.69	pCi/L		08/23/22 11:21	1
Client Sample ID: DI Date Collected: 07/1 Date Received: 07/2	9/22 12:4							Lab Sam	ple ID: 280-1 Matrix	64684-4 c: Water
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2 σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.31	U	1.28	1.28	5.00	1.99	pCi/L		08/23/22 11:21	1

164684-1 2 3 -164684-2 rix: Water 5 Dil Fac

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Method: 9315 - Radium-226 (GFPC)

Lab Sample II		60-5759	21/1-A						Clie		le ID: Meth		
Matrix: Water		00									Prep Type		
Analysis Bato	:n: 5786	00		Count	Total						Prep Batc	n: 57	59 2
		мв	MR	Uncert.	Uncert.								
Analyte			Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Dr	epared	Analyzed	г)il Fa
Radium-226		.0008323		0.0462	0.0462	1.00	0.101			-	08/19/22 08:		ЛГа
	0.	.0000020	0	0.0402	0.0402	1.00	0.101	poine	00/0	1/22 00.02	00/10/22 00.	10	
			MB										
Carrier			Qualifier	Limits						repared	Analyzed		Dil Fa
Ba Carrier		104		40 - 110					08/01	1/22 08:32	08/19/22 08:	13	
Lab Sample II		160-575	921/2-0					Cli	ant San	nnle ID:	Lab Contro	ol Sa	mnl
Matrix: Water		100-070	JE 112-A						Sint Oan	-	Prep Type		
Analysis Bato		36									Prep Batc		
,						Total							
			Spike	LCS	LCS	Uncert.					%Rec		
Analyte			Added	Result	Qual	(2 σ+/-)	RL	MDC	Unit	%Rec	Limits		
Radium-226			11.3	9.876		1.03	1.00	0.105	pCi/L	87	75 - 125		
	LCS	105											
Carrier		Qualifier	Limits										
		quanner	40 - 110	-									
₋ab Sample II Matrix: Water	•							Client S	ample		Control Sa Prep Type Prep Batc	: Tota	al/N
Lab Sample II Matrix: Water	D: LCSD					Total		Client S	ample			: Tota	al/N
Lab Sample II Matrix: Water	D: LCSD				LCSD	Total Uncert.		Client S	ample		Prep Type Prep Batc %Rec	: Tota h: 57	al/N 592
Lab Sample II Matrix: Water Analysis Bato Analyte	D: LCSD		25921/3-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Type Prep Batc %Rec Limits	: Tota h: 57 RER	al/N 592 RE
Lab Sample II Matrix: Water Analysis Bato Analyte	D: LCSD		2 5921/3-A Spike			Uncert.			Unit		Prep Type Prep Batc %Rec Limits	: Tota h: 57	al/N 592 RE
Lab Sample II Matrix: Water Analysis Batc ^{Analyte}	D: LCSD	36	25921/3-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Type Prep Batc %Rec Limits	: Tota h: 57 RER	al/N 592 RE
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226	D: LCSD ch: 5787 	36	2 5921/3-A Spike Added 11.3	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Type Prep Batc %Rec Limits	: Tota h: 57 RER	al/N 592 RE
Lab Sample II Matrix: Water Analysis Bato Analyte Radium-226 Carrier	D: LCSD ch: 5787 	36 LCSD	2 5921/3-A Spike Added 11.3	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Type Prep Batc %Rec Limits	: Tota h: 57 RER	al/N 592 RE
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier	D: LCSD ch: 5787 <i>LCSD</i> %Yield 101	LCSD Qualifier	25921/3-A Spike Added 11.3 Limits 40 - 110	Result 9.619		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Type Prep Batc %Rec Limits	: Tota h: 57 RER	al/N 592 RE
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932	D: LCSD ch: 5787 <i>LCSD</i> %Yield 101 20 - Rac	236 LCSD Qualifier dium-2	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC	Result 9.619		Uncert. (2σ+/-)	RL	MDC	Unit pCi/L	%Rec 85	Prep Type Prep Batc %Rec Limits 75 - 125	: Tota h: 57 RER 0.13	Al/N 592 RE Lim
Lab Sample II Matrix: Water Analysis Bato Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II	D: LCSD ch: 5787 <i>LCSD</i> %Yield 101 20 - Rac D: MB 10	236 LCSD Qualifier dium-2	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC	Result 9.619		Uncert. (2σ+/-)	RL	MDC	Unit pCi/L	%Rec 85	Prep Type Prep Batc %Rec Limits 75 - 125	: Tota h: 57 RER 0.13	Al/N 592 RE Lin
Lab Sample II Matrix: Water Analysis Bato Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water	D: LCSD 	36 LCSD Qualifier dium-2 60-5759	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC	Result 9.619		Uncert. (2σ+/-)	RL	MDC	Unit pCi/L	%Rec 85	Prep Type Prep Batc %Rec Limits 75 - 125	rod E	al/N 592 RE Lin Blan al/N
Lab Sample II Matrix: Water Analysis Bato Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water	D: LCSD 	36 LCSD Qualifier dium-2 60-5759	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC		Qual	Uncert. (2σ+/-)	RL	MDC	Unit pCi/L	%Rec 85	Prep Type Prep Batc %Rec Limits 75 - 125	rod E	al/N 592 RE Lin Blan al/N
Lab Sample II Matrix: Water Analysis Bato Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water	D: LCSD 	236 LCSD Qualifier dium-2 60-5759 87	25921/3-A Spike Added 11.3 <u>Limits</u> 40 - 110 228 (GFPC	 Count	Qual	Uncert. (2σ+/-)	RL	MDC	Unit pCi/L	%Rec 85	Prep Type Prep Batc %Rec Limits 75 - 125	rod E	al/N 592 RE Lim Blan
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water Analysis Batc	D: LCSD 	236 <i>LCSD</i> <i>Qualifier</i> dium-2 60-5759 87 MB	25921/3-A Spike Added 11.3 <u>Limits</u> 40 - 110 228 (GFPC 22/1-A MB	Count Uncert.	Qual Total Uncert.	Uncert. (2σ+/-) 1.01	RL 1.00	<u>MDC</u> 0.105	Unit pCi/L	nt Samp	Prep Type Prep Batc %Rec Limits 75-125	: Tota h: 57 RER 0.13 nod E : Tota h: 57	Al/N 592 RE Lim Blan Al/N 592
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water Analysis Batc	D: LCSD 	236 LCSD Qualifier dium-2 60-5759 87 MB Result	25921/3-A Spike Added 11.3 <u>Limits</u> 40 - 110 228 (GFPC 22/1-A MB Qualifier	<u>Result</u> 9.619) Count Uncert. (2σ+/-)	Qual Total Uncert. (2σ+/-)	Uncert. (2σ+/-) 1.01	RL 1.00	MDC 0.105	Unit pCi/L Clie	nt Samp	Prep Type Prep Batc %Rec Limits 75-125	: Tota h: 57 RER 0.13 nod E : Tota h: 57	Al/N 592 RE Lim Blan Al/N 592
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water Analysis Batc	D: LCSD 	236 <i>LCSD</i> <i>Qualifier</i> dium-2 60-5759 87 MB <u>Result</u> 0.05175	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC 22/1-A MB Qualifier U	Count Uncert.	Qual Total Uncert.	Uncert. (2σ+/-) 1.01	RL 1.00	MDC 0.105	Unit pCi/L Clie	nt Samp	Prep Type Prep Batc %Rec Limits 75-125	: Tota h: 57 RER 0.13 nod E : Tota h: 57	Al/N 592 RE Lin Blan Al/N 592
Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water Analysis Batc Analyte Radium-228	D: LCSD 	236 <i>LCSD</i> <i>Qualifier</i> dium-2 60-5759 87 MB <u>Result</u> 0.05175 <i>MB</i>	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC 22/1-A MB Qualifier U MB	Result 9.619	Qual Total Uncert. (2σ+/-)	Uncert. (2σ+/-) 1.01	RL 1.00	MDC 0.105	Unit pCi/L Clie Pr 	• %Rec 85 • • • • • • • • • • • • • • • • • • •	Prep Type Prep Batc %Rec Limits 75-125	: Tota h: 57 RER 0.13 0.13	Al/N 592 RE Lim Blan Al/N 592 Dil Fa
Ba Carrier Lab Sample II Matrix: Water Analysis Batc Analyte Radium-226 Carrier Ba Carrier Iethod: 932 Lab Sample II Matrix: Water Analysis Batc Analyte Radium-228 Carrier Ba Carrier Ba Carrier	D: LCSD 	236 <i>LCSD</i> <i>Qualifier</i> dium-2 60-5759 87 MB <u>Result</u> 0.05175 <i>MB</i>	25921/3-A Spike Added 11.3 Limits 40 - 110 228 (GFPC 22/1-A MB Qualifier U	<u>Result</u> 9.619) Count Uncert. (2σ+/-)	Qual Total Uncert. (2σ+/-)	Uncert. (2σ+/-) 1.01	RL 1.00	MDC 0.105	Unit pCi/L Clie Pr 08/0*	• %Rec 85 • nt Samp • repared 1/22 08:40 • repared	Prep Type Prep Batc %Rec Limits 75-125	: Tota h: 57 RER 0.13 nod E : Tota h: 57	al/N, 592 RE Lim Blan al/N,

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-1 SDG: AVS NEW WELLS

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

Lab Sample Matrix: Wat		160-57592	2/2-A					Cli	ent Sa	mple ID:	Lab Con Prep Typ		
Analysis Ba		587									Prep Ba		
· ·						Total							
			Spike	LCS	LCS	Uncert.					%Rec		
Analyte			Added	Result	Qual	(2σ+/-)	RL	MDC	Unit	%Rec	Limits		
Radium-228			8.37	8.277		1.13	1.00	0.492	pCi/L	99	75 - 125		
	LCS	LCS											
Carrier	%Yield	Qualifier	Limits										
Ba Carrier	103		40 - 110										
Y Carrier	87.5		40 - 110										
-										ID: Lak	0		
Lab Sample	e ID: LCSI	D 160-5759					•	Client S	ample	ID: Lab	Control S		
Lab Sample Matrix: Wat	e ID: LCSI er							Client S	ample	ID: Lab	Ргер Тур	be: Tot	al/NA
Y Carrier Lab Sample Matrix: Wat Analysis Ba	e ID: LCSI er					Total		Client S	ample	ID: Lab		be: Tot	al/NA
Lab Sample Matrix: Wat	e ID: LCSI er		022/3-A	LCSD	LCSD	Total Uncert.		Client S	ample	ID: Lab	Prep Typ Prep Ba	be: Tot	al/NA 75922
Lab Sample Matrix: Wat Analysis Ba	e ID: LCSI er			LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	Client S	·	ID: Lab	Ргер Тур	be: Tot	al/NA
Lab Sample Matrix: Wat Analysis Ba Analyte	e ID: LCSI er		022/3-A Spike			Uncert.			Unit		Prep Typ Prep Ba %Rec	be: Tot tch: 57	al/NA 75922 RER
Lab Sample Matrix: Wat Analysis Ba Analyte	e ID: LCSI er atch: 5775	587 	22/3-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Ba %Rec Limits	e: Tot tch: 57	RER Limit
Lab Sample Matrix: Wat Analysis Ba Analyte Radium-228	e ID: LCSI er atch: 5775	587 	22/3-A Spike Added	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Ba %Rec Limits	e: Tot tch: 57	RER Limit
Lab Sample Matrix: Wat	e ID: LCSI er atch: 5775	587 	Spike Added 8.37	Result		Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Prep Typ Prep Ba %Rec Limits	e: Tot tch: 57	RER Limit

