



2022 Annual Groundwater Monitoring and Corrective Action Report


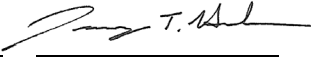


Former LOS Ponds 2 and 3 Multi-Unit

Leland Olds Station
Stanton, North Dakota
Basin Electric Power Cooperative

January 31, 2023
Project #60634880

Basin Electric Power Cooperative
Bismarck, North Dakota

Quality information

Prepared by	Checked by	Verified by	Approved by
 Jason D. Lach	 Jeremy Hurshman	 Dennis P. Connair, C. P.G.	 Jason D. Lach

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# Hard Copies	PDF Required	Association / Company Name
Three	Yes	Kevin L. Solie, P.E., Basin Electric Power Cooperative

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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Table of Contents

List of Acronyms.....	ii
Executive Summary	iii
1. Introduction.....	1-1
Regulatory Background	1-1
Facility Location and Operational History.....	1-1
CCR Unit Description.....	1-1
Physical Setting	1-1
2. CCR Groundwater Monitoring and Corrective Action Activities Prior to January 2022.....	2-1
3. CCR Groundwater Monitoring and Corrective Action Activities (January-December 2022).....	3-1
Detection Monitoring Activities	3-1
Monitoring System Evaluation	3-1
Groundwater Sampling and Analysis.....	3-1
Statistical Procedures and Analysis	3-2
4. General Information	4-1
Program Transitions 2022.....	4-1
Problems Encountered	4-1
Actions Planned for 2023.....	4-1
5. Summary and Conclusions	5-1
6. References	6-1

Figures

Figure 1 Site Vicinity Map – LOS Pond 2 and Pond 3 Multi-Unit

Figure 2 Well Location Map – LOS CCR Pond 2 and Pond 3 Multi-Unit

Tables

Table 1 2022 Statistical Analysis Methods and Background Upper/Lower Prediction Limits LOS Pond 2 and Pond 3 (Multi-Unit) CCR Monitoring Well Network

Table 2 2022 Statistical Method Analysis and Results LOS Pond 2 and Pond 3 (Multi-Unit) CCR Monitoring Well Network

Attachments

Attachment A 2022 Sampling and Analysis Report, Former LOS Pond 2 and Pond 3 Multi-Unit CCR Monitoring Program

Attachment B Boring Logs and Well Construction Diagrams – MW-2017-10 and MW-2017-11

Attachment C Input Data Files for Calculation of Upper and Lower Prediction Limits (2018-2020)

List of Acronyms

AECOM	AECOM Technical Services, Inc.
Basin	Basin Electric Power Cooperative
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
cm/sec	centimeters per second
ft amsl	feet above mean sea level
ft bgs	feet below ground surface
ft/day	feet per day
GWPS	groundwater protection standard
LOS	Leland Olds Station
LPL	lower prediction limit
mg/L	milligrams per liter
SAP	Sampling and Analysis Plant
SSIs	statistically significant increases
TDS	total dissolved solids
UPL	upper prediction limit

Executive Summary

This report summarizes groundwater monitoring and corrective action activities completed between January 1 and December 31, 2022, at the former Ponds 2 and 3 Multi-Unit (Multi-Unit) at Leland Olds Station (LOS), as required by 40 Code of Federal Regulations Section 257.90(e) of the United States Environmental Protection Agency Coal Combustion Residuals (CCR) Rule.

The relative location of the Multi-Unit with respect to the LOS power plant is presented as Figure 1. The location of the monitoring wells installed for monitoring of the groundwater at the Multi-Unit, including CCR program wells and other supporting wells, is presented as Figure 2.

Detection-mode groundwater monitoring of the Multi-Unit was initiated on November 11, 2019. Detection monitoring through 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-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6, and MW-2017-7.

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

- Semiannual detection-mode groundwater monitoring events were conducted in June and October. Monitoring involved sampling of two background monitoring wells and six downgradient monitoring wells.
- Two monitoring wells, identified as MW-2017-10 and MW-2017-11, were installed in October 2022 to further evaluate the groundwater conditions along the eastern edge of the Multi-Unit footprint.
- 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.
- Statistical evaluation of groundwater data for Appendix III indicator parameters.
- Initiate groundwater monitoring at MW-2017-10 and MW-2017-11 for water quality characterization.

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) Ponds 2 and 3 Multi-Unit (henceforth referred to as the Multi-Unit) at Basin's Leland Olds Station (LOS). This is the fifth annual groundwater monitoring and corrective action report prepared for this site.

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 regarding groundwater conditions. Section 2 summarizes CCR groundwater monitoring activities conducted prior to January 2022. Section 3 summarizes the groundwater monitoring and corrective action activities completed between January and December 2022, and references attachments to this report that contain detailed documentation of those activities. Section 4 provides general information about the program including transitions and problems encountered in 2022 and actions planned for 2023. Section 5 presents summary and conclusions for the reporting period (January through December 2022). 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 for inactive CCR units, including the Multi-Unit. The annual reports are 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.

Facility Location and Operational History

LOS is a coal-based generating station located southeast of Stanton, North Dakota (**Figure 1**). The plant began operating in 1966 and consists of two power generating units with a total power output capacity of 669 megawatts.

CCR produced at LOS includes fly ash, bottom ash, and flue gas desulfurization waste.

CCR Unit Description

The Multi-Unit is located on the east side of the LOS power plant (**Figure 1**). Closure of Bottom Ash Pond 2 and Pond 3 was completed in two phases. Phase I construction included the roughly southern half of Ash Pond 2 and was completed in 2017. Phase II construction, which addressed the remainder of Pond 2 and all of Pond 3, began in 2019 and was completed in the third quarter of 2020. A closure notification, completed in accordance with the CCR Rule, including certification by a qualified professional engineer that the closure was completed in accordance with the written closure plan and the requirements of 40 Code of Federal Regulations (CFR) §257.102, was posted on October 26, 2020.

Pond 2 and Pond 3 are now Closed-in-Place with their last operational configuration presented as **Figure 2**.

Physical Setting

The Multi-Unit is situated in the valley of the Missouri River. The valley floor is relatively flat, with two relatively poorly defined terraces ranging from 1,670 feet above mean sea level (ft amsl) to a maximum elevation of 1,715 ft amsl near

the southern property boundary. Seven of the CCR monitoring system monitoring wells are located on the lower (first) terrace level, while one is located on the upper (second) terrace (**Figure 2**).

The geology underlying the Multi-Unit is generally comprised of a minimum of 50 feet of alluvial silt, silty sand, and gravel deposits. The upper terrace level appears to be underlain by at least 25 more feet of alluvial deposits than is found adjacent to the Multi-Unit. The alluvial deposits are underlain by the Sentinel Butte Formation, which is described as 1,000 feet or more of continental deposits consisting of dense clay, weakly cemented sandstone, and mudstone interlaced with occasional lignite beds that typically range from 5 to 10 feet in thickness.

Groundwater at the lower terrace locations is found within alluvial deposits comprised primarily of silty, fine to medium-grained sand at depths ranging roughly from 17 to 35 feet below ground surface (ft bgs). Aquifer testing completed at monitoring wells MW-2017-3, MW-2017-4, MW-2017-5, and MW-2017-6 indicates hydraulic conductivity values within the monitored aquifer range from 1.28×10^{-2} to 6.94×10^{-4} centimeters per second (cm/sec) with a geometric mean of approximately 2.0×10^{-3} cm/sec (5.67 feet per day [ft/day]). The potentiometric surface of the uppermost groundwater underlying the lower terrace area is typically encountered at elevations between 1,658 to 1,662 ft amsl depending on the stage of the adjacent Missouri River. Although the direction of groundwater flow is highly influenced by changes in the elevation of the Missouri River, the net flow direction is expected to be eastward in the general direction of river flow with some flow northward into the river. Groundwater at the upper terrace is perched at a considerably higher elevation with limited hydraulic connection to the lower terrace. As a result, the groundwater from the upper terrace is expected to act as a limited background/upgradient influence on the uppermost aquifer at the Multi-Unit.

2. CCR Groundwater Monitoring and Corrective Action Activities Prior to January 2022

The regulatory process for CCR groundwater monitoring and corrective action is established by 40 CFR Sections 257.90 through 257.98. The process includes a phased approach to groundwater monitoring, 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.

Groundwater monitoring at the Multi-Unit is performed using a network of monitoring wells that includes both 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 position of the CCR monitoring wells selected for sampling background and downgradient groundwater quality for the LOS CCR unit is summarized below:

CCR unit	Background wells	Downgradient wells
Ponds 2 and 3 Multi-Unit	MW-2017-1 and MW-2017-8	MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6, and MW-2017-7

Baseline monitoring for the Multi-Unit, initiated in September 2017, involved sampling groundwater for 40 CFR Part 257 Appendix III and IV constituents over eight monitoring events. Baseline monitoring events were performed in general accordance with procedures established in the site-specific Sampling and Analysis Plan (SAP; [AECOM 2019a]), updated on June 22, 2022, for a change in the purging method from bladder to submersible pump in two monitoring wells. A copy of the SAP 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 were presented and discussed in the First Annual Groundwater Monitoring and Corrective Action Report, Fall 2017-Spring 2019 (AECOM 2019b) issued on July 31, 2019. The LOS Multi-Unit was placed in detection monitoring in the fall of 2019 with the first groundwater sampling event completed in November 2019, then twice annually thereafter. The results of detection monitoring at the Multi-Unit completed between August 2019 and December 2021 are presented and discussed in the Second, Third, and Fourth Annual Groundwater Monitoring and Corrective Action Reports issued January 31, 2020 (AECOM 2020); January 31, 2021 (AECOM 2021); and January 31, 2022 (AECOM 2022a).

3. CCR Groundwater Monitoring and Corrective Action Activities (January-December 2022)

This section summarizes the groundwater monitoring and corrective action activities conducted at the LOS CCR Multi-Unit between January 1, 2022, and December 31, 2022. To comply with the requirements of the CCR Rule, this report presents:

- Groundwater Detection Monitoring Activities:
 - monitoring system evaluation
 - groundwater monitoring completed June 2022
 - groundwater monitoring completed in October 2022
 - laboratory analysis for the June 2022 and October 2022 events
- Statistical analysis of the monitoring results

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 2019c), monitoring wells were installed around the CCR Multi-Unit 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 Multi-Unit monitoring system were found to be in good condition during the detection monitoring events conducted in 2022.