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 SDG: AVS NEW WELLS

Rad

Prep Batch: 575921

ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
80-164684-1	MW-24S	Total/NA	Water	PrecSep-21	·
280-164684-2	MW-21S	Total/NA	Water	PrecSep-21	
280-164684-3	MW-22S	Total/NA	Water	PrecSep-21	
280-164684-4	DUP	Total/NA	Water	PrecSep-21	
MB 160-575921/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-575921/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-575921/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
rep Batch: 575922 Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	PrecSep_0	
	MW-21S	Total/NA	Water	PrecSep_0	
280-164684-2					
	MW-22S	Total/NA	Water	PrecSep_0	
280-164684-3		Total/NA Total/NA	Water Water	PrecSep_0 PrecSep_0	
280-164684-3 280-164684-4	MW-22S				
280-164684-2 280-164684-3 280-164684-4 MB 160-575922/1-A LCS 160-575922/2-A	MW-22S DUP	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 SDG: AVS NEW WELLS

Lab Sample ID: 280-164684-2

Lab Sample ID: 280-164684-3

Lab Sample ID: 280-164684-4

Client Sample ID: MW-24S Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			256.13 mL	1.0 g	575921	08/01/22 08:32	MS	EET SL
Total/NA	Analysis	9315		1			578688	08/19/22 13:36	FLC	EET SL
Total/NA	Prep	PrecSep_0			256.13 mL	1.0 g	575922	08/01/22 08:40	MS	EET SL
Total/NA	Analysis	9320		1			577571	08/11/22 11:24	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228		1			579070	08/23/22 11:21	EMH	EET SL

Client Sample ID: MW-21S Date Collected: 07/19/22 10:50 Date Received: 07/21/22 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			246.19 mL	1.0 g	575921	08/01/22 08:32	MS	EET SL
Total/NA	Analysis	9315		1			578688	08/19/22 13:36	FLC	EET SL
Total/NA	Prep	PrecSep_0			246.19 mL	1.0 g	575922	08/01/22 08:40	MS	EET SL
Total/NA	Analysis	9320		1			577571	08/11/22 11:24	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228		1			579070	08/23/22 11:21	EMH	EET SL

Client Sample ID: MW-22S Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			246.85 mL	1.0 g	575921	08/01/22 08:32	MS	EET SL
Total/NA	Analysis	9315		1			578688	08/19/22 13:37	FLC	EET SL
Total/NA	Prep	PrecSep_0			246.85 mL	1.0 g	575922	08/01/22 08:40	MS	EET SL
Total/NA	Analysis	9320		1			577571	08/11/22 11:24	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228		1			579070	08/23/22 11:21	EMH	EET SL

Client Sample ID: DUP Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

Analysis

Matrix: Water Batch Batch Dil Initial Final Batch Prepared Method Туре Run Factor Amount Amount Number or Analyzed Analyst Lab PrecSep-21 575921 08/01/22 08:32 MS Prep 246.74 mL EET SL 1.0 g Analysis 9315 578736 08/19/22 13:47 FLC 1 EET SL Prep PrecSep_0 246.74 mL 575922 08/01/22 08:40 MS EET SL 1.0 g Analysis 9320 577571 08/11/22 11:24 FLC EET SL 1

Laboratory References:

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

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

Ra226 Ra228

08/23/22 11:21 EMH

579070

EET SL

1

Lab Sample ID: 280-164684-1 Matrix: Water

Matrix: Water

Matrix: Water

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-1 SDG: AVS NEW WELLS

12 13 14

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
NAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
alifornia	State	2886	07-01-22 *
onnecticut	State	PH-0241	03-31-23
orida	NELAP	E87689	06-30-23
I - RadChem Recognition	State	n/a	06-30-23
inois	NELAP	200023	11-30-22
wa	State	373	12-01-22
ansas	NELAP	E-10236	10-31-22
entucky (DW)	State	KY90125	12-31-22
entucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
puisiana	NELAP	04080	06-30-22 *
uisiana (All)	NELAP	04080	06-30-23
uisiana (DW)	State	LA011	12-31-22
ryland	State	310	09-30-23
- RadChem Recognition	State	9005	06-30-23
souri	State	780	06-30-25
vada	State	MO000542020-1	07-31-23
w Jersey	NELAP	MO002	06-30-23
v York	NELAP	11616	04-01-23
rth Dakota	State	R-207	06-30-23
3C	NRC	24-24817-01	12-31-22
lahoma	NELAP	9997	08-31-22
egon	NELAP	4157	09-01-22
ennsylvania	NELAP	68-00540	02-28-23
outh Carolina	State	85002001	06-30-22 *
Kas	NELAP	T104704193	07-31-23
Fish & Wildlife	US Federal Programs	058448	07-31-23
DA	US Federal Programs	P330-17-00028	03-11-23
ah	NELAP	MO000542021-14	08-01-22 *
rginia	NELAP	10310	06-14-23
ashington	State	C592	08-30-22
/est Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Eurofins TestAmerica, Denver 4955 Yarrw Street Arvada, CO 80002 Phone (303) 736-0100 Fax (303) 431-7171	Ū	hain of	Chain of Custody Record	Reco	Ъ						🌫 eurofins		Environment Testing America
Client Information	Sampler: KIIL KS	5		ab PM. Turner, She	R R				Carrier Tracking No(s).		COC No		
Client Contact Mr. Aaron Knutson	Phone: 701-74	5-73	38	E-Mail: Shelby.Turner@ET.EurofinsUS.com	er@E1	Eurofin	sUS.com				Page:	691	
Company Basin Electric Power Cooperative							Analysis	s Requested			Job #:		
Address 3901 Highway 200A	Due Date Requested:										Preservation Codes:	1 Codes:	
City: Stanton	TAT Requested (days):	÷									A - HCL B - NaOH C - Zn Acetal		
State, Zip: ND, 58571	Studard	10 -					(V) ×				D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2S03	
Phone [.] 701-745-7238(Tel)	PO#			((libneq				F - MeOH G - Amchlor H - Ascorbic J		
Email aknutson@bepc.com	# OM						1A) (E 1						
Project Name CCR Groundwater - North Dakota Sites	Project # 28021258						io 5) Yri				K - EDTA L - EDA	W - pH 4-5 Z - other (specify)	icify)
she: RVS NEW WELLS	**MOSS						Mercu				Other:		
		Sample (C:	Sample Matrix Type (w-water, (C=comp. Commercial)	benadii-1 bi benadii-1 bi	s) istoT - 00 AD - 085_A8	T - bols0_00	0C - Total LH 470A - Total 5_Ra226, 933 10m-228	877-W01			redmoh le		
Sample Identification	Sample Date	-		비나		20	L '(E)					Special Instructions/Note:	Note:
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mu- 225		Shel	6	2		· ×	× ×				I L C	8.25	
Dup	CE-71-7	1345	0	2	X	X	X				10	25.25	
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aut	Poison B 🕅 Unknown		Radiological	Sar Sar	Dale Dale Retr	sposal m To C	(Afeema 'ient	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) — Return To Client Disposel By Lab — Archive For Mor	' if sample . Bv Lab	s are retal	stained longer th Archive For	an 1 month) Months	
			×	Spe	cial Ins	truction	s/QC Requ	Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Date:		Time:				Met	Method of Shipment	뉟			Τ
Relinquished by	20	-97	Сотралу		Received by	EN	4	50-	Patelle	1184	100	Martin Co	1000
Relinquished by	Date/Time		Company		Beceived by	1 by:			Date/Time:	ime:		Company	
Relinquished by.	Date/Time.		Company		Received by:	1 py:			Date/Time	.em		Company	
Custody Seals Intact: Custody Seal No.:					Cooler T	emperatu	e(s) °C and (Cooler Temperature(s) °C and Other Remarks: \mathcal{O}, \mathcal{L}		KIT 1	F10.1		T
												Ver: 01/16/2019	2019



280-164684 Waybill

Chain of Custody Record



Station Set		Client Information (Sub Contract Lab)	Sampler			Lab PM. Turner,	, Shelby R	х В				Carrie	Carrier Tracking No(s)	g No(s)		COC No: 280-622902.	2902.1		
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	Control Control <t< td=""><td>company. TestAmerica Laboratories, Inc.</td><td></td><td></td><td></td><td></td><td>ccreditati tate - N</td><td>ons Rec lorth [</td><td>quired (Se)akota</td><td>e note):</td><td></td><td></td><td></td><td></td><td></td><td>Job #: 280-16</td><td>34684-1</td><td>ļ</td><td></td></t<>	company. TestAmerica Laboratories, Inc.					ccreditati tate - N	ons Rec lorth [quired (Se)akota	e note):						Job #: 280-16	34684-1	ļ	
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Name Organization Organization <thorganization< th=""> Organization</thorganization<>	Microsoften Microsoften <thmicrosoften< th=""> <thmicrosoften< th=""></thmicrosoften<></thmicrosoften<>	city Earth City State Zp M.O. 63045	TAT Requested (d	ays):					pue							A - HCL B - NaC C - Zh / D - Nitri	N Acetate c Acid	M - Hexan N - None O - AsNaO P - Na2O4 Q - Na2O4	3 3 3 3 3 3 3
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Wirdlich Constraint Constraint <thconstraint< th=""> Constraint</thconstraint<>	Window Filter All	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time			M/SM mioheq		Ra226Ra228_GF								Special I	struction	s/Note:
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Custody Seal No.	Custody Seal No.: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:				5	, induity	ř	ICeIVed	ĥ		,	0)	Date/T	ime:			Company	
	5 6 7 8 9 10 11						ŏ	oler Te	mperature	a(s) °C an	d Other F	kemarks:							

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 164684 List Number: 1 Creator: Roehsner, Karen P

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

Job Number: 280-164684-1 SDG Number: AVS NEW WELLS

List Source: Eurofins Denver

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 164684 List Number: 2 Creator: Bohlmann, Jessica M

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

Tracer/Carrier Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-1 SDG: AVS NEW WELLS

Method: 9315 - Radium-226 (GFPC)

			Percent Yield (Acceptance Limits)	
		Ва		
Lab Sample ID	Client Sample ID	(40-110)		5
280-164684-1	MW-24S	99.0		
280-164684-2	MW-21S	81.8		
280-164684-3	MW-22S	101		
280-164684-4	DUP	101		
LCS 160-575921/2-A	Lab Control Sample	103		
LCSD 160-575921/3-A	Lab Control Sample Dup	101		8
MB 160-575921/1-A	Method Blank	104		0
Tracer/Carrier Legenc	I			9

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

				Percent Yield (Acceptance Limits)
		Ва	Y	· · · /
Lab Sample ID	Client Sample ID	(40-110)	(40-110)	
80-164684-1	MW-24S	99.0	81.9	
30-164684-2	MW-21S	81.8	89.0	
80-164684-3	MW-22S	101	91.6	
80-164684-4	DUP	101	88.6	
CS 160-575922/2-A	Lab Control Sample	103	87.5	
CSD 160-575922/3-A	Lab Control Sample Dup	101	86.4	
MB 160-575922/1-A	Method Blank	104	85.2	

Tracer/Carrier Legend

Ba = Ba Carrier Y = Y Carrier

Prep Type: Total/NA

Prep Type: Total/NA

🔅 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 280-164684-2

Laboratory Sample Delivery Group: AVS NEW WELLS Client Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

For:

..... Links

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Expert

Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, North Dakota 58504

Attn: Aaron Knutson

Shelly Turner

Authorized for release by: 8/5/2022 10:45:47 AM Shelby Turner, Project Manager I (303)736-0100 Shelby.Turner@et.eurofinsus.com

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

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

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

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Definitions/Glossary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Qualifiers

Qualifiers		3
Metals Qualifier		1
Quaimer ^6+	Qualifier Description Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.	4
		5
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	8
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	0
Dil Fac	Dilution Factor	9
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)	13
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)	

Too Numerous To Count

TNTC

Job ID: 280-164684-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - NDS - AVS NEW WELLS

Report Number: 280-164684-2

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

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

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

RECEIPT

The samples were received on 7/21/2022 9:30 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 0.7° C.

TOTAL RECOVERABLE METALS

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 08/01/2022 and analyzed on 08/02/2022 and 08/03/2022.

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

TOTAL METALS (ICPMS)

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 6020A. The samples were prepared on 07/25/2022 and analyzed on 07/26/2022.

The interference check standard solution (ICSA) associated with batch 280-581901 had results for one or more elements at a level greater than 2x the RL. The ICSA result (3.097 ppb) was >2x RL (1 ppb) for Barium. 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 280-581979 recovered (118%) above the upper control limit (110%) for Beryllium. The MB and LCS associated with this CCV were within control for the affected analyte; therefore, the data has been reported. The associated samples are impacted: (CCV 280-581979/37), (LCS 280-581812/2-A) and (MB 280-581812/1-A).

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

TOTAL MERCURY

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 07/27/2022 and analyzed on 07/28/2022.

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

TOTAL DISSOLVED SOLIDS

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 (Continued)

Laboratory: Eurofins Denver (Continued)

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 07/22/2022.

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

ANIONS (28 DAYS)

Samples MW-24S (280-164684-1), MW-21S (280-164684-2), MW-22S (280-164684-3) and DUP (280-164684-4) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 07/24/2022 and 07/27/2022.

Samples MW-21S (280-164684-2)[10X], MW-22S (280-164684-3)[10X] and DUP (280-164684-4)[10X] 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: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Client Sample ID: MW-24S

Job ID: 280-164684-2
SDG: AVS NEW WELLS

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Lab Sample ID: 280-164684-1

Analyte	Result Qualifi	er RL	MDL Unit	Dil Fac D	Method	Prep Type
Boron	123	100	ug/L	1	6010C	Total
						Recoverable
Calcium	4710	200	ug/L	1	6010C	Total
						Recoverable
Lithium	58.8	20.0	ug/L	1	6010C	Total
						Recoverable
Barium	79.4 ^6+	1.00	ug/L	1	6020A	Total/NA
Chromium	2.99	2.00	ug/L	1	6020A	Total/NA
Cobalt	1.45	1.00	ug/L	1	6020A	Total/NA
Molybdenum	9.16	2.00	ug/L	1	6020A	Total/NA
Chloride	49.4	3.00	mg/L	1	9056A	Total/NA
Fluoride	4.90	0.500	mg/L	1	9056A	Total/NA
Sulfate	44.0	5.00	mg/L	1	9056A	Total/NA
Total Dissolved Solids (TDS)	1960	20.0	mg/L	1	SM 2540C	Total/NA

Client Sample ID: MW-21S

Lab Sample ID: 280-164684-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Ргер Туре
Boron	136		100		ug/L	1	6010C	Total
								Recoverable
Calcium	4710		200		ug/L	1	6010C	Total
								Recoverable
Lithium	49.9		20.0		ug/L	1	6010C	Total
								Recoverable
Barium	45.5	^6+	1.00		ug/L	1	6020A	Total/NA
Chloride	16.1		3.00		mg/L	1	9056A	Total/NA
Fluoride	4.97		0.500		mg/L	1	9056A	Total/NA
Sulfate	624		50.0		mg/L	10	9056A	Total/NA
Total Dissolved Solids (TDS)	2170		20.0		mg/L	1	SM 2540C	Total/NA

Client Sample ID: MW-22S

Lab Sample ID: 280-164684-3

Lab Sample ID: 280-164684-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	141		100		ug/L	1		6010C	Total
									Recoverable
Calcium	2590		200		ug/L	1		6010C	Total
									Recoverable
Lithium	49.9		20.0		ug/L	1		6010C	Total
									Recoverable
Barium	59.8	^6+	1.00		ug/L	1		6020A	Total/NA
Chloride	9.32		3.00		mg/L	1		9056A	Total/NA
Fluoride	4.01		0.500		mg/L	1		9056A	Total/NA
Sulfate	253		50.0		mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	1580		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Boron	143	100	ug/L	1	6010C	Total
						Recoverable
Calcium	2500	200	ug/L	1	6010C	Total
						Recoverable
Lithium	46.6	20.0	ug/L	1	6010C	Total
						Recoverable
Barium	59.7 ^6+	1.00	ug/L	1	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Client Sample ID: DUP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Type
Chloride	9.34		3.00		mg/L	1	9056A	Total/NA
Fluoride	4.04		0.500		mg/L	1	9056A	Total/NA
Sulfate	251		50.0		mg/L	10	9056A	Total/NA
Total Dissolved Solids (TDS)	1430		20.0		mg/L	1	SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Lab Sample ID: 280-164684-4

Method Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

lethod	Method Description	Protocol	Laboratory
010C	Metals (ICP)	SW846	ETA DEN
6020A	Metals (ICP/MS)	SW846	ETA DEN
'470A	Mercury (CVAA)	SW846	ETA DEN
056A	Anions, Ion Chromatography	SW846	ETA DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	ETA DEN
005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ETA DEN
020A	Preparation, Total Metals	SW846	ETA DEN
470A	Preparation, Mercury	SW846	ETA 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:

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

Sample Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

280-164684-1MW-24SWater07/19/22 09:2007/21/22 09:30280-164684-2MW-21SWater07/19/22 10:5007/21/22 09:30280-164684-3MW-22SWater07/19/22 12:4507/21/22 09:30280-164684-4DUPWater07/19/22 12:4507/21/22 09:30	Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-164684-3 MW-22S Water 07/19/22 12:45 07/21/22 09:30	280-164684-1	MW-24S	Water	07/19/22 09:20	07/21/22 09:30
	280-164684-2	MW-21S	Water	07/19/22 10:50	07/21/22 09:30
280-164684-4 DUP Water 07/19/22 12:45 07/21/22 09:30	280-164684-3	MW-22S	Water	07/19/22 12:45	07/21/22 09:30
	280-164684-4	DUP	Water	07/19/22 12:45	07/21/22 09:30

Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-2 SDG: AVS NEW WELLS

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

Client Sample ID: MW-24S Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30							Lab Sam	ole ID: 280-16 Matrix:	4684-1 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	123		100		ug/L		08/01/22 14:47	08/02/22 13:26	1
Calcium	4710		200		ug/L		08/01/22 14:47	08/02/22 13:26	1
Lithium	58.8		20.0		ug/L		08/01/22 14:47	08/03/22 15:13	1
Client Sample ID: MW-21S							Lab Sam	ole ID: 280-16	4684-2
Date Collected: 07/19/22 10:50								Matrix	Water
Date Received: 07/21/22 09:30 Analyte	Posult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	136	<u>quanner</u>	100		ug/L		08/01/22 14:47	08/02/22 13:30	1
Calcium	4710		200		ug/L		08/01/22 14:47	08/02/22 13:30	1
Lithium	49.9		20.0		ug/L			08/03/22 15:17	1
Client Sample ID: MW-22S							Lab Sam	ole ID: 280-16	4684-3
Date Collected: 07/19/22 12:45									Water
Date Received: 07/21/22 09:30									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	141		100		ug/L		08/01/22 14:47	08/02/22 13:34	1
Calcium	2590		200		ug/L		08/01/22 14:47	08/02/22 13:34	1
Lithium	49.9		20.0		ug/L		08/01/22 14:47	08/03/22 15:21	1
Client Sample ID: DUP							Lab Sam	ole ID: 280-16	4684-4
Date Collected: 07/19/22 12:45								Matrix	Water
Date Received: 07/21/22 09:30									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	143		100		ug/L		08/01/22 14:47	08/02/22 13:38	1
Calcium	2500		200		ug/L		08/01/22 14:47	08/02/22 13:38	1
Lithium	46.6		20.0		ug/L		08/01/22 14:47	08/03/22 15:25	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-24S Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30							Lab Sam	ple ID: 280-16 Matrix:	4684-1 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Arsenic	ND		5.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Barium	79.4	^6+	1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Beryllium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Cadmium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Chromium	2.99		2.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Cobalt	1.45		1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Lead	ND		1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Molybdenum	9.16		2.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Selenium	ND		5.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Thallium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 00:59	1
Client Sample ID: MW-21S Date Collected: 07/19/22 10:50 Date Received: 07/21/22 09:30							Lab Sam	ple ID: 280-16 Matrix:	4684-2 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:03	1

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

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

Client Sample ID: MW-21S Date Collected: 07/19/22 10:50

Date	conecteu.	07/15/22 10.50	
Date	Received:	07/21/22 09:30	

Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		5.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
45.5	^6+	1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		5.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:03	1
	ND 45.5 ND ND ND ND ND ND ND	45.5 ^6+ ND ND ND ND ND ND ND ND	ND 5.00 45.5 ^6+ 1.00 ND 1.00 ND 1.00 ND 2.00 ND 1.00 ND 1.00 ND 2.00 ND 1.00 ND 1.00 ND 2.00 ND 5.00	ND 5.00 45.5 ^6+ 1.00 ND 1.00 ND 2.00 ND 1.00 ND 1.00 ND 2.00 ND 1.00 ND 1.00 ND 2.00 ND 5.00	ND 5.00 ug/L 45.5 ^6+ 1.00 ug/L ND 1.00 ug/L ND 1.00 ug/L ND 2.00 ug/L ND 1.00 ug/L ND 2.00 ug/L ND 5.00 ug/L	ND 5.00 ug/L 45.5 ^6+ 1.00 ug/L ND 1.00 ug/L ND 1.00 ug/L ND 2.00 ug/L ND 1.00 ug/L ND 1.00 ug/L ND 2.00 ug/L ND 1.00 ug/L ND 1.00 ug/L ND 1.00 ug/L ND 5.00 ug/L	ND 5.00 ug/L 07/25/22 14:32 45.5 ^6+ 1.00 ug/L 07/25/22 14:32 ND 2.00 ug/L 07/25/22 14:32 ND 2.00 ug/L 07/25/22 14:32 ND 5.00 ug/L 07/25/22 14:32	ND 5.00 ug/L 07/25/22 14:32 07/26/22 01:03 45.5 ^6+ 1.00 ug/L 07/25/22 14:32 07/26/22 01:03 ND 2.00 ug/L 07/25/22 14:32 07/26/22 01:03 ND 1.00 ug/L 07/25/22 14:32 07/26/22 01:03 ND 2.00 ug/L 07/25/22 14:32 07/26/22 01:03 ND 2.00 ug/L 07/25/22 14:32 07/26/22 01:03 ND 5.00 ug/L 07/25/22 14:32

Client Sample ID: MW-22S

Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Antimony	ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	2
Arsenic	ND		5.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Barium	59. 8	^6+	1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	2
Beryllium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Cadmium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Chromium	ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Cobalt	ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Lead	ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Molybdenum	ND		2.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Selenium	ND		5.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	
Thallium	ND		1.00		ug/L		07/25/22 14:32	07/26/22 01:07	1	

Client Sample ID: DUP Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

Analyte	Result	Qualifier	RL	MDL Uni	it D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Arsenic	ND		5.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Barium	59.7	^6+	1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Beryllium	ND		1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Cadmium	ND		1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Chromium	ND		2.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Cobalt	ND		1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Lead	ND		1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Molybdenum	ND		2.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Selenium	ND		5.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1
Thallium	ND		1.00	ug/l	L	07/25/22 14:32	07/26/22 01:11	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-24S Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30							Lab Sam	ple ID: 280-16 Matrix:	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/27/22 22:57	07/28/22 19:42	1