Potentiometric surface maps were constructed using the depth-to-groundwater measurements obtained at the beginning of each detection monitoring event as presented in **Attachment A**. The direction of groundwater flow observed in both the June and October events was generally northeast toward the Missouri River. Baseline and detection monitoring completed between fall of 2017 through 2021 indicated that groundwater flow is generally northeast toward the Missouri River, but that reverse flow and parallel flow conditions, as observed during the June 2020 event, are to be expected, depending on prevailing river stage conditions at the time the event is conducted. The general groundwater flow direction observed during the 2022 detection monitoring events support the designation of the wells noted in Section 2 above to represent background groundwater quality and the quality of groundwater downgradient of the Multi-Unit.

Groundwater Sampling and Analysis

The detection monitoring events completed in 2022 included analysis of collected groundwater samples for the constituents listed in Part 257 Appendix III. 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 velocities, and a tabulated summary of field measurements.

Sampling and analysis were performed in general accordance with procedures established in the SAP (AECOM 2022b).

Two monitoring wells were installed on October 6 to further evaluate the groundwater conditions along the eastern edge of the former Ponds 2 and 3 footprints. A copy of the boring log and well diagram for both monitoring wells is provided

as **Attachment B**. Baseline groundwater monitoring events are expected to begin in spring of 2023 with analysis for the constituents listed in Part 257 Appendix III.

Statistical Procedures and Analysis

The cumulative groundwater data collected for Appendix III indicator parameters at the LOS Multi-Unit were evaluated in accordance with the statistical procedures as certified on April 17, 2019 (AECOM 2019c). Program monitoring wells MW-2017-1 and MW-2017-8 are the designated background monitoring well locations for the LOS Multi-Unit for statistical comparison to downgradient monitoring wells MW-2017-2 through MW-2017-7 during the 2022 reporting period.

The Appendix III groundwater quality data collected in 2022 were evaluated using an interwell approach that statistically compared constituent concentrations at downgradient monitoring wells to those present at the background monitoring wells.

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 MW-2017-1 and MW-2017-8 collected between March 2018 and October 2020. The input file used for development of the UPLs is provided as **Attachment C**. 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 and evaluated using ProUCL to determine if the population exhibited a normal, lognormal, or nonparametric distribution.

Data from the downgradient monitoring wells were compared to the UPL to identify statistically significant increases (SSIs) over background. For pH, the data were also compared to determine whether it was below the LPL. The results of the analyses, including the UPLs, and LPL for pH, are provided in **Table 1**.

Table 2 provides a summary of the Appendix III constituents with verified and unverified SSIs above background. No SSIs were identified for boron, calcium, chloride, fluoride, pH, sulfate, or total dissolved solids (TDS). Therefore, it is recommended the Multi-Unit continue detection monitoring for 2023.

4. General Information

The following subsections summarize any problems encountered in the LOS Multi-Unit CCR program through 2022, any resolutions to those problems, and upcoming actions planned for 2023.

Program Transitions 2022

There were no program transitions during the January to December 2022 monitoring period.

Problems Encountered

No problems were encountered during the January to December 2022 monitoring period.

Actions Planned for 2023

Basin plans on continuing the detection monitoring program for the Multi-Unit in 2022. The detection monitoring program will include semi-annual groundwater sampling events and the required statistical evaluations.

Basin plans to conduct sampling of groundwater from the monitoring wells newly installed in October 2022 (MW-2017-10 and MW-2017-11). The sampling events are anticipated to coincide with the semiannual detection monitoring events to be completed for the Multi-Unit program wells in 2022. The samples are anticipated to be submitted for laboratory analysis for CCR Rule Part 257 Appendix III constituents for spatial and historical comparison.

5. Summary and Conclusions

Basin conducted two rounds of CCR groundwater detection monitoring at the Multi-Unit in June and October 2022. The results were used to establish background groundwater quality for Appendix III constituents in the uppermost aquifer, identify appropriate UPLs, and determine whether any UPLs represent SSIs downgradient of the Multi-Unit.

Basin installed two monitoring wells at the site in October 2022 to further evaluate the groundwater conditions along the eastern edge of the former Ponds 2 and 3 footprints.

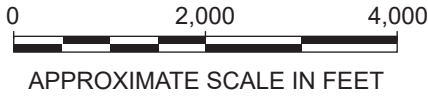
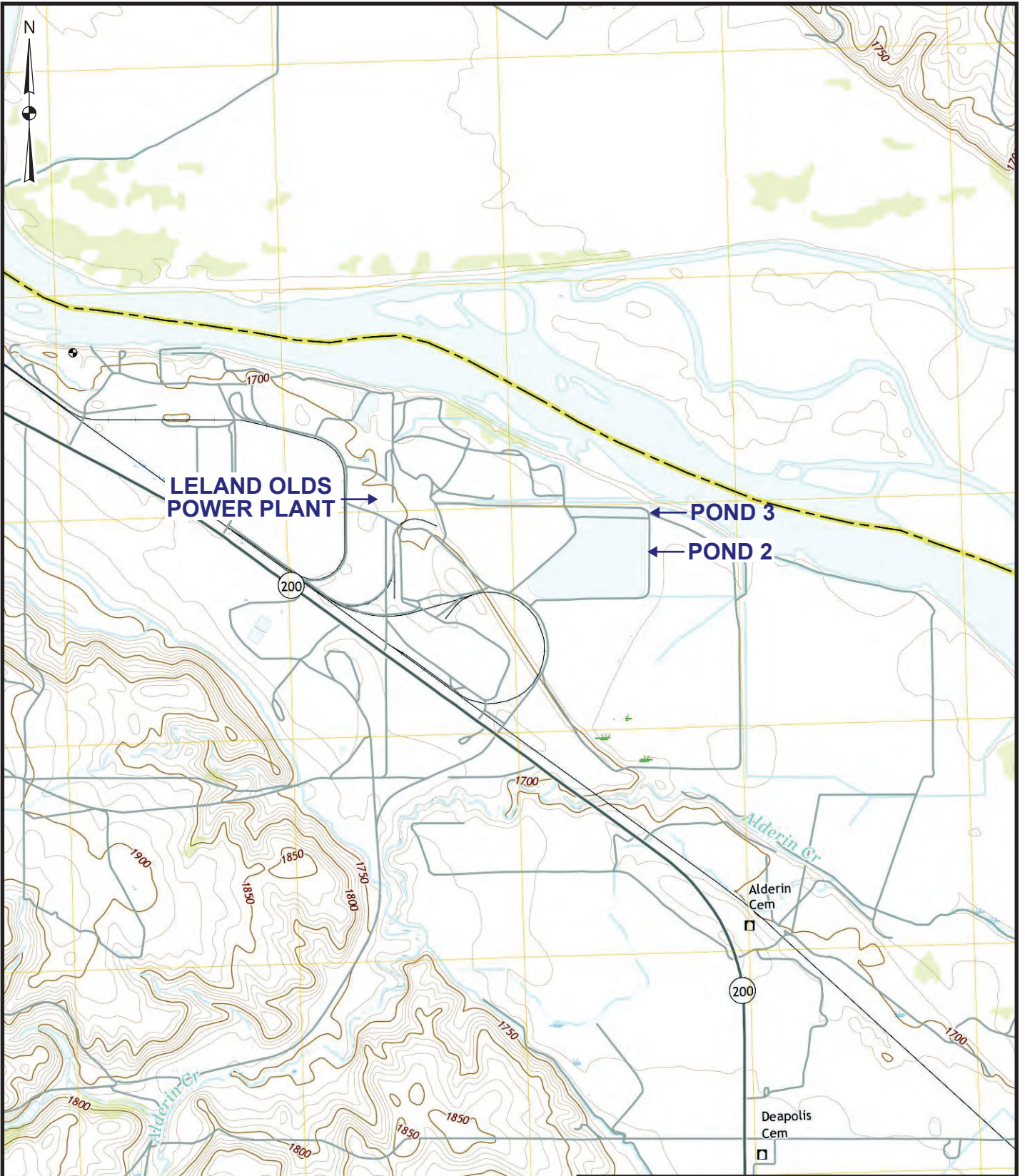
The statistical analysis results indicate that none of the Appendix III constituent concentrations represent SSIs over background. Based on these results, assessment monitoring is not required at the LOS Multi-Unit. Detection monitoring will continue at the site in 2023.

6. References

- AECOM Technical Services, Inc. (AECOM). 2019a. Pond 2 and Pond 3 Multi-Unit Sampling and Analysis Plan, CCR Monitoring Program, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. April 2019.
- AECOM. 2019b. First Annual Groundwater Monitoring and Corrective Action Report, Fall 2017- Spring 2019, Pond 2 and Pond 3 Multi-Unit, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. July 31, 2019.
- AECOM. 2019c. Pond 2 and Pond 3 Multi-Unit CCR Groundwater Monitoring System Report, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. October 2017.
- AECOM. 2020. Second Annual Groundwater Monitoring and Corrective Action Report, 2019 issued January 31, 2020.
- AECOM. 2021. Third Annual Groundwater Monitoring and Corrective Action Report, 2020 issued January 31, 2021.
- AECOM. 2022a. Fourth Annual Groundwater Monitoring and Corrective Action Report, 2021 issued January 31, 2022
- AECOM. 2022b. Pond 2 and Pond 3 Multi-Unit Sampling and Analysis Plan, CCR Monitoring Program, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. June 2022.

Figures

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Quadrangle
Location

BASE MAP SOURCE: USGS 7½ minute
topographic quadrangle map Stanton SE,
North Dakota 2018.

BASIN ELECTRIC POWER COOPERATIVE

FIGURE 1
SITE VICINITY MAP
LOS POND 2 AND POND 3 MULTI-UNIT

JOB NO. 60558359





Missouri River

MW-2017-1

MW-2017-2

MW-2017-3

MW-2017-4

MW-2017-11

MW-2017-5

MW-2017-9

MW-2017-7

MW-2017-6

MW-2017-10

MW-2017-8D

MW-2017-8

LEGEND

- CCR RULE COMPLIANCE WELL
- SITE CHARACTERIZATION WELL
- Terrace Boundary (Inferred)
- Approximate LOS Pond 2 and Pond 3 Multi-unit Boundary

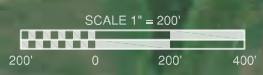
BASIN ELECTRIC POWER COOPERATIVE

LELAND OLDS STATION
STANTON, NORTH DAKOTA

FIGURE 2
WELL LOCATION MAP
LOS POND 2 AND POND 3 MULTI-UNIT

JOB NO. 60634880

AECOM



DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS

Tables

Table 1 2022 Statistical Analysis Methods and Background Upper/Lower Prediction Limits LOS Pond 2 and Pond 3 (Multi-Unit) CCR Monitoring Well Network Leland Olds Station – Stanton, North Dakota

Parameter (Units)	Number of Samples	Percent Nondetects	Normal or Lognormal Distribution?	Statistical Method	Background Prediction Limit
Boron (mg/L)	18	0	No/No	Nonparametric 95% UPL	2.37
Calcium (mg/L)	18	0	Yes/No	Parametric 95% UPL	167
Chloride (mg/L)	18	0	No/No	Nonparametric 95% UPL	25
Fluoride (mg/L)	18	83	No/No	Nonparametric 95% UPL	4.68
pH (standard units)	18	0	Yes/Yes	Parametric 95% LPL/UPL	6.80/7.59
Sulfate (mg/L)	18	0	No/No	Nonparametric 95% UPL	2,100
TDS (mg/L)	18	0	No/No	Nonparametric 95% UPL	4,000

Notes:

Note analytical data from the background monitoring wells collected between March 2018 and October 2020 were used to develop an UPL for all Appendix III constituents, and an LPL for pH, at 95 percent confidence.

LPL = lower prediction limit

mg/L= milligrams per liter

TDS = total dissolved solids

UPL = upper prediction limit

Table 2 2022 Statistical Method Analysis and Results LOS Pond 2 and Pond 3 (Multi-Unit) CCR Monitoring Well Network Leland Olds Station – Stanton, North Dakota

Well	Location	B	Ca	Cl	F	pH (LPL/UPL)		SO ₄	TDS
MW-2017-2	Downgradient								
MW-2017-3	Downgradient								
MW-2017-4	Downgradient								
MW-2017-5	Downgradient								
MW-2017-6	Downgradient								
MW-2017-7	Downgradient								

Notes:

SSIs determined using interwell upper prediction limits (UPLs) at background monitoring wells MW-2017-1 and MW-2017-8



Less than or equal to background upper prediction limit (UPL) or greater than lower 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

2022 Sampling and Analysis Report, Former LOS Pond 2 and Pond 3 Multi-Unit CCR Monitoring Program



2022 Sampling and Analysis Report, Former LOS Pond 2 and Pond 3 Multi-Unit CCR Monitoring Program

Leland Olds Station
Stanton, 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 #60634880

Table of Contents

List of Acronyms	ii
1. Introduction	3
2. Groundwater Flow	3
3. Groundwater Quality	4

Figures

Figure 1	LOS CCR Monitoring Well Network and Potentiometric Surface Map - June 21, 2022
Figure 2	LOS CCR Monitoring Well Network – October 4, 2022

Tables

Table 1A	Groundwater Level Measurements and Elevations, June 21, 2022
Table 1B	Groundwater Level Measurements and Elevations, October 4, 2022
Table 2	Estimated Groundwater Gradients and Seepage Velocity
Table 3	Analytical Results Summary

Appendix

Appendix A	Analytical Laboratory Reports, June 2022, and October 2022 Monitoring Events
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List of Acronyms

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

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 Pond 2 and Pond 3 Multi-Unit at Basin's Leland Olds Station (LOS). The objective of the report is to provide a description of the field and office activities performed between January and December of 2022.

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 groundwater Detection monitoring events conducted in June and October of 2022.

2. Groundwater Flow

As required by 40 CFR Section 257.93(c), groundwater elevations were measured for each well prior to purging each time groundwater was sampled. The measurements, presented in **Tables 1A** and **1B**, were used to create a potentiometric surface map for the uppermost aquifer for the Detection monitoring events completed in June and October 2022, respectively. The resulting potentiometric surface maps, presented as **Figures 1** and **2**, were used to evaluate the direction of groundwater flow and hydraulic gradient for the subject CCR unit for each event. The potentiometric surface and direction of groundwater flow at the site is primarily controlled by changes in the river stage elevation of the Missouri River. In both June and October 2022, groundwater flow was generally northeast toward the Missouri River. The seasonal flow directions observed in 2022 are generally consistent with those most observed during previous monitoring events. Previous reporting periods have, on occasion, observed groundwater flow reversal to the south-southwest away from the Missouri River and then swinging broadly down-valley to the east-southeast. Groundwater flow velocities for the 2022 Detection monitoring events were calculated and are summarized in **Table 2**. The velocities calculated for the 2022 events are generally consistent with those observed historically.

Based on the groundwater flow conditions documented in this chapter, the relative function of the monitoring wells employed in the LOS CCR groundwater monitoring system is as follows:

CCR unit	Background wells	Downgradient wells
Pond 2 and Pond 3 Multi-Unit	MW-2017-1 and MW-2017-8	MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6, and MW-2017-7

Additional evaluation of site background was initiated in 2020, including gauging, sampling, and installation. MW-2017-8D was installed in the vicinity of MW-2017-8 to confirm the presence of clay observed at the bottom of MW-2017-8, establishing the top of bedrock at this location. The boring was advanced through this clay to a depth of 61.5 feet below ground surface where a 2.5-foot-thick groundwater-yielding lignite bed was identified. MW-2017-8D was screened across this lignite to allow for further evaluation of the groundwater chemistry. Another well, identified as MW-2017-9, was installed in October 2020 to aid in the characterization of the area southwest of the Multi-Unit. Two additional wells identified as MW-2017-10 and MW-2017-11 were installed in October 2022 to further evaluate groundwater quality on the east side of former Pond 2 and Pond 3. The surveyed location of each of these wells is presented in the Potentiometric Surface Maps (**Figure 1** and **Figure 2**).

3. Groundwater Quality

The analytical testing laboratory provided a report presenting the results of laboratory analysis for the June and October 2022 Detection monitoring events. The laboratory report is included in the operating record and was reviewed for completeness against the project-required methods and the chain-of-custody forms. The laboratory report was also reviewed for holding times, and to check that the data was appropriately flagged based on the quality assurance/quality control data provided. A data validation report was prepared for the monitoring event and is included in the operating record. The validated results for the June and October 2022 sampling events are compiled into summary form as presented in **Table 3** with final laboratory reports for each event included as **Appendix A**.

Figures



Missouri River Elevation
1657.4 @ 12:00 PM on 06/21/2022

MW-2017-1
1658.53

MW-2017-2
1658.22

MW-2017-3
1658.21

MW-2017-4
1658.36

MW-2017-5
(1659.82)

MW-2017-9
NM

MW-2017-7
(1659.53)

MW-2017-6
1658.49

MW-2017-8D
(1678.37)

MW-2017-8
(1688.37)

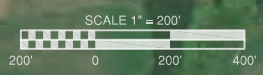
- LEGEND**
- CCR RULE COMPLIANCE WELL
 - SITE CHARACTERIZATION WELL
 - Terrace Boundary (Inferred)
 - 1658.36 Groundwater Elevation feet, msl.
1659.82) Omitted from Potentiometric Surface Contouring
 - 0.1- FEET POTENTIOMETRIC SURFACE CONTOUR
Dashed where Inferred
 - GROUNDWATER FLOW DIRECTION
 - - - Approximate LOS Pond 2 and Pond 3 Multiunit Boundary

BASIN ELECTRIC POWER COOPERATIVE LELAND OLDS STATION
STANTON, NORTH DAKOTA

FIGURE 1
WELL LOCATION MAP
LOS POND 2 AND POND 3 MULTI-UNIT
JUNE 21, 2022

JOB NO. 60634880

AECOM



DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS



Missouri River Elevation
1657.0 @ 12:00 PM on 10/04/2022

MW-2017-1
1657.38

MW-2017-2
1657.19

MW-2017-3
1657.21

MW-2017-4
1657.08

MW-2017-5
1657.37

MW-2017-9
NM

MW-2017-7
1657.75

MW-2017-6
1657.63

MW-2017-8D
(1677.99)

MW-2017-8
(1688.23)

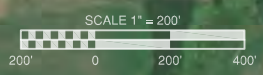
- LEGEND**
- CCR RULE COMPLIANCE WELL
 - SITE CHARACTERIZATION WELL
 - Terrace Boundary (Inferred)
 - 1657.63 Groundwater Elevation feet, msl.
(1677.99) Omitted from Potentiometric Surface Contouring
 - 0.2-FOOT POTENTIOMETRIC SURFACE CONTOUR
Dashed where Inferred
 - GROUNDWATER FLOW DIRECTION
 - - - Approximate LOS Pond 2 and Pond 3 Multiunit Boundary

BASIN ELECTRIC POWER COOPERATIVE LELAND OLDS STATION
STANTON, NORTH DAKOTA

FIGURE 2
POTENTIOMETRIC SURFACE MAP
LOS POND 2 AND POND 3 MULTI-UNIT
OCTOBER 4, 2022

JOB NO. 60634880

AECOM



DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS

Tables

Table 1A. First Half 2022 - Groundwater Monitoring Water Levels and Elevations

**CCR Monitoring Wells
LOS Pond 2 and Pond 3 - Multi-unit
Stanton, North Dakota**

	Reference Elevation	June 21, 2022	Groundwater
	Top of Casing	Depth to Water	Elevation
Well ID	(feet, NAVD 88)	(feet)	(feet, NAVD 88)
MW-2017-1	1,683.86	25.33	1,658.53
MW-2017-2	1,681.03	22.81	1,658.22
MW-2017-3	1,682.36	24.15	1,658.21
MW-2017-4	1,684.13	25.77	1,658.36
MW-2017-5	1,691.72	31.90	1,659.82
MW-2017-6	1,693.44	34.95	1,658.49
MW-2017-7	1,698.25	38.72	1,659.53
MW-2017-8	1,717.23	28.86	1,688.37
MW-2017-8D	1,716.27	37.90	1,678.37
MW-2017-9	1,709.93	50.80	1,659.13
*Missouri River at approximately 1200 on 6/21/2022			1657.4

* Elevation as reported at Leland Olds Station River Intake in Stanton ND.