Eurofins Denver

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Lab Sample ID: 280-164684-2 Matrix: Water

Lab Sample ID: 280-164684-4

Matrix: Water

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Client Sample Results

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-21S Date Collected: 07/19/22 10:50							Lab Sam	ple ID: 280-16 Matrix	4684-2 : Water
Date Received: 07/21/22 09:30									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/27/22 22:57	07/28/22 19:44	1
Client Sample ID: MW-22S							Lab Sam	ple ID: 280-16	4684-3
Date Collected: 07/19/22 12:45								-	: Water
Date Received: 07/21/22 09:30									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/27/22 22:57		1
Client Sample ID: DUP							Lah Sam	ple ID: 280-16	4684-4
Date Collected: 07/19/22 12:45								-	: Water
Date Received: 07/21/22 09:30								matrix	· ···
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/27/22 22:57		1
General Chemistry									
Client Sample ID: MW-24S							Lah Sam	ple ID: 280-16	4684-1
Date Collected: 07/19/22 09:20								•	: Water
Date Received: 07/13/22 09:20								Matrix	. Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49.4	quaimer	3.00		mg/L		Tiepareu	07/27/22 14:00	1
Fluoride	49.4		0.500		mg/L			07/24/22 10:09	1
	4.90		5.00		-			07/27/22 14:00	1
Sulfate Total Dissolved Solids (TDS)	44.0 1960		20.0		mg/L mg/L			07/22/22 10:34	1
			2010						
Client Sample ID: MW-21S							Lab Sam	ple ID: 280-16	
Date Collected: 07/19/22 10:50								Matrix	: Water
Date Received: 07/21/22 09:30									
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	16.1		3.00		mg/L			07/27/22 14:16	1
Fluoride	4.97		0.500		mg/L			07/24/22 10:24	1
Sulfate	624		50.0		mg/L			07/27/22 14:32	10
Total Dissolved Solids (TDS)	2170		20.0		mg/L			07/22/22 10:34	1
Client Sample ID: MW-22S Date Collected: 07/19/22 12:45							Lab Sam	ple ID: 280-16 Matrix	4684-3 : Water
Date Received: 07/19/22 12:45								wat IX	. Water
Analyte	Pocult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride		Quaimer	3.00				Fiepaleu	07/27/22 14:48	
Fluoride	9.32		0.500		mg/L mg/l			07/24/22 11:12	1
Sulfate	4.01 253		50.0		mg/L mg/L			07/24/22 11:12	10
Total Dissolved Solids (TDS)	1580		20.0		mg/L			07/22/22 10:34	10
					2				
Client Sample ID: DUP							Lab Sam	ple ID: 280-16	
Date Collected: 07/19/22 12:45								Matrix	: Water
Date Received: 07/21/22 09:30									
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	9.34		3.00		mg/L			07/27/22 15:20	1
Fluoride	4.04		0.500		mg/L			07/24/22 11:28	1
Sulfate	251		50.0		mg/L			07/27/22 15:36	10
Total Dissolved Solids (TDS)	1430		20.0		mg/L			07/22/22 10:34	1

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Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-58239 Matrix: Water Analysis Batch: 582755		МВ							С		ele ID: Method e: Total Reco Prep Batch:	verable
Analyte		Qualifier		RL		мы	Unit	г	5	Prepared	Analyzed	Dil Fac
Boron		quanto		100			ug/L			8/01/22 14:47		1
Calcium	ND			200			ug/L		08	8/01/22 14:47	08/02/22 12:30	1
_ Lab Sample ID: MB 280-58239	2/1-A								С	lient Samp	ole ID: Method	d Blank
Matrix: Water											e: Total Reco	
Analysis Batch: 582969											Prep Batch:	582392
-	MB	MB										
Analyte	Result	Qualifier		RL	I	MDL	Unit	[כ	Prepared	Analyzed	Dil Fac
Lithium	ND			20.0			ug/L		08	8/01/22 14:47	08/03/22 14:48	1
Lab Sample ID: LCS 280-5823	92/2-A							Clie	nt S	ample ID:	Lab Control	Sample
Matrix: Water										Prep Type	e: Total Reco	verable
Analysis Batch: 582755											Prep Batch:	582392
			Spike		LCS	LCS	i				%Rec	
Analyte			Added		Result	Qua	lifier	Unit		D %Rec	Limits	
Boron			2000		1992			ug/L		100	86 - 110	
Calcium			50000		48500			ug/L		97	90 - 111	
Lab Sample ID: LCS 280-5823	92/2-A							Clie	nt S	ample ID:	Lab Control	Sample
Matrix: Water											e: Total Reco	
Analysis Batch: 582969											Prep Batch:	
-			Spike		LCS	LCS	;				%Rec	
Analyte			Added		Result	Qua	lifier	Unit		D %Rec	Limits	
Lithium			1000		964.8			ug/L		96	90 - 112	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-581812/1-A Matrix: Water Analysis Batch: 581901

-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Arsenic	ND		5.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Barium	ND	^6+	1.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Cadmium	ND		1.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Chromium	ND		2.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Cobalt	ND		1.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Lead	ND		1.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Molybdenum	ND		2.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Selenium	ND		5.00		ug/L		07/25/22 14:32	07/25/22 23:26	1
Thallium	ND		1.00		ug/L		07/25/22 14:32	07/25/22 23:26	1

Lab Sample ID: LCS 280-581812/2-A Matrix: Water

Prep Type: Total/NA Analysis Batch: 581901 Prep Batch: 581812 Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Antimony 40.0 39.48 ug/L 99 85 - 115 Arsenic 40.0 41.49 ug/L 104 85 - 117

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Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 581812

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

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

Lab Sample ID: LCS 280-581812/2-A Matrix: Water Analysis Batch: 581901				Clie	nt Sai	nple ID	: Lab Control Sample Prep Type: Total/NA Prep Batch: 581812
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Barium	40.0	40.67	^6+	ug/L		102	85 - 118
Cadmium	40.0	38.56		ug/L		96	85 - 115
Chromium	40.0	41.31		ug/L		103	84 - 121
Cobalt	40.0	39.54		ug/L		99	85 - 120
Lead	40.0	39.75		ug/L		99	85 - 118
Molybdenum	40.0	39.56		ug/L		99	85 - 119
Selenium	40.0	41.15		ug/L		103	77 - 122
Thallium	40.0	39.69		ug/L		99	85 - 118

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-582155/1-A Matrix: Water Analysis Batch: 582387	МВ	МВ						Cli	ient Samı	ole ID: Metho Prep Type: T Prep Batch:	otal/NA
Analyte	Result	Qualifier		RL	Ν	MDL Unit		DI	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00	0200		mg/L	-	07/	27/22 22:57	07/28/22 19:21	1
Lab Sample ID: LCS 280-582155/2-A Matrix: Water Analysis Batch: 582387			Spike		LCS		CI	ient Sa	ample ID:	Lab Control Prep Type: T Prep Batch: %Rec	otal/NA
Analyte			Added	R	-	Qualifier	Unit	D	%Rec	Limits	
Mercury			0.00500		05004		mg/L		100	84 - 120	

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-581758/13 Matrix: Water									CI	ient Sam	ple ID: Metho Prep Type: T	
Analysis Batch: 581758	МВ	мв										
Analyte	Result	Qualifier		RL		MDL	Unit		D	Prepared	Analyzed	Dil Fac
Fluoride	ND			0.500			mg/L				07/23/22 16:42	1
Lab Sample ID: MB 280-581758/45 Matrix: Water Analysis Batch: 581758									CI	ient Sam	ple ID: Metho Prep Type: T	
-	MB	MB										
Analyte	Result	Qualifier		RL		MDL	Unit		D	Prepared	Analyzed	Dil Fac
Fluoride	ND			0.500			mg/L				07/24/22 03:32	1
Lab Sample ID: LCS 280-581758/43 Matrix: Water Analysis Batch: 581758								Clie	ent S	ample ID	: Lab Control Prep Type: T	-
			Spike		LCS	LCS	5				%Rec	
Analyte			Added		Result	Qua	lifier	Unit		0 %Rec	Limits	
Fluoride			5.00		5.284			mg/L		106	90 - 110	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

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

Lab Sample ID: LCSD 280-581758/4 Matrix: Water	14						C	lient S	ampl	e	ID: Lab	Control S Prep Ty		
Analysis Batch: 581758														
,			Spike		LCSD	LCS	D					%Rec		RP
Analyte			Added		Result	Qua	lifier	Unit		C	%Rec	Limits	RPD) Lim
Fluoride			5.00		5.279			mg/L		_	106	90 - 110	C) 1
Lab Sample ID: MRL 280-581758/10)							Cli	ent Sa	an	nple ID:	Lab Con		
Matrix: Water Analysis Batch: 581758												Prep Ty	pe: To	otal/N
Analysis Baten. oo moo			Spike		MRL	MRI						%Rec		
Analyte			Added		Result	Qua	lifier	Unit		C	%Rec	Limits		
Fluoride			0.500		0.6065			mg/L		_ 1	121	50 - 150		
Lab Sample ID: MB 280-582062/6									CI	lie	nt Sam	ple ID: M	ethod	l Blan
Matrix: Water												Prep Ty		
Analysis Batch: 582062	MR	МВ												
Analyte		Qualifier		RL		MDL	Unit		D	Pr	epared	Analyz	ed	Dil Fa
Chloride	ND			3.00			mg/L			-		07/27/22		
Sulfate	ND			5.00			mg/L					07/27/22	11:14	
Lab Sample ID: LCS 280-582062/4								Cli	ent Sa	an	n <mark>ple ID</mark> :	Lab Con		
Matrix: Water												Prep Ty	pe: IC	otal/N
Analysis Batch: 582062			Spike		LCS							%Rec		
Analyte			Added		Result			Unit	г	כ	%Rec	Limits		
Chloride			100		100.5	Gut		mg/L	•	_	100	90 - 110		
Sulfate			100		100.5			mg/L			101	90 - 110		
Lab Sample ID: LCSD 280-582062/	5						C	lient S	ampl	e	ID: Lab	Control	Samp	le Du
Matrix: Water												Prep Ty	pe: To	otal/N
Analysis Batch: 582062														
			Spike		LCSD							%Rec		RP
Analyte			Added		Result	Qua	lifier	Unit	[כ	%Rec	Limits	RPD	
Chloride			100		100.4			mg/L			100	90 - 110	C	
Sulfate			100		100.5			mg/L			100	90 - 110	C) 1
Lab Sample ID: MRL 280-582062/3								Cli	ent Sa	an	nple ID:	Lab Con	trol S	Sampl
Matrix: Water												Prep Ty	pe: To	otal/N
Analysis Batch: 582062														
			Spike		MRL							%Rec		
Analyte			Added		Result	Qua	lifier	Unit		כ	%Rec	Limits		
Chloride			5.00		4.647			mg/L			93	50 - 150		
Sulfate			5.00		ND			mg/L			87	50 - 150		
lethod: SM 2540C - Solids, To	otal D	issolve	d (TD	S)										
Lab Sample ID: MB 280-581655/1									CI	lie	nt Sam	ple ID: M		
Matrix: Water												Prep Ty	pe: To	otal/N
Analysis Batch: 581655														
		MB												
Analyte		Qualifier		RL		MDL	Unit		<u>D</u>	Pr	epared	Analyz		Dil Fa
Total Dissolved Solids (TDS)	ND			10.0			mg/L					07/22/22	40.04	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