Table 1B. Second Half 2022 - Groundwater Monitoring Water Levels and Elevations

**CCR Monitoring Wells
LOS Pond 2 and Pond 3 - Multi-unit
Stanton, North Dakota**

	Reference Elevation	October 4, 2022	Groundwater
	Top of Casing	Depth to Water	Elevation
Well ID	(feet, NAVD 88)	(feet)	(feet, NAVD 88)
MW-2017-1	1,683.86	26.48	1,657.38
MW-2017-2	1,681.03	23.84	1,657.19
MW-2017-3	1,682.36	25.15	1,657.21
MW-2017-4	1,684.13	27.05	1,657.08
MW-2017-5	1,691.72	34.35	1,657.37
MW-2017-6	1,693.44	35.81	1,657.63
MW-2017-7	1,698.25	40.50	1,657.75
MW-2017-8	1,717.23	29.00	1,688.23
MW-2017-8D	1,716.27	38.28	1,677.99
MW-2017-9	1,709.93	NM	Not Measured
*Missouri River at approximately 1200 on 10/4/2022			1657.0

* Elevation as reported at Leland Olds Station River Intake in Stanton ND.

**Table 2. Estimated Groundwater Gradient And Seepage Velocity
 CCR Program Monitoring Wells
 Leland Olds Station Pond 2 And Pond 3 Multi-Unit – Stanton, North Dakota**

Date of event	d _i (ft)	d _h (ft)	i (ft/ft)	n _e	K (ft/day)	v _s (ft/day)
3/12/2018	Insufficient Data: Limited site access due to high water					
4/17/2018	307	0.25	0.00081	0.33	1.16E+01	2.86E-02
6/14/2018*	493	0.25	0.00051	0.33	1.16E+01	1.78E-02
7/23/2018*	397	0.5	0.00126	0.33	1.16E+01	4.43E-02
9/27/2018*	480	0.25	0.00052	0.33	1.16E+01	1.83E-02
3/12/2019	337	0.5	0.00148	0.33	1.16E+01	5.22E-02
3/27/2019	300	0.5	0.00167	0.33	1.16E+01	5.86E-02
4/9/2019	303	0.75	0.00248	0.33	1.16E+01	8.70E-02
11/11/2019*	300	0.1	0.00033	0.33	1.16E+01	1.17E-02
6/8/2020*	960	0.29	0.00030	0.33	1.16E+01	1.06E-02
10/5/2020	810	0.6	0.00074	0.33	1.16E+01	2.60E-02
5/11/2021	620	0.2	0.00032	0.33	1.16E+01	1.13E-02
9/21/2021	700	0.4	0.00057	0.33	1.16E+01	2.01E-02
6/21/2022	610	0.04	0.000066	0.33	1.16E+01	2.30E-03
10/4/2022	840	0.4	0.00048	0.33	1.16E+01	1.67E-02

d_i = 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)

n_e = Site average porosity of 33%

K = Site average hydraulic conductivity of 11.6 ft/day from slug tests at site

v_s = Seepage Velocity (ft/day)

* = Groundwater flow direction during event was from river to aquifer

Hydraulic Gradient Governing Equation¹ – $i = -dh/dl$

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

Table 3. Detection-Mode (Appendix III) Analytical Results Summary (March 2018- October 2022). LOS Pond 2 and Pond 3 Multi-Unit CCR Monitoring Well Network Leland Olds Station - Stanton, North Dakota

Well ID	Event	Date	Appendix III Constituents						
			Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	TDS mg/L
MW-2017-1	Event 01	3/12/18	2 F1	100	8.8	< 0.5 U	6.95	210	710
MW-2017-1	Event 02	4/17/18	2.1 F1	96	9.4	< 0.5 U	6.86	200	680
MW-2017-1	Event 03	6/14/18	2.2	89	8.2	< 0.5 U	7.06	220	690 H
MW-2017-1	Event 04	7/25/18	2.36 F1	91.1	8.73	< 0.5 U	7.21	218	710
MW-2017-1	Event 05	8/27/18	2.37	89.6	8.65	< 0.5 U	7.38	219	707
MW-2017-1	Event 06	3/12/19	2.15	103	8.5 H	< 0.5 UH	7.19	217 H	735
MW-2017-1	Event 07	3/27/19	2.02	98.3	8.53 HF1	< 0.5 UH	7.26	212 H	718
MW-2017-1	Event 08	4/9/19	2.02	107	8.91	< 0.5 U	7.23	221	761 H
MW-2017-1	Event 09	11/12/19	1.11	130	9	0.426	7.73	233	740
MW-2017-1	Event 10	6/8/20	1.04	150	7.74	< 0.5 U	6.86	260	1050
MW-2017-1	Event 11	10/5/20	0.964	158	9.87	< 0.5 U	7.01	270	960
MW-2017-1	Event 12	5/12/21	0.828	160	8.73	0.636	6.87	238	1030
MW-2017-1	Event 13	9/21/21	0.793	156	9.9	0.546	6.84	227	980
MW-2017-1	Event 14	6/22/22	0.659	160	9.7	< 0.5 U	6.65	219	906
MW-2017-1	Event 15	10/5/22	0.53	170	11.8	0.38	7.14	195	975
MW-2017-1 Dup	Event 01	3/12/18	2.1	110	8.8	< 0.5 U	6.95	210	710 H
MW-2017-1 Dup	Event 02	4/17/18	2.1	97	8.7	< 0.5 U	6.86	190	720
MW-2017-1 Dup	Event 03	6/14/18	2.3	92	8.2	< 0.5 U	7.06	220	720
MW-2017-1 Dup	Event 04	7/25/18	2.34	90.3	8.74	< 0.5 U	7.21	215	710
MW-2017-1 Dup	Event 05	8/27/18	2.42	91.1	8.73	< 0.5 U	7.38	220	717
MW-2017-1 Dup	Event 06	3/12/19	2.18	106	9.23 H	< 0.5 UH	7.19	219 H	742
MW-2017-1 Dup	Event 07	3/27/19	2.25	106	8.46 H	< 0.5 UH	7.26	211 H	740
MW-2017-1 Dup	Event 08	4/9/19	2.02	109	9	< 0.5 U	7.23	218	773 H
MW-2017-1 Dup	Event 14	6/22/22	0.665	161	9.77	< 0.5 U	6.65	234	882
MW-2017-2	Event 01	3/12/18	1.6	120	12	< 0.5 U	6.88	320	920
MW-2017-2	Event 02	4/17/18	1.4	130	12	< 0.5 U	7.37	330	930
MW-2017-2	Event 03	6/14/18	1.3	130	10	< 0.5 U	7.04	320	890 H
MW-2017-2	Event 04	7/23/18	1.6	73.7	10.6	0.608	7.19	262	690
MW-2017-2	Event 05	8/27/18	1.61	74.1	10.5	0.537	7.49	261	< 10.0 U
MW-2017-2	Event 06	3/12/19	1.18	120	11.8 H	< 0.5 UH	7.19	323 H	910
MW-2017-2	Event 07	3/27/19	1.13	122	11.2 H	< 0.5 UH	7.12	336 H	948
MW-2017-2	Event 08	4/9/19	1.22	121	11.3	< 0.5 U	7.25	308	853 H
MW-2017-2	Event 09	11/12/19	0.82	75.3	10.7	0.524	7.94	231	676
MW-2017-2	Event 10	6/9/20	1.3	82.7	8.13	< 0.5 U	7.26	233	732
MW-2017-2	Event 11	10/6/20	1.18	91.7	10.1	< 0.5 U	7.05	269	803
MW-2017-2	Event 12	5/12/21	1.36	81.2	8.47	< 0.5 U	7.09	244	690
MW-2017-2	Event 13	9/21/21	1.47	70.8	10.1	0.54	7.1	258	677
MW-2017-2	Event 14	6/22/22	1.47	90.2	10.6	< 0.5 U	6.84	305	755
MW-2017-2	Event 15	10/5/22	1.24	86.1	11.7	0.44	7.35	266	763
MW-2017-2 Dup	Event 10	6/9/20	1.31	83.2	8.1	< 0.5 U	7.05	233	770
MW-2017-3	Event 01	3/12/18	1.6	84	11	0.5	6.71	190	760
MW-2017-3	Event 02	4/17/18	1.6	87	11	< 0.5 U	7.04	190	750
MW-2017-3	Event 03	6/14/18	1.6	84	9.4	< 0.5 U	7.1	200	750 H
MW-2017-3	Event 04	7/23/18	1.57	87.2	10.6	< 0.5 U	7.09	184	770
MW-2017-3	Event 05	8/27/18	1.61	81.4	10.5	< 0.5 U	7.35	187	765
MW-2017-3	Event 06	3/12/19	1.63	81.1	10.7 H	< 0.5 UH	7.25	190 H	765
MW-2017-3	Event 07	3/27/19	1.75 F1	80.3	10.6 H	0.516 H	7.15	182 H	756
MW-2017-3	Event 08	4/9/19	1.71	84.7	10.9	0.523	7.3	190	739 H
MW-2017-3	Event 09	11/11/19	1.45	72.4	10.6	0.498	7.86	184	710
MW-2017-3	Event 10	6/8/20	1.62	76	8.09	< 0.5 U	7.31	173	764
MW-2017-3	Event 11	10/6/20	1.7	80.4	9.8	< 0.5 U	7.04	194	754
MW-2017-3	Event 12	5/12/21	1.68	84.4	8.43	< 0.5 U	6.87	169	765
MW-2017-3	Event 13	9/22/21	1.73	89.9	9.71	0.591	7.1	188 F1	792
MW-2017-3	Event 14	6/22/22	1.61	105	9.9	< 0.5 U	6.8	188	838
MW-2017-3	Event 15	10/4/22	1.50	112	11.6	0.48	7.29	180	888
MW-2017-3 Dup	Event 09	11/11/19	1.97	105	10.6	0.498	7.86	186	714
MW-2017-3 Dup	Event 12	5/12/21	1.7	85.9	8.35	< 0.5 U	6.87	174	797
MW-2017-3 Dup	Event 15	10/4/22	1.50	111	11.6	0.47	7.29	185	951
MW-2017-4	Event 01	3/12/18	1.4	140	9.8	0.75	6.82	300	830
MW-2017-4	Event 02	4/17/18	1.2	140	10	0.77	6.64	310	860
MW-2017-4	Event 03	6/14/18	1.2	140	9.3	0.59	7.02	300	870 H
MW-2017-4	Event 04	7/25/18	1.13	128	10.4	0.791	7.06	252	800
MW-2017-4	Event 05	8/28/18	1.15	127	10.3	0.79	7.31	292	818
MW-2017-4	Event 06	3/12/19	1.35	139	10.1 H	0.716 H	7.1	307 H	788
MW-2017-4	Event 07	3/27/19	1.47	133	9.55 H	0.725 H	7.06	294 H	850
MW-2017-4	Event 08	4/9/19	1.6	154	9.75	0.747	7.07	294	854 H
MW-2017-4	Event 09	11/11/19	1.74	78.5	10.4	0.768	7.78	289	832
MW-2017-4	Event 10	6/8/20	1.23	118	7.89	0.622	6.3	281	836
MW-2017-4	Event 11	10/6/20	1.45	134	9.1	0.509	6.8	291 F1	835
MW-2017-4	Event 12	5/12/21	1.25	124	8.3	0.595	7.12	295	825
MW-2017-4	Event 13	9/22/21	1.42	135	8.43	0.787	6.93	286	808
MW-2017-4	Event 14	6/21/22	1.25	128	10.2	0.768 F1	6.86	334	804
MW-2017-4	Event 15	10/4/22	1.29	134	10.9	0.77	7.11	289	807

Table 3. Detection-Mode (Appendix III) Analytical Results Summary (March 2018- October 2022). LOS Pond 2 and Pond 3 Multi-Unit CCR Monitoring Well Network Leland Olds Station - Stanton, North Dakota

Well ID	Event	Date	Appendix III Constituents						
			Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	TDS mg/L
MW-2017-5	Event 02	4/18/18	0.64	82	11	< 0.5 U	7.17	300	660
MW-2017-5	Event 03	6/14/18	0.74	82	9.5	< 0.5 U	6.98	290	650 H
MW-2017-5	Event 04	7/25/18	0.753	82.2	10.5	< 0.5 U	7.04	361	670
MW-2017-5	Event 05	8/28/18	0.87	84.1	10.4	0.514	7.34	304	676
MW-2017-5	Event 06	3/12/19	0.89	86.8	10.7 H	0.711 H	7.7	315 H	685
MW-2017-5	Event 07	3/27/19	0.897	79.7	11.1 H	0.778 H	7.49	314 H	659
MW-2017-5	Event 08	4/9/19	0.963	87.6	11.3	0.784	7.4	310	668 H
MW-2017-5	Event 09	11/11/19	1.78	82.3	11	0.812	7.42	293	628
MW-2017-5	Event Supp	11/1/18	0.93	85.4	10.8	0.64	7.22	321	1130
MW-2017-5	Event 10	6/8/20	0.68	53.9	8.01	1.04	8.91	257	636
MW-2017-5	Event 11	10/20/20	0.811	77.7	8.66	0.897	7.22	272 H	676
MW-2017-5	Event 12	5/11/21	0.842	83.1	8.86	0.753	7.52	273	646
MW-2017-5	Event 13	9/23/21	0.827	84.4	9.39	0.86	7.42	292	655
MW-2017-5	Event 14	6/21/22	0.838	85.6	10.8	0.878	7.03	303	628
MW-2017-5	Event 15	10/4/22	0.76	83.3	11.7	0.93	7.44	283	631
MW-2017-6	Event 02	4/18/18	2.6	87	8.3	< 0.5 U	11.79	220	630
MW-2017-6	Event 03	6/14/18	1.2	63	10	< 0.5 U	11.66	220	430 H
MW-2017-6	Event 04	7/25/18	1.06	65.8	11	0.503	10.08	212	470
MW-2017-6	Event 05	8/28/18	1.05	56.4	11.1	0.54	10.05	197	490
MW-2017-6	Event 06	3/12/19	1.26	55.5	11.1 H	0.545 H	9.52	205 H	534
MW-2017-6	Event 07	3/27/19	11.4	60.6	5.03 H	0.634 H	11.52	502 H	619
MW-2017-6	Event 08	4/9/19	5.06	46.5	9.17	< 0.5 U	11.81	270	618 H
MW-2017-6	Event 09	11/11/19	1.77	39.4	10.4	0.513	9.57	218	552
MW-2017-6	Event Supp	11/1/18	1.1	53.9	11.7	< 0.5 U	10.02	221	435
MW-2017-6	Event 10	6/8/20	1.61	54.5	7.98	0.505	8.03	205	610
MW-2017-6	Event 11	10/20/20	1.76	59.9	8.07	< 0.5 UH	7.49	267	640
MW-2017-6	Event 12	5/11/21	1.72	57.8	8.52	< 0.5 U	7.36	185	611
MW-2017-6	Event 13	9/23/21	1.51	62.8	8.9	0.587	7.65	221	608
MW-2017-6	Event 14	6/21/22	1.76	64.3	10.3	0.565	7.35	194	594
MW-2017-6	Event 15	10/4/22	1.56	60.3	11.5	0.60	7.43	187	577
MW-2017-7	Event 01	3/14/18	1.9	65	11	1.0	6.58	310	690
MW-2017-7	Event 02	4/17/18	2	70	11	1.0	7.35	320	690
MW-2017-7	Event 03	6/15/18	1.9	66	< 30 U	< 5.0 U	7.54	280	720 H
MW-2017-7	Event 04	7/25/18	2	67.5	< 15 U	< 2.5 U	7.48	291	750
MW-2017-7	Event 05	8/28/18	2.07	65.2	< 30 U	< 5.0 U	7.78	300	696
MW-2017-7	Event 06	3/12/19	2.05	67.8	11.1 H	1.26 H	7.34	315 H	722
MW-2017-7	Event 07	3/27/19	1.96	63.1	11.1 H	1.39 H	7.96	302 H	701
MW-2017-7	Event 08	4/9/19	2.04	67.2	< 300 U	< 50 U	7.37	1030	896 H
MW-2017-7	Event 09	11/11/19	2.16	59.4	10.6	1.37	7.49	309	686
MW-2017-7	Event 10	6/8/20	1.9	58.2	8.49	1.6	7.06	293	719
MW-2017-7	Event 11	10/5/20	2.14	61.1	10.8	1.24	7.26	270	597
MW-2017-7	Event 12	5/11/21	1.8	60.6	8.64	1.53	7.3	248	773
MW-2017-7	Event 13	9/21/21	1.85	61.4	10.1	1.93	7.22	284	747
MW-2017-7	Event 14	6/21/22	1.94	61.9	10.7	2.27	6.93	328	728
MW-2017-7	Event 15	10/4/22	1.94	64.4	12.5	1.61	7.51	319	722
MW-2017-7 Dup	Event 13	9/21/21	1.73	88.7	8.98	0.572	7.22	192	778
MW-2017-8	Event 01	3/14/18	0.48	150	25	< 1.0 U	7.03	2000	3800
MW-2017-8	Event 02	4/18/18	0.46	150	25	< 1.0 U	7.38	2100	4000
MW-2017-8	Event 03	6/15/18	0.46	140	22	< 1.0 U	7.19	2100	4000 H
MW-2017-8	Event 04	7/25/18	0.465	145	24.3	< 1.0 U	7.23	2010	3900
MW-2017-8	Event 05	8/28/18	0.468	140	24	< 1.0 U	7.52	2020	3880 H
MW-2017-8	Event 10	6/8/20	0.453	133	20.8	4.68	7.29	1860	3800
MW-2017-8	Event 11	10/6/20	0.48	137	24.6	4.57	7.16	1960	2960
MW-2017-8	Event 12	5/12/21	0.499	136	22.5	1.01	7.15	2010	3960
MW-2017-8	Event 13	9/30/21	0.504	136	26.8	< 0.5 U	7.27	2020	3770
MW-2017-8	Event 14	6/22/22	0.514	133	25.7	< 0.5 U	7.13	1920	3240
MW-2017-8	Event 15	10/4/22	0.41	132	25.2	0.39	7.44	1850	3920
MW-2017-8D	Event 11	10/21/20	0.699	13.4	11.8	0.55	7.8	354	1880
MW-2017-8D	Event 12	5/12/21	0.695	9.43	12.6	0.837	7.56	364	1930
MW-2017-8D	Event 13	9/22/21	0.73	8.19	15.6	0.503	7.96	373	1980
MW-2017-8D	Event 14	6/22/22	0.775	8.71	15	0.504	7.71	396	1860
MW-2017-8D	Event 15	10/4/22	0.66	8.56	17.8	0.61	7.98	416	1990
MW-2017-8D-Dup	Event 11	10/21/20	0.659	17.1	11.4	0.52	7.8	332	1980
MW-2017-8D-Dup	Event 14	6/22/22	0.767	8.7	15	0.502	7.71	406	1910

IS = Total Dissolved Solids

ng/L = milligrams per liter

S.U. = Standard units

pCi/L = picoCurie/liter

yte analyzed for but not detected

ISD Recovery is outside acceptance limits

ed or analyzed beyond the specified holding time

present data that are new for the reporting period

Appendix A

Analytical Laboratory Reports, June and October 2022

ANALYTICAL REPORT

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

Laboratory Job ID: 280-163765-1

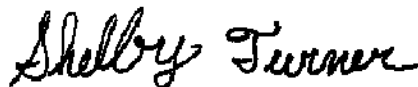
Laboratory Sample Delivery Group: LOS Ponds

Client Project/Site: CCR Groundwater - ND Sites - LOS Ponds

For:

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

Attn: Aaron Knutson



Authorized for release by:

7/22/2022 1:28:02 PM

Shelby Turner, Project Manager I
(303)736-0100

Shelby.Turner@et.eurofinsus.com

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

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

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

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15



Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	5
Method Summary	6
Sample Summary	7
Client Sample Results	8
QC Sample Results	10
QC Association	11
Chronicle	12
Certification Summary	13
Chain of Custody	14
Receipt Checklists	19
Tracer Carrier Summary	21

Definitions/Glossary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Qualifiers

Rad

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

Glossary

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

Case Narrative

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Job ID: 280-163765-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - LOS Ponds

Report Number: 280-163765-1

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 6/24/2022 10:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.7° C and 2.9° C.

RADIUM-226 (GFPC)

Samples MW-2017-8D (280-163765-6) and DUP (280-163765-10) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 06/29/2022 and analyzed on 07/21/2022.