7 8 9

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

Lab Sample ID: LCS 280-581655/2 Matrix: Water Analysis Batch: 581655				Clie	nt Sar	nple ID	: Lab Cor Prep Ty		
	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Total Dissolved Solids (TDS)	500	480.0		mg/L		96	88 - 114		
Lab Sample ID: LCSD 280-581655/3 Matrix: Water			C	Client Sa	ample	ID: Lat	Control Prep Ty		
Analysis Batch: 581655									
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Dissolved Solids (TDS)	500	475.0		mg/L		95	88 - 114	1	20

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-2 SDG: AVS NEW WELLS

2 3 4 5 6 7 8

Metals

Prep Batch: 581812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
280-164684-1	MW-24S	Total/NA	Water	3020A	
280-164684-2	MW-21S	Total/NA	Water	3020A	
280-164684-3	MW-22S	Total/NA	Water	3020A	
280-164684-4	DUP	Total/NA	Water	3020A	
MB 280-581812/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-581812/2-A	Lab Control Sample	Total/NA	Water	3020A	

Analysis Batch: 581901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	6020A	581812
280-164684-2	MW-21S	Total/NA	Water	6020A	581812
280-164684-3	MW-22S	Total/NA	Water	6020A	581812
280-164684-4	DUP	Total/NA	Water	6020A	581812
MB 280-581812/1-A	Method Blank	Total/NA	Water	6020A	581812
LCS 280-581812/2-A	Lab Control Sample	Total/NA	Water	6020A	581812

Prep Batch: 582155

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
280-164684-1	MW-24S	Total/NA	Water	7470A		
280-164684-2	MW-21S	Total/NA	Water	7470A		
280-164684-3	MW-22S	Total/NA	Water	7470A		
280-164684-4	DUP	Total/NA	Water	7470A		
MB 280-582155/1-A	Method Blank	Total/NA	Water	7470A		
LCS 280-582155/2-A	Lab Control Sample	Total/NA	Water	7470A		

Analysis Batch: 582387

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	7470A	582155
280-164684-2	MW-21S	Total/NA	Water	7470A	582155
280-164684-3	MW-22S	Total/NA	Water	7470A	582155
280-164684-4	DUP	Total/NA	Water	7470A	582155
MB 280-582155/1-A	Method Blank	Total/NA	Water	7470A	582155
LCS 280-582155/2-A	Lab Control Sample	Total/NA	Water	7470A	582155

Prep Batch: 582392

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total Recoverable	Water	3005A	
280-164684-2	MW-21S	Total Recoverable	Water	3005A	
280-164684-3	MW-22S	Total Recoverable	Water	3005A	
280-164684-4	DUP	Total Recoverable	Water	3005A	
MB 280-582392/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-582392/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 582755

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total Recoverable	Water	6010C	582392
280-164684-2	MW-21S	Total Recoverable	Water	6010C	582392
280-164684-3	MW-22S	Total Recoverable	Water	6010C	582392
280-164684-4	DUP	Total Recoverable	Water	6010C	582392
MB 280-582392/1-A	Method Blank	Total Recoverable	Water	6010C	582392
LCS 280-582392/2-A	Lab Control Sample	Total Recoverable	Water	6010C	582392

QC Association Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS Job ID: 280-164684-2 SDG: AVS NEW WELLS

1 2 3 4 5 6 7 8 9 10 11

Metals

Analysis Batch: 582969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total Recoverable	Water	6010C	582392
280-164684-2	MW-21S	Total Recoverable	Water	6010C	582392
280-164684-3	MW-22S	Total Recoverable	Water	6010C	582392
280-164684-4	DUP	Total Recoverable	Water	6010C	582392
MB 280-582392/1-A	Method Blank	Total Recoverable	Water	6010C	58239
LCS 280-582392/2-A	Lab Control Sample	Total Recoverable	Water	6010C	58239

General Chemistry

Analysis Batch: 581655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	SM 2540C	
280-164684-2	MW-21S	Total/NA	Water	SM 2540C	
280-164684-3	MW-22S	Total/NA	Water	SM 2540C	
280-164684-4	DUP	Total/NA	Water	SM 2540C	
MB 280-581655/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-581655/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-581655/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 581758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	9056A	
280-164684-2	MW-21S	Total/NA	Water	9056A	
280-164684-3	MW-22S	Total/NA	Water	9056A	
280-164684-4	DUP	Total/NA	Water	9056A	
MB 280-581758/13	Method Blank	Total/NA	Water	9056A	
MB 280-581758/45	Method Blank	Total/NA	Water	9056A	
LCS 280-581758/43	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-581758/44	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-581758/10	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 582062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-164684-1	MW-24S	Total/NA	Water	9056A	
280-164684-2	MW-21S	Total/NA	Water	9056A	
280-164684-2	MW-21S	Total/NA	Water	9056A	
280-164684-3	MW-22S	Total/NA	Water	9056A	
280-164684-3	MW-22S	Total/NA	Water	9056A	
280-164684-4	DUP	Total/NA	Water	9056A	
280-164684-4	DUP	Total/NA	Water	9056A	
MB 280-582062/6	Method Blank	Total/NA	Water	9056A	
LCS 280-582062/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-582062/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-582062/3	Lab Control Sample	Total/NA	Water	9056A	

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Matrix: Water

Lab Sample ID: 280-164684-1

Client Sample ID: MW-24S Date Collected: 07/19/22 09:20 Date Received: 07/21/22 09:30

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582755	08/02/22 13:26	MAB	ETA DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582969	08/03/22 15:13	KRP	ETA DEN
Total/NA	Prep	3020A			50 mL	50 mL	581812	07/25/22 14:32	MCR	ETA DEN
Total/NA	Analysis	6020A		1			581901	07/26/22 00:59	LMT	ETA DEN
Total/NA	Prep	7470A			30 mL	50 mL	582155	07/27/22 22:57	CEH	ETA DEN
Total/NA	Analysis	7470A		1			582387	07/28/22 19:42	CEH	ETA DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581758	07/24/22 10:09	RAF	ETA DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	582062	07/27/22 14:00	MEC	ETA DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581655	07/22/22 10:34	ASP	ETA DEN

Client Sample ID: MW-21S Date Collected: 07/19/22 10:50

Date Received: 07/21/22 09:30

Lab Sample ID: 280-164684-2

Lab Sample ID: 280-164684-3

Matrix: Water

11

5 6

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	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582755	08/02/22 13:30	MAB	ETA DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582969	08/03/22 15:17	KRP	ETA DEN
Total/NA	Prep	3020A			50 mL	50 mL	581812	07/25/22 14:32	MCR	ETA DEN
Total/NA	Analysis	6020A		1			581901	07/26/22 01:03	LMT	ETA DEN
Total/NA	Prep	7470A			30 mL	50 mL	582155	07/27/22 22:57	CEH	ETA DEN
Total/NA	Analysis	7470A		1			582387	07/28/22 19:44	CEH	ETA DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581758	07/24/22 10:24	RAF	ETA DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	582062	07/27/22 14:16	MEC	ETA DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	582062	07/27/22 14:32	MEC	ETA DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581655	07/22/22 10:34	ASP	ETA DEN

Client Sample ID: MW-22S Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

—	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582755	08/02/22 13:34	MAB	ETA DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582969	08/03/22 15:21	KRP	ETA DEN
Total/NA	Prep	3020A			50 mL	50 mL	581812	07/25/22 14:32	MCR	ETA DEN
Total/NA	Analysis	6020A		1			581901	07/26/22 01:07	LMT	ETA DEN
Total/NA	Prep	7470A			30 mL	50 mL	582155	07/27/22 22:57	CEH	ETA DEN
Total/NA	Analysis	7470A		1			582387	07/28/22 19:52	CEH	ETA DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581758	07/24/22 11:12	RAF	ETA DEN

Eurofins Denver

Matrix: Water

Lab Chronicle

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

Job ID: 280-164684-2 SDG: AVS NEW WELLS

Client Sample ID: MW-22S Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	10 mL	10 mL	582062	07/27/22 14:48	MEC	ETA DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	582062	07/27/22 15:04	MEC	ETA DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581655	07/22/22 10:34	ASP	ETA DEN

Client Sample ID: DUP Date Collected: 07/19/22 12:45 Date Received: 07/21/22 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582755	08/02/22 13:38	MAB	ETA DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	582392	08/01/22 14:47	MCR	ETA DEN
Total Recoverable	Analysis	6010C		1			582969	08/03/22 15:25	KRP	ETA DEN
Total/NA	Prep	3020A			50 mL	50 mL	581812	07/25/22 14:32	MCR	ETA DEN
Total/NA	Analysis	6020A		1			581901	07/26/22 01:11	LMT	ETA DEN
Total/NA	Prep	7470A			30 mL	50 mL	582155	07/27/22 22:57	CEH	ETA DEN
Total/NA	Analysis	7470A		1			582387	07/28/22 19:54	CEH	ETA DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	581758	07/24/22 11:28	RAF	ETA DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	582062	07/27/22 15:20	MEC	ETA DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	582062	07/27/22 15:36	MEC	ETA DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	581655	07/22/22 10:34	ASP	ETA DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: Basin Electric Power Cooperative Project/Site: CCR Groundwater - NDS - AVS NEW WELLS

12 13

Laboratory: Eurofins Denver

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

uthority	Pr	ogram	Identification Number	Expiration Date
orth Dakota	Sta	ate	R-034	01-08-23
0,		rt, but the laboratory is r	not certified by the governing authority.	This list may include analytes for wh
The following analytes the agency does not o		rt, but the laboratory is r	not certified by the governing authority.	This list may include analytes for wh
0,		rt, but the laboratory is r Matrix	not certified by the governing authority. Analyte	This list may include analytes for wh

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4905 талюм элеец Агмада, СО 80002 Phone (303) 736-0100 Fax (303) 431-7171		Chain of Custody Record	ıstody F	Recor	σ				;		Environment Testing America
Client Information	Sampler Kints c	ક	Tur	PM. Per, Shelb	R		Carrier Tracking No(s)	.(s)oN Br	COC No		
Client Contact Mr. Aaron Knutson	Phone: 701-745	73.38	E-M	iii: Iby.Turner	@ET.Eu	E-Mail: Shelby.Turner@ET.EurofinsUS.com			Page:	1901	
Compary Basin Electric Power Cooperative						Analvsis	s Requested		:# qop		
Address 3901 Highway 200A	Due Date Requested:					4			Preser	ation Coc	
City: Stanton	TAT Requested (days):								A - HCL B - NaOH C - 70 Are		Hexane None A=N=O3
State, Zip: ND, 58571	Structured	N				(\(\) \(\)			D - Nitrie		Na204S Na204S Na2S03
Phone [.] 701-745-7238(Tel)	PO#					kibnea			F - MeO G - Ame	F - MeOH R - G - Amchlor S - H - Accordio Acid T -	R - Na2S203 S - H2SO 4 T - TED Podorobudialia
Email aknutson@bepc.com	#OM			(O)		a A) (E 1					Acetone MCAA
Project Name CCR Groundwater - North Dakota Sites	Project # 28021258					0 (3 0)			the Ballin of States		- pH 4-5 other (specify)
SIG: AVS NEW WELLS	SSOW#			ALOS	,ebinol) meicu			of con		
			(W-water: (W-water: 5=solid, ID, 0=weater/oll,	benetiiii ble Meta amola	50 IstoT - 201 40 - 082_A38	40C_Calcd - 7 10C - Total LH 7470A - Total LH	822-mulb 822-mulb		redmoń lej		
Sample Identification	Sample Date	Time G=grab)	Breservation Code:		06 Z	2) ¹	8			Special Instructions/Note	ictions/Note:
Mw 245	0 26-71-7	0420 6	M			\sim			HO		8,15
ווורי 215	+		3		XX	X			H C	1	8.08
mw - 225		1245 6	E	2		×	×.			.	8,25
Dup	el ce-3/-2	1345 6	3	2	$\langle \times \times \rangle$	X	×				2,25
									New York		
							280-164684 Chain of	4 Chain of	Custody		
							- - -				
Possible Hazard Identification	Poison B 🖓 Unknown	Radiological	icel	Sam	le Dispo Return 1	sal (Afeem. To Client	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) — Return To Client Disposal By Lab — Archive For Mon	samples are	retained long □ Archive For	er than 1 mo	nth) Months
				Speci	al Instruc	tions/QC Req	Special Instructions/QC Requirements:				
Empty Kit Relinquished by:	Date:	9:		Time:			Method	Method of Shipment			
Relinquished by	DatedTime:	5	Сотрапу	R	Received By	200	22	Dalecting	076/1		ACHY HOR
Relinquished by	Date/Time		Company	β.	Beceived by:			Date/Time:		රි	mpany
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Custody Seals Intact: Custody Seal No.: Δ Yes Δ No				ŏ	oler Tempe	arature(s) °C and	Cooler Temperature(s) °C and Other Remarks: \mathcal{O}, \mathcal{L}	NN C	0747 -	10.1	
										۲.	Ver: 01/16/2019