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

RADIUM-228

Samples MW-2017-8D (280-163765-6) and DUP (280-163765-10) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 06/29/2022 and analyzed on 07/08/2022.

The detection goal was not met for the following samples: MW-2017-8D (280-163765-6) and DUP (280-163765-10). The samples were prepped at a reduced volume due to the presence of matrix interferences. Therefore, analytical results are reported with the detection limit achieved.

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-2017-8D (280-163765-6) and DUP (280-163765-10) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. 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.

Detection Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Client Sample ID: MW-2017-8D

Lab Sample ID: 280-163765-6

No Detections.

Client Sample ID: DUP

Lab Sample ID: 280-163765-10

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

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 - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-163765-6	MW-2017-8D	Water	06/22/22 09:45	06/24/22 10:40
280-163765-10	DUP	Water	06/22/22 09:45	06/24/22 10:40

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Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
 SDG: LOS Ponds

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.354	U	0.291	0.293	1.00	0.434	pCi/L	06/29/22 13:19	07/21/22 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.7		40 - 110					06/29/22 13:19	07/21/22 13:21	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.195	U	0.221	0.221	1.00	0.355	pCi/L	06/29/22 13:19	07/21/22 10:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/29/22 13:19	07/21/22 10:54	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.30	U G	1.21	1.22	1.00	1.92	pCi/L	06/29/22 13:43	07/08/22 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.7		40 - 110					06/29/22 13:43	07/08/22 11:33	1
Y Carrier	84.1		40 - 110					06/29/22 13:43	07/08/22 11:33	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.24	U G	1.25	1.25	1.00	2.02	pCi/L	06/29/22 13:43	07/08/22 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/29/22 13:43	07/08/22 11:33	1
Y Carrier	87.5		40 - 110					06/29/22 13:43	07/08/22 11:33	1

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
 SDG: LOS Ponds

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

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.66	U	1.24	1.25	5.00	1.92	pCi/L		07/22/22 09:55	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.44	U	1.27	1.27	5.00	2.02	pCi/L		07/22/22 09:55	1

QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
 SDG: LOS Ponds

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-572228/1-A
Matrix: Water
Analysis Batch: 574789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 572228

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.01413	U	0.0695	0.0695	1.00	0.132	pCi/L	06/29/22 13:19	07/21/22 08:40	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110				06/29/22 13:19		07/21/22 08:40	1

Lab Sample ID: LCS 160-572228/2-A
Matrix: Water
Analysis Batch: 574789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 572228

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.50		1.09	1.00	0.124	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	88.4		40 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-572229/1-A
Matrix: Water
Analysis Batch: 573263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 572229

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.002289	U	0.272	0.272	1.00	0.516	pCi/L	06/29/22 13:43	07/08/22 11:27	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110				06/29/22 13:43		07/08/22 11:27	1
Y Carrier	83.7		40 - 110				06/29/22 13:43		07/08/22 11:27	1

Lab Sample ID: LCS 160-572229/2-A
Matrix: Water
Analysis Batch: 573263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 572229

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.47	10.40		1.36	1.00	0.507	pCi/L	123	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	88.4		40 - 110						
Y Carrier	87.1		40 - 110						

QC Association Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Rad

Prep Batch: 572228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	PrecSep-21	
280-163765-10	DUP	Total/NA	Water	PrecSep-21	
MB 160-572228/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-572228/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 572229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	PrecSep_0	
280-163765-10	DUP	Total/NA	Water	PrecSep_0	
MB 160-572229/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-572229/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
 SDG: LOS Ponds

Client Sample ID: MW-2017-8D

Lab Sample ID: 280-163765-6

Date Collected: 06/22/22 09:45

Matrix: Water

Date Received: 06/24/22 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			249.82 mL	1.0 g	572228	06/29/22 13:19	MS	TAL SL
Total/NA	Analysis	9315		1			574789	07/21/22 13:21	FLC	TAL SL
Total/NA	Prep	PrecSep_0			249.82 mL	1.0 g	572229	06/29/22 13:43	MS	TAL SL
Total/NA	Analysis	9320		1			573267	07/08/22 11:33	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			574941	07/22/22 09:55	SCB	TAL SL

Client Sample ID: DUP

Lab Sample ID: 280-163765-10

Date Collected: 06/22/22 09:45

Matrix: Water

Date Received: 06/24/22 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			244.70 mL	1.0 g	572228	06/29/22 13:19	MS	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	574789	07/21/22 10:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			244.70 mL	1.0 g	572229	06/29/22 13:43	MS	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	573267	07/08/22 11:33	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			574941	07/22/22 09:55	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 - ND Sites - LOS Ponds

Job ID: 280-163765-1
 SDG: LOS Ponds

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	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-22
Iowa	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 (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22 *
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-23
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	06-14-23
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Chain of Custody Record

Client Information		Sampler: <u>A. Knutson</u>		Lab PM: <u>Turner, Shelby R</u>		Carrier Tracking No(s):		COC No:	
Client Contact: <u>Mr. Aaron Knutson</u>		Phone: <u>701-745-7238</u>		E-Mail: <u>Shelby.Turner@ET.EurofinsUS.com</u>		Page: <u>1 of 1</u>		Job #:	
Company: <u>Basin Electric Power Cooperative</u>		Address: <u>3901 Highway 200A</u>		City: <u>Stanton</u>		State, Zip: <u>ND, 58571</u>		Preservation Codes: M - Hexane B - NaOH N - None O - AsNaO2 P - Na2OAS D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Due Date Requested:		TAT Requested (days): <u>Standard</u>		PO #:		WO #:		Project #:	
Email: <u>aknutson@becp.com</u>		Project Name: <u>CCR Groundwater - North Dakota Sites</u>		SSOW#:		Site: <u>LOS Ponds</u>		Special Instructions/Note:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, B=Trace, A=Air)	
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
<u>MW-2017-7</u>		<u>6-21-22</u>		<u>0855</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-6</u>		<u>6-21-22</u>		<u>1050</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-5</u>		<u>6-21-22</u>		<u>1315</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-4</u>		<u>6-21-22</u>		<u>1355</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-8</u>		<u>6-22-22</u>		<u>0850</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-8 D</u>		<u>6-22-22</u>		<u>0945</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-3</u>		<u>6-22-22</u>		<u>1045</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-2</u>		<u>6-22-22</u>		<u>1130</u>		<u>G</u>		<u>W</u>	
<u>MW-2017-1</u>		<u>6-22-22</u>		<u>1320</u>		<u>G</u>		<u>W</u>	
<u>Dup</u>		<u>6-22-22</u>		<u>0945</u>		<u>G</u>		<u>W</u>	
<u>Dup</u>		<u>6-22-22</u>		<u>1330</u>		<u>G</u>		<u>W</u>	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input checked="" type="checkbox"/> Unknown		<input type="checkbox"/> Unknown		<input type="checkbox"/> Archive For	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Months	
Relinquished by: <u>[Signature]</u>		Date/Time: <u>6-22-22</u>		Company:		Received by: <u>[Signature]</u>		Date/Time: <u>3/24/2022</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>2.67 2.5 1.2 (CF TO)</u>		Special Instructions/QC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For		Total Number of Containers: <u>X</u>		Special Instructions/Note: <u>PH-6.93</u> <u>PH-7.38</u> <u>PH-7.03</u> <u>PH-6.86</u> <u>PH-7.13</u> <u>PH-7.71</u> <u>PH-6.80</u> <u>PH-6.84</u> <u>PH-6.65</u> <u>PH-7.71</u> <u>PH-6.65</u>	



ORIGIN ID: BISA (701) 745-3371
LELAND OLDS STATION
BASIN ELECTRIC
3901 HWY 200A

SHIP DATE: 23 JUN 22
ACTWGT: 50.00 LB
CAD: 251286197/MET4490
TestAmeric

STANTON, ND 58571
UNITED STATES US

1931897

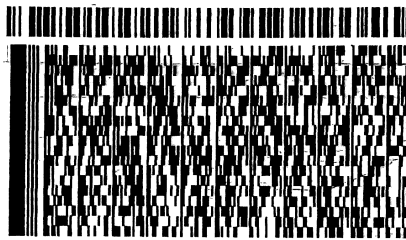
TO SHELBY TURNER
EUROFINS TESTAMERICA, DENVER
4955 YARROW ST

ARVADA CO 80002

(303) 736-0100
INV:
PO:

REF: CCR GROUNDWATER - ND SITE

DEPT:



1 of 2

FRI - 24 JUN 10:30A

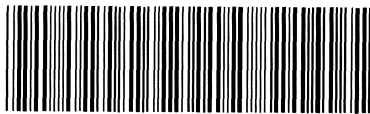
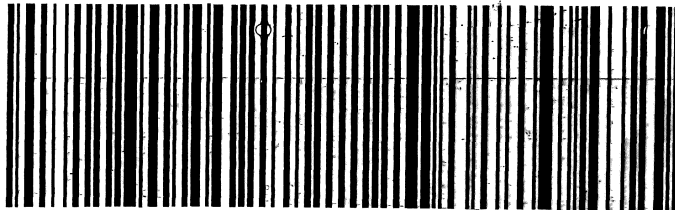
TRK# 7772 0738 8842

PRIORITY OVERNIGHT

MASTER

XA LAAA

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CO-US DEN



280-163765 Waybill

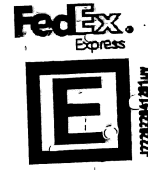
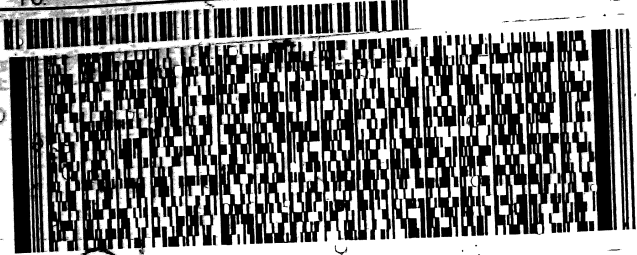
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ORIGIN DATE: 7/03/20
 SIGNATURE: *M. M. M.*
 DATE: 7/3/20
 Custody Seal

SHIP DATE: 23JUN22
 ACTWGT: 42.00 LB
 CAD: 251286197/INET4490

euofins
 Environment Testing
 TestAmerica
 1931896

ARVADA CO 80007
 (303) 738-0100
 NV
 PC
 GCR GROUNDWATER AND SITE
 DEPT:



28

FRI - 24 JUN 10:30A
 PRIORITY OVERNIGHT

MPS# 7772 0738 7846
 0263
 Mstr# 7772 0738 8842

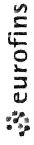
0201

XA LAAA

80002
 CO-US DEN



Chain of Custody Record



Client Information		Sample: <i>A Knutson</i>		Lab PM: <i>Turner, Shelby R</i>		Carrier Tracking No(s):		COC No:	
Client Contact: <i>Mr. Aaron Knutson</i>		Phone: <i>701-745-7238</i>		E-Mail: <i>Shelby.Turner@ET.EurofinsUS.com</i>				Page: <i>(cf)</i>	
Company: <i>Basin Electric Power Cooperative</i>		Address: <i>3901 Highway 200A</i>		City: <i>Stanton</i>		State, Zip: <i>ND, 58571</i>		Job #:	
Phone: <i>701-745-7238(Tel)</i>		E-mail: <i>aknutson@bebc.com</i>		Project #: <i>28021258</i>		SSOW#: <i>LOS POUNDS</i>		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Due Date Requested:		TAT Requested (days): <i>Standard</i>		Field Filtered Sample (Yes or No)		Perform MS/MSD Type or No)		Analysis Requested	
Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Water, Solid, On-site/Off)		Special Instructions/Note:	
Sample Identification		Sample Date		Sample Time		Preservation Code		Special Instructions/Note:	
<i>MW-2017-7</i>		<i>6-21-22</i>		<i>0855</i>		<i>G W</i>		<i>pH - 6.93</i>	
<i>MW-2017-6</i>		<i>6-21-22</i>		<i>1050</i>		<i>G W</i>		<i>pH - 7.38</i>	
<i>MW-2017-5</i>		<i>6-21-22</i>		<i>1315</i>		<i>G W</i>		<i>pH - 7.03</i>	
<i>MW-2017-4</i>		<i>6-21-22</i>		<i>1355</i>		<i>G W</i>		<i>pH - 6.86</i>	
<i>MW-2017-8</i>		<i>6-22-22</i>		<i>0850</i>		<i>G W</i>		<i>pH - 7.13</i>	
<i>MW-2017-3</i>		<i>6-22-22</i>		<i>0945</i>		<i>G W</i>		<i>pH - 7.71</i>	
<i>MW-2017-2</i>		<i>6-22-22</i>		<i>1045</i>		<i>G W</i>		<i>pH - 6.50</i>	
<i>MW-2017-1</i>		<i>6-22-22</i>		<i>1130</i>		<i>G W</i>		<i>pH - 6.84</i>	
<i>Dup</i>		<i>6-22-22</i>		<i>0945</i>		<i>G W</i>		<i>pH - 6.65</i>	
<i>Dup</i>		<i>6-22-22</i>		<i>1320</i>		<i>G W</i>		<i>pH - 7.71</i>	
<i>Dup</i>		<i>6-22-22</i>		<i>1320</i>		<i>G W</i>		<i>pH - 6.45</i>	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological									
Deliverable Requested: <input type="checkbox"/> I, II, III, IV, Other (specify)									
Empty Kit Relinquished by:									
Relinquished by: <i>[Signature]</i> Date: <i>6-22-22</i>									
Relinquished by: <i>[Signature]</i> Date: <i>6-22-22</i>									
Relinquished by: <i>[Signature]</i> Date: <i>6-22-22</i>									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No									
Custody Seal No.: <i>28021258</i>									
Special Instructions/QC Requirements:									
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Received by: <i>[Signature]</i> Date/Time: <i>6/24/22 10:10</i> Company: <i>STADA</i>									
Received by: <i>[Signature]</i> Date/Time: _____ Company: _____									
Received by: <i>[Signature]</i> Date/Time: _____ Company: _____									
Cooler Temperature(s) °C and Other Remarks: <i>28021258</i>									



Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Job Number: 280-163765-1

SDG Number: LOS Ponds

Login Number: 163765

List Number: 1

Creator: Roehsner, Karen P

List Source: Eurofins Denver

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

Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Job Number: 280-163765-1

SDG Number: LOS Ponds

Login Number: 163765

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 06/28/22 09:59 AM

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



Tracer/Carrier Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-1
SDG: LOS Ponds

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)							
280-163765-6	MW-2017-8D	96.7							
280-163765-10	DUP	101							
LCS 160-572228/2-A	Lab Control Sample	88.4							
MB 160-572228/1-A	Method Blank	83.8							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
280-163765-6	MW-2017-8D	96.7	84.1						
280-163765-10	DUP	101	87.5						
LCS 160-572229/2-A	Lab Control Sample	88.4	87.1						
MB 160-572229/1-A	Method Blank	83.8	83.7						

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

ANALYTICAL REPORT

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

Laboratory Job ID: 280-163765-2

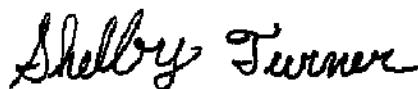
Laboratory Sample Delivery Group: LOS Ponds

Client Project/Site: CCR Groundwater - ND Sites - LOS Ponds

For:

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

Attn: Aaron Knutson



Authorized for release by:

7/14/2022 3:21:54 PM

Shelby Turner, Project Manager I
(303)736-0100

Shelby.Turner@et.eurofinsus.com

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results through



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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	9
Sample Summary	10
Client Sample Results	11
QC Sample Results	16
QC Association	23
Chronicle	27
Certification Summary	31
Chain of Custody	32
Receipt Checklists	36

Definitions/Glossary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Qualifiers

Metals

Qualifier	Qualifier Description
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

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

Case Narrative

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Job ID: 280-163765-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Basin Electric Power Cooperative

Project: CCR Groundwater - ND Sites - LOS Ponds

Report Number: 280-163765-2

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 6/24/2022 10:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.7° C and 2.9° C.

TOTAL RECOVERABLE METALS

Samples MW-2017-7 (280-163765-1), MW-2017-6 (280-163765-2), MW-2017-5 (280-163765-3), MW-2017-4 (280-163765-4), MW-2017-8 (280-163765-5), MW-2017-8D (280-163765-6), MW-2017-3 (280-163765-7), MW-2017-2 (280-163765-8), MW-2017-1 (280-163765-9), DUP (280-163765-10) and DUP (280-163765-11) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 07/05/2022 and 07/07/2022 and analyzed on 07/05/2022, 07/08/2022 and 07/12/2022.

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

TOTAL METALS (ICPMS)

Samples MW-2017-8D (280-163765-6) and DUP (280-163765-10) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 6020A. The samples were prepared on 07/07/2022 and analyzed on 07/07/2022 and 07/08/2022.

The interference check standard solution (ICSA) associated with batch 280-580427 had results for one or more elements at a level greater than 2x the RL. The ICSA result (3.124 ppb) was > 2x the 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.

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

TOTAL MERCURY

Samples MW-2017-8D (280-163765-6) and DUP (280-163765-10) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 06/29/2022 and analyzed on 06/30/2022.

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

TOTAL DISSOLVED SOLIDS

Samples MW-2017-7 (280-163765-1), MW-2017-6 (280-163765-2), MW-2017-5 (280-163765-3), MW-2017-4 (280-163765-4), MW-2017-8 (280-163765-5), MW-2017-8D (280-163765-6), MW-2017-3 (280-163765-7), MW-2017-2 (280-163765-8), MW-2017-1 (280-163765-9), DUP (280-163765-10) and DUP (280-163765-11) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples

Case Narrative

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Job ID: 280-163765-2 (Continued)

Laboratory: Eurofins Denver (Continued)

were analyzed on 06/27/2022 and 06/28/2022.

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

ANIONS (28 DAYS)

Samples MW-2017-7 (280-163765-1), MW-2017-6 (280-163765-2), MW-2017-5 (280-163765-3), MW-2017-4 (280-163765-4), MW-2017-8 (280-163765-5), MW-2017-8D (280-163765-6), MW-2017-3 (280-163765-7), MW-2017-2 (280-163765-8), MW-2017-1 (280-163765-9), DUP (280-163765-10) and DUP (280-163765-11) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 06/27/2022, 06/29/2022 and 06/30/2022.

Fluoride failed the recovery criteria high for the MS and MSD of sample MW-2017-4 (280-163765-4) in batch 280-579579. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Refer to the QC report for details.

Due to the high concentration of chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 280-579579 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Samples MW-2017-7 (280-163765-1)[5X], MW-2017-6 (280-163765-2)[5X], MW-2017-5 (280-163765-3)[5X], MW-2017-4 (280-163765-4)[5X], MW-2017-8 (280-163765-5)[10X], MW-2017-8D (280-163765-6)[5X], MW-2017-3 (280-163765-7)[5X], MW-2017-2 (280-163765-8)[5X], MW-2017-1 (280-163765-9)[5X], DUP (280-163765-10)[5X] and DUP (280-163765-11)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: MW-2017-7

Lab Sample ID: 280-163765-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1940		100		ug/L	1		6010C	Total Recoverable
Calcium	61900		200		ug/L	1		6010C	Total Recoverable
Chloride	10.7		3.00		mg/L	1		9056A	Total/NA
Fluoride	2.27		0.500		mg/L	1		9056A	Total/NA
Sulfate	328		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	728		10.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-6

Lab Sample ID: 280-163765-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1760		100		ug/L	1		6010C	Total Recoverable
Calcium	64300		200		ug/L	1		6010C	Total Recoverable
Chloride	10.3		3.00		mg/L	1		9056A	Total/NA
Fluoride	0.565		0.500		mg/L	1		9056A	Total/NA
Sulfate	194		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	594		10.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-5

Lab Sample ID: 280-163765-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	838		100		ug/L	1		6010C	Total Recoverable
Calcium	85600		200		ug/L	1		6010C	Total Recoverable
Chloride	10.8		3.00		mg/L	1		9056A	Total/NA
Fluoride	0.878		0.500		mg/L	1		9056A	Total/NA
Sulfate	303		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	628		10.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-4

Lab Sample ID: 280-163765-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1250		100		ug/L	1		6010C	Total Recoverable
Calcium	128000		200		ug/L	1		6010C	Total Recoverable
Chloride	10.2		3.00		mg/L	1		9056A	Total/NA
Fluoride	0.768	F1	0.500		mg/L	1		9056A	Total/NA
Sulfate	334		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	804		10.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-8