280-164684 Waybill

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Login Number: 164684 List Number: 1 Creator: Roehsner, Karen P

	T
Radioactivity wasn't checked or is = background as measured by a survey T meter.</td <td>True</td>	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 T tampered with.	True
Samples were received on ice. T	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? T	True
There are no discrepancies between the containers received and the COC. T	True
Samples are received within Holding Time (excluding tests with immediate T 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 TMS/MSDs	True
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A
Multiphasic samples are not present.	True
Samples do not require splitting or compositing.	True
Residual Chlorine Checked.	N/A

Job Number: 280-164684-2 SDG Number: AVS NEW WELLS

List Source: Eurofins Denver



1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885 www.MVTL.com



Account #:2040Client:Basin Electric Power CooperativeWorkorder:AVS New CCR Wells (2951)PO:790708-01

Kevin Solie Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Courter

Claudette Carroll, Lab Manager Bismarck, ND

Analyses performed under Minnesota Department of Health Accreditation conforms to the current TNI standards.

NEW ULM LAB CERTIFICATIONS: MN LAB # 027-015-125 ND WW/DW # R-040

BISMARCK LAB CERTIFICATIONS: MN LAB # 038-999-267 ND W/DW # ND-016



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Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.



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Account #: 2040		Client:	Basin	Electr	ic Power Coop	perative			
Analytical Results									
Lab ID: 2951001 Sample ID: MW 24S		te Collected: te Received:		24/2022 25/2022			oundwater ent		
Temp @ Receipt (C): 5	.9								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	75.1	mg/L	10	2	08/31/2022 09:41	08/31/2022 09:41	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	09/08/2022 16:33	09/08/2022 11:14	MDE	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.16	mg/L	0.1	1	08/25/2022 17:00	08/26/2022 10:38	MDE	MA,NDA	
Calcium	5.11	mg/L	1	1	08/25/2022 17:00	08/30/2022 11:04	MDE	MA,NDA	
Lithium	0.0525	mg/L	0.02	1	08/25/2022 17:00	08/31/2022 14:47	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Arsenic	0.0023	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Barium	0.0750	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Chromium	0.0030	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Lead	0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Molybdenum	0.0119	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:20	MDE	MA,NDA	



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Account #:	2040		Client:	ent: Basin Electric Power Cooperative							
Analytical	Results										
Lab ID: Sample ID:	2951001 MW 24S	_	ate Collected: ate Received:		3/24/2022 3/25/2022		Matrix: Collector:	Groundwater Client			
Temp @ Recei	pt (C): 5.9										
Method: SM4500)-CI-E 2011										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Chloride		50.2	mg/L	4.0	2	08/30/2022 12:18	08/30/2022 12:18	EJV	MA,NDA		
Method: SM4500)-F-C-2011										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Fluoride		1.47	mg/L	0.1	1	08/26/2022 22:31	08/26/2022 22:31	RAA			
Method: USGS I	-1750-85										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Total Dissolved S	Solids	2020	mg/L	10	1	08/26/2022 15:33	08/26/2022 15:33	RAA	MA,NDA		



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Analytical F	A a sulfa		Client:	Dasin	Electli	c Power Coop				
	Kesuits									
Lab ID: Sample ID:	2951002 MW 22S		te Collected: te Received:		24/2022 25/2022			oundwater ient		
Temp @ Receip	t (C): 5.9									
Method: ASTM D	516-16									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate		253	mg/L	50	10	08/31/2022 09:32	08/31/2022 09:32	EJV	MA,NDA	
Method: EPA 245	.1									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury		<0.0002	mg/L	0.0002	1	09/08/2022 16:33	09/08/2022 11:14	MDE	MA,NDA, SDA	
Method: EPA 601	0D									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron		0.16	mg/L	0.1	1	08/25/2022 17:00	08/26/2022 10:38	MDE	MA,NDA	
Calcium		2.72	mg/L	1	1	08/25/2022 17:00	08/30/2022 11:06	MDE	MA,NDA	
Lithium		0.0478	mg/L	0.02	1	08/25/2022 17:00	08/31/2022 14:47	SLZ	NDA	
Method: EPA 602	0B									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony		<0.001	mg/L	0.001	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Arsenic		<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Barium		0.0591	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Beryllium		<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Cadmium		<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Chromium		<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Cobalt		<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Lead		<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Molybdenum		<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Selenium		<0.005	mg/L	0.005	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	
Thallium		<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:24	MDE	MA,NDA	

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

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Account #:	2040									
Analytical	Results									
Lab ID: Sample ID:	2951002 MW 22S		Date Collected: Date Received:		3/24/2022 3/25/2022		Matrix: Collector:	Groundwater Client		
Temp @ Rece	eipt (C): 5.9									
Method: SM450	00-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		13.2	mg/L	2.0	1	08/30/2022 12:07	08/30/2022 12:07	EJV	MA,NDA	
Method: SM450	0-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.78	mg/L	0.1	1	08/26/2022 22:40	08/26/2022 22:40	RAA		
Method: USGS	I-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved	Solids	1660	mg/L	10	1	08/26/2022 15:33	08/26/2022 15:33	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Coop	perative			
Analytical Results									
Lab ID: 2951003 Sample ID: MW 21S		te Collected: te Received:		24/2022 25/2022			oundwater ent		
Temp @ Receipt (C): 5	.9								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	618	mg/L	25	5	08/31/2022 09:33	08/31/2022 09:33	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	09/08/2022 16:33	09/08/2022 11:14	MDE	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.14	mg/L	0.1	1	08/25/2022 17:00	08/26/2022 10:39	MDE	MA,NDA	
Calcium	5.43	mg/L	1	1	08/25/2022 17:00	08/30/2022 11:08	MDE	MA,NDA	
Lithium	0.0481	mg/L	0.02	1	08/25/2022 17:00	08/31/2022 14:48	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Arsenic	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Barium	0.0465	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Chromium	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Lead	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Molybdenum	0.0028	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:28	MDE	MA,NDA	



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Account #:	2040		Client:	nt: Basin Electric Power Cooperative							
Analytical	Results										
Lab ID: Sample ID:	2951003 MW 21S	-	ate Collected: ate Received:		3/24/2022 3/25/2022		Matrix: Collector:	Groundwater Client			
Temp @ Rece	ipt (C): 5.9										
Method: SM450	0-CI-E 2011										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Chloride		18.9	mg/L	2.0	1	08/30/2022 12:09	08/30/2022 12:09	EJV	MA,NDA		
Method: SM450	0-F-C-2011										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Fluoride		1.49	mg/L	0.1	1	08/26/2022 22:50	08/26/2022 22:50	RAA			
Method: USGS	I-1750-85										
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual	
Total Dissolved	Solids	2220	mg/L	10	1	08/26/2022 15:33	08/26/2022 15:33	RAA	MA,NDA		



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Account #: 2040		Client:	Basin	Electr	ic Power Coop	perative			
Analytical Results									
Lab ID: 2951004 Sample ID: Dup		te Collected: te Received:		24/2022 25/2022			Groundwater Client		
Temp @ Receipt (C): 5.9									
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	240	mg/L	50	10	08/31/2022 09:34	08/31/2022 09:34	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	09/08/2022 16:33	09/08/2022 11:14	MDE	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.15	mg/L	0.1	1	08/25/2022 17:00	08/26/2022 10:39	MDE	MA,NDA	
Calcium	2.85	mg/L	1	1	08/25/2022 17:00	08/30/2022 11:10	MDE	MA,NDA	
Lithium	0.0472	mg/L	0.02	1	08/25/2022 17:00	08/31/2022 14:48	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Arsenic	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022	MDE	MA,NDA	
Barium	0.0587	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Chromium	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Lead	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Molybdenum	<0.002	mg/L	0.002	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	08/25/2022 17:00	08/30/2022 14:32	MDE	MA,NDA	

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

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Account #:	2040		Client:	lient: Basin Electric Power Cooperative						
Analytical	Results									
Lab ID: Sample ID:	2951004 Dup	-	Date Collected: Date Received:		3/24/2022 3/25/2022		Matrix: Collector:	Groundwater Client		
Temp @ Recei	pt (C): 5.9									
Method: SM450	0-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		13.3	mg/L	2.0	1	08/30/2022 12:10	08/30/2022 12:10	EJV	MA,NDA	
Method: SM450	0-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.76	mg/L	0.1	1	08/26/2022 22:58	08/26/2022 22:58	RAA		
Method: USGS I	-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved S	Solids	1640	mg/L	10	1	08/26/2022 15:33	08/26/2022 15:33	RAA	MA,NDA	



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Account #: 2040

Client: Basin Electric Power Cooperative

T-11 E	Bismarck, ND Phone: (701) 258-9		24		M									-		of	,	
	BASIN ELECTRIC POV Leland Olds Stat 3901 HIGHWAY 2 STANTON, ND 58	tion 00A 8571			Co Ke Na	ntac evi me	n Sa	mp	ler:			1	K Er k	nail: Solie	. Q1		. (aknut	ыл 745-72 son@bepa
Intelop.	dress (indicate if different e Valley Station iabilities	from above):					Num								Dat	e Submitt	ed:	
	ty 15, Beulah .	ND 58523					Nan NE					EL	15			chase Ore		
	Sample Informatio		Filtered	I Y or N					Bo	ttle	Ту	pe					Analys	is
ab Use Only Lab Number	Sample ID	Sample Matrix PW- Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O- Other	Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2604	250 ml H2SO4	1000 ml NaOH	Amber HCI	Amber Unpres.	Amber H2SO4	40 ml Vials H2SO4	Other:	A	nalysis Re	quired
100	mw 245	GW	8-24-22	1025			X	X							X		CI,F	Soy, TO
002	mw 225	GW	8-24-22	1140			_	K				-			X	Sb, As	s, Ba	Soy, TD Be, Cd
203	mw 215	GW	8-24-22	1255			$X^{?}$	(X	CR, C	o, Pb,	Li, Ha
204	DYP	GW	8-24-22	1140			XX	4	-	_					X	mo, s	Se,TL,	Li, Hg RADIUM
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Account #: 2040 Workorder: AVS 160 (3569) Client: Basin Electric Power Cooperative PO: 790708-01

Kevin Solie Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carrel

Claudette Carroll, Lab Manager Bismarck, ND

Analyses performed under Minnesota Department of Health Accreditation conforms to the current TNI standards.

NEW ULM LAB CERTIFICATIONS: MN LAB # 027-015-125 ND WW/DW # R-040

BISMARCK LAB CERTIFICATIONS: MN LAB # 038-999-267 ND W/DW # ND-016



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Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

Sample Comments

3569004 (Dup) - Sample

Time sampled was not supplied by the client.



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Account #: 2040		Client:	Basin	Electri	c Power Coop	perative			
Analytical Results									
Lab ID: 3569001 Sample ID: MW 22S		te Collected: te Received:		28/2022 29/2022			oundwater ent		
Temp @ Receipt (C): 2.2									
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	224	mg/L	50	10	10/05/2022 11:17	10/05/2022 11:17	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	10/06/2022 09:20	10/06/2022 12:13	AMC	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.14	mg/L	0.1	1	09/30/2022 17:00	10/07/2022 11:07	MDE	MA,NDA	
Calcium	2.66	mg/L	1	1	09/30/2022 17:00	10/10/2022 12:06	SLZ	MA,NDA	
Lithium	0.0442	mg/L	0.02	1	09/30/2022 17:00	10/06/2022 10:33	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Arsenic	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/18/2022 10:13	СС	MA,NDA	
Barium	0.0602	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Chromium	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Lead	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Molybdenum	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:55	MDE	MA,NDA	



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Account #:	2040		Client:	ent: Basin Electric Power Cooperative								
Analytical	Results											
Lab ID: Sample ID:	3569001 MW 22S	_	Date Collected: Date Received:)/28/2022)/29/2022		Matrix: Collector:	Groundwater Client				
Temp @ Rece	ipt (C): 2.2											
Method: SM450	0-CI-E 2011											
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual		
Chloride		13.0	mg/L	2.0	1	10/03/2022 11:47	10/03/2022 11:47	EJV	MA,NDA			
Method: SM450	0-F-C-2011											
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual		
Fluoride		1.69	mg/L	0.1	1	09/30/2022 00:12	09/30/2022 00:12	RAA				
Method: USGS	l-1750-85											
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual		
Total Dissolved S	Solids	1630	mg/L	10	1	09/30/2022 17:00	09/30/2022 17:00	RAA	MA,NDA			



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Account #: 2040		Client:	Basin	Electr	ic Power Coop	perative			
Analytical Results									
Lab ID: 3569002 Sample ID: MW 24S		te Collected: te Received:		28/2022 29/2022		Matrix: Collector:	Groundwater Client		
Temp @ Receipt (C): 2.2									
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	52.6	mg/L	10	2	10/05/2022 11:39	10/05/2022 11:39	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	10/06/2022 09:20	10/06/2022 12:13	AMC	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.12	mg/L	0.1	1	09/30/2022 17:00	10/07/2022 11:08	MDE	MA,NDA	
Calcium	5.44	mg/L	1	1	09/30/2022 17:00	10/10/2022 12:08	SLZ	MA,NDA	
Lithium	0.0478	mg/L	0.02	1	09/30/2022 17:00	10/06/2022 10:34	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Arsenic	0.0022	mg/L	0.002	5	09/30/2022 17:00	10/18/2022 10:38	СС	MA,NDA	
Barium	0.0868	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Chromium	0.0052	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Cobalt	0.0020	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Lead	0.0008	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Molybdenum	0.0102	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 16:59	MDE	MA,NDA	



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Account #:	2040		Client:	Basin	Electri	ic Power Coop	perative			
Analytical	Results									
Lab ID: Sample ID:	3569002 MW 24S		Date Collected: Date Received:)/28/2022)/29/2022		Matrix: Collector:	Groundwater Client		
Temp @ Rece	ipt (C): 2.2									
Method: SM450	0-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		52.5	mg/L	2.0	1	10/03/2022 11:48	10/03/2022 11:48	EJV	MA,NDA	
Method: SM450	0-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.41	mg/L	0.1	1	09/30/2022 00:18	09/30/2022 00:18	RAA		
Method: USGS	I-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved	Solids	1980	mg/L	10	1	09/30/2022 17:00	09/30/2022 17:00	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electri	ic Power Coop	perative			
Analytical Resul	ts								
Lab ID: 35690 Sample ID: MW 2		te Collected: te Received:		28/2022 29/2022			roundwater ient		
Temp @ Receipt (C):	2.2								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	581	mg/L	25	5	10/05/2022 11:27	10/05/2022 11:27	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	10/06/2022 09:20	10/06/2022 12:13	AMC	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.14	mg/L	0.1	1	09/30/2022 17:00	10/07/2022 11:10	MDE	MA,NDA	
Calcium	5.12	mg/L	1	1	09/30/2022 17:00	10/10/2022 12:10	SLZ	MA,NDA	
Lithium	0.0460	mg/L	0.02	1	09/30/2022 17:00	10/06/2022 10:35	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Arsenic	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/18/2022 10:17	СС	MA,NDA	
Barium	0.0484	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Chromium	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Lead	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Molybdenum	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:19	MDE	MA,NDA	



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Account #:	2040		Client:	Basin	Electri	ic Power Coop	perative			
Analytical	Results									
Lab ID: Sample ID:	3569003 MW 21S		Date Collected: Date Received:)/28/2022)/29/2022		Matrix: Collector:	Groundwater Client		
Temp @ Rece	ipt (C): 2.2									
Method: SM450	0-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		18.5	mg/L	2.0	1	10/03/2022 11:49	10/03/2022 11:49	EJV	MA,NDA	
Method: SM450	0-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.41	mg/L	0.1	1	09/30/2022 00:24	09/30/2022 00:24	RAA		
Method: USGS	I-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved	Solids	2200	mg/L	10	1	09/30/2022 17:00	09/30/2022 17:00	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Coop	perative			
Analytical Results	i								
Lab ID: 3569004 Sample ID: Dup		te Collected: te Received:		18/2022 29/2022			Groundwater Client		
Temp @ Receipt (C): 2	2.2								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	53.3	mg/L	10	2	10/05/2022 11:46	10/05/2022 11:46	EJV	MA,NDA	
Method: EPA 245.1									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	10/06/2022 09:20	10/06/2022 12:13	AMC	MA,NDA, SDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.12	mg/L	0.1	1	09/30/2022 17:00	10/07/2022 11:10	MDE	MA,NDA	
Calcium	5.40	mg/L	1	1	09/30/2022 17:00	10/10/2022 12:11	SLZ	MA,NDA	
Lithium	0.0476	mg/L	0.02	1	09/30/2022 17:00	10/06/2022 10:36	SLZ	NDA	
Method: EPA 6020B									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Arsenic	0.0020	mg/L	0.002	5	09/30/2022 17:00	10/18/2022 10:50	СС	MA,NDA	
Barium	0.0862	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Chromium	0.0053	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Lead	0.0008	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Molybdenum	0.0100	mg/L	0.002	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	09/30/2022 17:00	10/14/2022 17:23	MDE	MA,NDA	



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Account #:	2040		Client:	Basin	Electri	c Power Coop	perative			
Analytical	Results									
Lab ID: Sample ID:	3569004 Dup	-	ate Collected: ate Received:)/18/2022)/29/2022	-	Matrix: Collector:	Groundwater Client		
Temp @ Rece	ipt (C): 2.2									
Method: SM450	0-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		51.9	mg/L	2.0	1	10/03/2022 11:50	10/03/2022 11:50	EJV	MA,NDA	
Method: SM450	0-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.40	mg/L	0.1	1	09/30/2022 00:30	09/30/2022 00:30	RAA		
Method: USGS	l-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved S	Solids	1990	mg/L	10	1	09/30/2022 17:00	09/30/2022 17:00	RAA	MA,NDA	



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Account #: 2040

Client: Basin Electric Power Cooperative

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Lab Use Only Lab Number	Sample ID	Sample Matrix PW- Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O- Other	Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH	Amber HCI	Amber Unpres.	VOC Vials HCI	Amber H2SO4	40 ml Vials H2SO4	Other:	An	alysis Rec	uired
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Account #: 2040 Workorder: AVS 160 (4838) Client: Basin Electric Power Cooperative PO: 790708-01

Kevin Solie Basin Electric Power Cooperative 1717 E Interstate Ave Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carrel

Claudette Carroll, Lab Manager Bismarck, ND

Analyses performed under Minnesota Department of Health Accreditation conforms to the current TNI standards.

NEW ULM LAB CERTIFICATIONS: MN LAB # 027-015-125 ND WW/DW # R-040

BISMARCK LAB CERTIFICATIONS: MN LAB # 038-999-267 ND W/DW # ND-016



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Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

Sample Comments

4838007 (Dup) - Sample

Time sampled was not supplied by the client.



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Account #: 2040		Client:	Basin	Electr	ic Power Cool	perative			
Analytical Results									
Lab ID: 4838001 Sample ID: MW15S	_	ate Collected: ate Received:)/26/2022)/27/2022		Matrix: Collector:	Groundwater Client		
Temp @ Receipt (C): 1.	5								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	404	mg/L	25	5	11/04/2022 14:08	11/04/2022 14:08	EJV	MA,NDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.10	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 09:49	MDE	MA,NDA	
Calcium	4.27	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:10	MDE	MA,NDA	
Method: SM4500-CI-E 2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride	14.4	mg/L	2.0	1	10/31/2022 10:53	10/31/2022 10:53	EJV	MA,NDA	
Method: SM4500-F-C-2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride	1.41	mg/L	0.1	1	10/28/2022 20:05	10/28/2022 20:05	AMC		
Method: USGS I-1750-85									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved Solids	1880	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Coo	perative			
Analytical Results									
Lab ID: 4838002 Sample ID: MW16S		ate Collected: ate Received:)/26/2022)/27/2022		Matrix: Collector:	Groundwater Client		
Temp @ Receipt (C): 1.	5								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	79.0	mg/L	25	5	11/04/2022 14:09	11/04/2022 14:09	EJV	MA,NDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.12	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 09:55	MDE	MA,NDA	
Calcium	3.26	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:13	MDE	MA,NDA	
Method: SM4500-CI-E 2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride	22.6	mg/L	2.0	1	10/31/2022 10:54	10/31/2022 10:54	EJV	MA,NDA	
Method: SM4500-F-C-2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride	1.83	mg/L	0.1	1	10/28/2022 20:12	10/28/2022 20:12	AMC		
Method: USGS I-1750-85									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved Solids	1180	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #:	2040		Client:	Basin	Electri	ic Power Coop	perative			
Analytical	Results									
Lab ID: Sample ID:	4838003 MW17S		Date Collected: Date Received:)/26/2022)/27/2022			Groundwater Client		
Temp @ Receij	pt (C): 1.5									
Method: ASTM D	0516-16									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate		247	mg/L	25	5	11/04/2022 14:10	11/04/2022 14:10	EJV	MA,NDA	
Method: EPA 60	10D									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron		<0.1	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 09:56	MDE	MA,NDA	
Calcium		3.59	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:15	MDE	MA,NDA	
Method: SM4500	-CI-E 2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride		15.0	mg/L	2.0	1	10/31/2022 10:55	10/31/2022 10:55	EJV	MA,NDA	
Method: SM4500)-F-C-2011									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride		1.38	mg/L	0.1	1	10/28/2022 20:20	10/28/2022 20:20	AMC		
Method: USGS I-	-1750-85									
Parameter		Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved S	olids	1740	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Cool	perative			
Analytical Results									
Lab ID: 4838004 Sample ID: MW18S		ate Collected: ate Received:)/26/2022)/27/2022		Matrix: Collector:	Groundwater Client		
Temp @ Receipt (C): 1.5	5								
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	450	mg/L	25	5	11/04/2022 14:12	11/04/2022 14:12	EJV	MA,NDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	<0.1	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 09:58	MDE	MA,NDA	
Calcium	3.60	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:17	MDE	MA,NDA	
Method: SM4500-CI-E 2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride	8.8	mg/L	2.0	1	10/31/2022 10:56	10/31/2022 10:56	EJV	MA,NDA	
Method: SM4500-F-C-2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride	1.17	mg/L	0.1	1	10/28/2022 20:28	10/28/2022 20:28	AMC		
Method: USGS I-1750-85									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved Solids	1730	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Cool	perative			
Analytical Results									
Lab ID: 4838005 Sample ID: MW19S		Date Collected: Date Received:)/26/2022)/27/2022			Groundwater Client		
Temp @ Receipt (C): 1.5									
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	785	mg/L	25	5	11/04/2022 14:13	11/04/2022 14:13	EJV	MA,NDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.10	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 10:00	MDE	MA,NDA	
Calcium	3.97	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:20	MDE	MA,NDA	
Method: SM4500-CI-E 2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride	18.2	mg/L	2.0	1	10/31/2022 10:57	10/31/2022 10:57	EJV	MA,NDA	
Method: SM4500-F-C-2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride	0.64	mg/L	0.1	1	10/28/2022 20:35	10/28/2022 20:35	AMC		
Method: USGS I-1750-85									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved Solids	2190	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #: 2040		Client:	Basin	Electr	ic Power Cool	perative			
Analytical Results									
Lab ID: 4838006 Sample ID: MW20S		Date Collected: Date Received:)/26/2022)/27/2022			Groundwater Client		
Temp @ Receipt (C): 1.5									
Method: ASTM D516-16									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Sulfate	55.0	mg/L	25	5	11/04/2022 14:14	11/04/2022 14:14	EJV	MA,NDA	
Method: EPA 6010D									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Boron	0.10	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 10:01	MDE	MA,NDA	
Calcium	4.20	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:26	MDE	MA,NDA	
Method: SM4500-CI-E 2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Chloride	26.2	mg/L	2.0	1	10/31/2022 11:07	10/31/2022 11:07	EJV	MA,NDA	
Method: SM4500-F-C-2011									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Fluoride	1.14	mg/L	0.1	1	10/28/2022 20:43	10/28/2022 20:43	AMC		
Method: USGS I-1750-85									
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual
Total Dissolved Solids	1800	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA	



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Account #: 2040		Client:	Basin Electric Power Cooperative												
Analytical Results															
Lab ID: 4838007 Sample ID: Dup			/02/2022)/27/2022		Matrix: Collector:	Groundwater Client									
Temp @ Receipt (C): 1.5															
Method: ASTM D516-16															
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual						
Sulfate	793	mg/L	25	5	11/04/2022 14:15	11/04/2022 14:15	EJV	MA,NDA							
Method: EPA 6010D															
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual						
Boron	0.10	mg/L	0.1	1	10/31/2022 17:12	11/09/2022 10:03	MDE	MA,NDA							
Calcium	3.93	mg/L	1	1	10/31/2022 17:12	11/02/2022 14:32	MDE	MA,NDA							
Method: SM4500-CI-E 2011															
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual						
Chloride	18.2	mg/L	2.0	1	10/31/2022 11:08	10/31/2022 11:08	EJV	MA,NDA							
Method: SM4500-F-C-2011															
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual						
Fluoride	0.64	mg/L	0.1	1	10/28/2022 20:51	10/28/2022 20:51	AMC								
Method: USGS I-1750-85															
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Ву	Cert	Qual						
Total Dissolved Solids	2190	mg/L	10	1	10/31/2022 15:30	10/31/2022 15:30	RAA	MA,NDA							



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Account #: 2040

Client: Basin Electric Power Cooperative

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illing Add	CASIN ELECTRIC PC Leland Olds Si 3901 HIGHWAY STANTON, ND dress (indicate if differe		Contact: El Keulay Solie k: Name of Sampler:								Ione #: Kevin 202 -5096 Atrev 745 -7238 Email: kolic@bepc.com / atruiton @ bepc.com For e-mail report check box												
	bilities				Project Name/Number:											Chase Order #:							
194 24	y 15, Beulah, ND	58523			AVS 160												79070						
	Sample Informa	Filtered	Y or N)	Bottle Type												Analys	sis						
Lab Use Only Lab Number	Sample ID	Sample Matrix PW- Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soll/Sludge O- Other	Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH	Amber HCI	Amber Unpres.	VOC Vials HCI	Amber H2SO4	40 ml Vials H2SO4	Other:	A	nalysis Re	quired				
101	mw 15 s	GW	10-26-22	1320	X		X								4				e, Fluorid	No			
202	mw 165	GW	10-26-22	1240	X		X												um, Boron				
003	mw 175	GW	10-26-22	1145	χ		Х										Juint	Cy Child	beren, beren	-			
204	MW 185	GW	10-26-22	0934	X		X													-			
005	mw 195	Gw	10-26-22	1055	X		X													1			
006	mw aos	Gw	10-26-22	1355	X		X																
700	Dep		10-26-22										_										
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					1			_												2			

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Tuesday, November 22, 2022 5:56:33 PM

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Attachment B

Input Data Files for Calculation of Upper and Lower Prediction Limits (2016-2020)

Attachment B Input Data Files for Calcualtion of Upper and Lower Prediciton Limits Background Wells: MW-18(S) and MW-19(S) Antelope Valley Station - Beulah, ND

		Sample	Sample															
Event	Well ID	Date	Туре	Sample Name	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pН	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
2016_07_July	MW-18(S)	7/13/2016	N	MW-18(S)-071316	0.11	1	12	1	5.6	1	1.2	1	9.97	1	370	1	1600	1
2017_02_Feb	MW-18(S)	2/24/2017	Ν	MW-18(S)-022417	0.2	0	21	1	30	0	5	0	9.85	1	330	1	1100	1
2017_03_Mar	MW-18(S)	3/21/2017	N	MW-18(S)-032117	0.2	0	21	1	15	0	2.5	0	9.34	1	360	1	1400	1
2017_04_Apr	MW-18(S)	4/20/2017	N	MW-18(S)-042017	0.2	0	13	1	15	0	2.5	0	10.03	1	390	1	1400	1
2017_05_May	MW-18(S)	5/23/2017	N	MW-18(S)-052317	0.2	0	12	1	5.4	1	1.7	1	8.86	1	350	1	1400	1
2017_06_Jun	MW-18(S)	6/28/2017	N	MW-18(S)-062817	0.2	0	12	1					9.1	1			1300	1
2017_07_Jul	MW-18(S)	7/24/2017	N	MW-18(S)-072417	0.2	0	12	1					8.91	1			1400	1
2017_08_Aug	MW-18(S)	8/17/2017	N	MW-18(S)-081717	0.2	0	9.7	1	5.4	1	1.8	1	8.92	1	370	1	1300	1
2017_10_Oct	MW-18(S)	10/10/2017	N	MW-18(S)-101017					5.6	1	1.6	1	9.05	1	360	1		
2017_10_Oct	MW-18(S)	10/12/2017	N	MW-18(S)-101217					5.8	1	1.9	1	9.14	1	360	1		
2018_04_Apr	MW-18(S)	4/25/2018	N	MW-18(S)-042518	0.14	1	10	1	7	1	2	1	9	1	320	1	1200	1
2018_10_Oct	MW-18(S)	10/10/2018	N	MW-18(S)_101018	0.136	1	8.6	1	6.8	1	1.85	1	9.35	1	319	1	1510	1
2019_05_May	MW-18(S)	5/21/2019	N	MW-18(S)-052119	0.136	1	9.85	1	7.99	1	2.06	1	8.89	1	282	1	1210	1
2019_10_Oct	MW-18(S)	10/16/2019	N	MW-18(S)-101619	0.127	1	9.56	1	6.31	1	1.6	1	9.33	1	263	1	1230	1
2020_06_June	MW-18(S)	6/11/2020	N	MW-18(S)_061120	0.118	1	13	1	4.94	1	1.29	1	9.95	1	346	1		
2020_10_Oct	MW-18(S)	10/28/2020	N	MW18 (5)_102820	0.12	1	5.93	1	4.65	1	1.28	1	9.11	1	356	1	1670	1
2016_07_July	MW-19(S)	7/13/2016	N	MW-19(S)-071316	0.11	1	13	1	12	1	0.5	1	7.93	1	680	1	1900	1
2017_02_Feb	MW-19(S)	2/2/2017	N	MW-19(S)-020217	0.2	0	5.4	1	12	1	0.58	1	7.8	1	670	1	2000	1
2017_02_Feb	MW-19(S)	2/24/2017	N	MW-19(S)-022417	0.2	0	5.5	1	12	1	0.56	1	7.73	1	700	1	2000	1
2017_03_Mar	MW-19(S)	3/21/2017	N	MW-19(S)-032117	0.2	0	6.9	1	15	0	2.5	0	7.77	1	690	1	1900	1
2017_04_Apr	MW-19(S)	4/20/2017	N	MW-19(S)-042017	0.2	0	5.9	1	15	0	2.5	0	8.8	1	630	1	2000	1
2017_05_May	MW-19(S)	5/23/2017	N	MW-19(S)-052317	0.2	0	5.6	1	11	1	0.51	1	7.61	1	630	1	2000	1
2017_06_Jun	MW-19(S)	6/28/2017	N	MW-19(S)-062817	0.2	0	5.7	1					7.59	1			1900	1
2017_07_Jul	MW-19(S)	7/24/2017	N	MW-19(S)-072417	0.2	0	5	1					7.33	1			1900	1
2017_08_Aug	MW-19(S)	8/17/2017	N	MW-19(S)-081717	0.2	0	4.9	1	12	1	0.64	1	7.4	1	620	1	1800	1
2017_10_Oct	MW-19(S)	10/10/2017	N	MW-19(S)-101017					12	1	0.56	1	7.73	1	660	1		
2017_10_Oct	MW-19(S)	10/12/2017	N	MW-19(S)-101217					12	1	0.65	1	7.8	1	670	1		
2018_04_Apr	MW-19(S)	4/25/2018	N	MW-19(S)-042518	0.16	1	4.6	1	12	1	0.63	1	8.05	1	660	1	2000	1
2018_10_Oct	MW-19(S)	10/10/2018	Ν	MW-19(S)_101018	0.154	1	4.34	1	12.7	1	0.56	1	8.63	1	669	1	2010	1
2019_05_May	MW-19(S)	5/21/2019	N	MW-19(S)-052119	0.147	1	4.02	1	13.1	1	0.605	1	7.38	1	683	1	2110	1
2019_10_Oct	MW-19(S)	10/16/2019	N	MW-19(S)-101619	0.144	1	3.97	1	12.7	1	0.532	1	8.37	1	666	1	2020	1
2020_06_June	MW-19(S)	6/11/2020	Ν	MW-19(S)_061120	0.142	1	3.94	1	10.6	1	0.559	1	7.95	1	642	1	1990	1
2020_10_Oct	MW-19(S)	10/28/2020	Ν	MW19 (6)_102820	0.155	1	4.48	1	11.3	1	0.588	1	7.8	1	707	1	2190	1