Lab Sample ID: 280-163765-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	514		100		ug/L	1		6010C	Total Recoverable
Calcium	133000		200		ug/L	1		6010C	Total Recoverable
Chloride	25.7		3.00		mg/L	1		9056A	Total/NA
Sulfate	1920		50.0		mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	3240		40.0		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Client Sample ID: MW-2017-8D

Lab Sample ID: 280-163765-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	775		100		ug/L	1		6010C	Total Recoverable
Calcium	8710		200		ug/L	1		6010C	Total Recoverable
Lithium	71.0		20.0		ug/L	1		6010C	Total Recoverable
Barium	54.5	^6+	1.00		ug/L	1		6020A	Total/NA
Chromium	2.94		2.00		ug/L	1		6020A	Total/NA
Chloride	15.0		3.00		mg/L	1		9056A	Total/NA
Fluoride	0.504		0.500		mg/L	1		9056A	Total/NA
Sulfate	396		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1860		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-3

Lab Sample ID: 280-163765-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1610		100		ug/L	1		6010C	Total Recoverable
Calcium	105000		200		ug/L	1		6010C	Total Recoverable
Chloride	9.90		3.00		mg/L	1		9056A	Total/NA
Sulfate	188		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	838		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-2

Lab Sample ID: 280-163765-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1470		100		ug/L	1		6010C	Total Recoverable
Calcium	90200		200		ug/L	1		6010C	Total Recoverable
Chloride	10.6		3.00		mg/L	1		9056A	Total/NA
Sulfate	305		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	755		10.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-2017-1

Lab Sample ID: 280-163765-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	659		100		ug/L	1		6010C	Total Recoverable
Calcium	160000		200		ug/L	1		6010C	Total Recoverable
Chloride	9.70		3.00		mg/L	1		9056A	Total/NA
Sulfate	219		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	906		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP

Lab Sample ID: 280-163765-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	767		100		ug/L	1		6010C	Total Recoverable
Calcium	8700		200		ug/L	1		6010C	Total Recoverable
Lithium	61.7		20.0		ug/L	1		6010C	Total Recoverable
Barium	57.2	^6+	1.00		ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: DUP (Continued)

Lab Sample ID: 280-163765-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2.24		2.00		ug/L	1		6020A	Total/NA
Chloride	15.0		3.00		mg/L	1		9056A	Total/NA
Fluoride	0.502		0.500		mg/L	1		9056A	Total/NA
Sulfate	406		25.0		mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1910		20.0		mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP

Lab Sample ID: 280-163765-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	665		100		ug/L	1		6010C	Total Recoverable
Calcium	161000		200		ug/L	1		6010C	Total Recoverable
Chloride	9.77		3.00		mg/L	1		9056A	Total/NA
Sulfate	234		10.0		mg/L	2		9056A	Total/NA
Total Dissolved Solids (TDS)	882		20.0		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

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

Sample Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-163765-1	MW-2017-7	Water	06/21/22 08:55	06/24/22 10:40
280-163765-2	MW-2017-6	Water	06/21/22 10:50	06/24/22 10:40
280-163765-3	MW-2017-5	Water	06/21/22 13:15	06/24/22 10:40
280-163765-4	MW-2017-4	Water	06/21/22 13:55	06/24/22 10:40
280-163765-5	MW-2017-8	Water	06/22/22 08:50	06/24/22 10:40
280-163765-6	MW-2017-8D	Water	06/22/22 09:45	06/24/22 10:40
280-163765-7	MW-2017-3	Water	06/22/22 10:45	06/24/22 10:40
280-163765-8	MW-2017-2	Water	06/22/22 11:30	06/24/22 10:40
280-163765-9	MW-2017-1	Water	06/22/22 13:20	06/24/22 10:40
280-163765-10	DUP	Water	06/22/22 09:45	06/24/22 10:40
280-163765-11	DUP	Water	06/22/22 13:20	06/24/22 10:40

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Client Sample ID: MW-2017-7
Date Collected: 06/21/22 08:55
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1940		100		ug/L		07/05/22 08:42	07/05/22 21:11	1
Calcium	61900		200		ug/L		07/05/22 08:42	07/05/22 21:11	1

Client Sample ID: MW-2017-6
Date Collected: 06/21/22 10:50
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1760		100		ug/L		07/05/22 08:42	07/05/22 21:15	1
Calcium	64300		200		ug/L		07/05/22 08:42	07/05/22 21:15	1

Client Sample ID: MW-2017-5
Date Collected: 06/21/22 13:15
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	838		100		ug/L		07/05/22 08:42	07/05/22 21:19	1
Calcium	85600		200		ug/L		07/05/22 08:42	07/05/22 21:19	1

Client Sample ID: MW-2017-4
Date Collected: 06/21/22 13:55
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1250		100		ug/L		07/05/22 08:42	07/05/22 21:23	1
Calcium	128000		200		ug/L		07/05/22 08:42	07/05/22 21:23	1

Client Sample ID: MW-2017-8
Date Collected: 06/22/22 08:50
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	514		100		ug/L		07/05/22 08:42	07/05/22 21:27	1
Calcium	133000		200		ug/L		07/05/22 08:42	07/05/22 21:27	1

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	775		100		ug/L		07/07/22 16:21	07/08/22 22:01	1
Calcium	8710		200		ug/L		07/07/22 16:21	07/08/22 22:01	1
Lithium	71.0		20.0		ug/L		07/07/22 16:21	07/08/22 22:01	1

Client Sample ID: MW-2017-3
Date Collected: 06/22/22 10:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1610		100		ug/L		07/07/22 16:21	07/08/22 22:05	1
Calcium	105000		200		ug/L		07/07/22 16:21	07/08/22 22:05	1

Client Sample ID: MW-2017-2
Date Collected: 06/22/22 11:30
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1470		100		ug/L		07/07/22 16:21	07/08/22 22:09	1

Eurofins Denver

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Client Sample ID: MW-2017-2
Date Collected: 06/22/22 11:30
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90200		200		ug/L		07/07/22 16:21	07/08/22 22:09	1

Client Sample ID: MW-2017-1
Date Collected: 06/22/22 13:20
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	659		100		ug/L		07/07/22 16:21	07/08/22 22:29	1
Calcium	160000		200		ug/L		07/07/22 16:21	07/08/22 22:29	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	767		100		ug/L		07/07/22 16:21	07/08/22 22:33	1
Calcium	8700		200		ug/L		07/07/22 16:21	07/08/22 22:33	1
Lithium	61.7		20.0		ug/L		07/07/22 16:21	07/12/22 14:25	1

Client Sample ID: DUP
Date Collected: 06/22/22 13:20
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	665		100		ug/L		07/07/22 16:21	07/08/22 22:37	1
Calcium	161000		200		ug/L		07/07/22 16:21	07/08/22 22:37	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Arsenic	ND		5.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Barium	54.5	^6+	1.00		ug/L		07/07/22 09:24	07/08/22 19:27	1
Beryllium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Cadmium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Chromium	2.94		2.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Cobalt	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Lead	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Molybdenum	ND		2.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Selenium	ND		5.00		ug/L		07/07/22 09:24	07/07/22 22:10	1
Thallium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:10	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Arsenic	ND		5.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Barium	57.2	^6+	1.00		ug/L		07/07/22 09:24	07/08/22 19:31	1
Beryllium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Cadmium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:14	1

Eurofins Denver

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	2.24		2.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Cobalt	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Lead	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Molybdenum	ND		2.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Selenium	ND		5.00		ug/L		07/07/22 09:24	07/07/22 22:14	1
Thallium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 22:14	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/22 23:20	06/30/22 19:30	1

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/22 23:20	06/30/22 19:33	1

General Chemistry

Client Sample ID: MW-2017-7
Date Collected: 06/21/22 08:55
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.7		3.00		mg/L			06/27/22 13:16	1
Fluoride	2.27		0.500		mg/L			06/30/22 15:56	1
Sulfate	328		25.0		mg/L			06/27/22 13:32	5
Total Dissolved Solids (TDS)	728		10.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-6
Date Collected: 06/21/22 10:50
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.3		3.00		mg/L			06/27/22 13:48	1
Fluoride	0.565		0.500		mg/L			06/30/22 16:12	1
Sulfate	194		25.0		mg/L			06/27/22 14:03	5
Total Dissolved Solids (TDS)	594		10.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-5
Date Collected: 06/21/22 13:15
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.8		3.00		mg/L			06/27/22 14:19	1
Fluoride	0.878		0.500		mg/L			06/30/22 16:28	1
Sulfate	303		25.0		mg/L			06/27/22 14:35	5
Total Dissolved Solids (TDS)	628		10.0		mg/L			06/27/22 10:33	1

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

General Chemistry

Client Sample ID: MW-2017-4
Date Collected: 06/21/22 13:55
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.2		3.00		mg/L			06/27/22 14:51	1
Fluoride	0.768	F1	0.500		mg/L			06/30/22 16:44	1
Sulfate	334		25.0		mg/L			06/27/22 15:07	5
Total Dissolved Solids (TDS)	804		10.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-8
Date Collected: 06/22/22 08:50
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.7		3.00		mg/L			06/27/22 15:23	1
Fluoride	ND		0.500		mg/L			06/30/22 17:48	1
Sulfate	1920		50.0		mg/L			06/27/22 15:39	10
Total Dissolved Solids (TDS)	3240		40.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-8D
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.0		3.00		mg/L			06/27/22 16:27	1
Fluoride	0.504		0.500		mg/L			06/30/22 18:04	1
Sulfate	396		25.0		mg/L			06/27/22 16:43	5
Total Dissolved Solids (TDS)	1860		20.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-3
Date Collected: 06/22/22 10:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.90		3.00		mg/L			06/27/22 16:59	1
Fluoride	ND		0.500		mg/L			06/30/22 18:20	1
Sulfate	188		25.0		mg/L			06/27/22 17:15	5
Total Dissolved Solids (TDS)	838		20.0		mg/L			06/27/22 10:33	1

Client Sample ID: MW-2017-2
Date Collected: 06/22/22 11:30
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.6		3.00		mg/L			06/27/22 17:32	1
Fluoride	ND		0.500		mg/L			06/30/22 19:08	1
Sulfate	305		25.0		mg/L			06/29/22 04:30	5
Total Dissolved Solids (TDS)	755		10.0		mg/L			06/28/22 11:07	1

Client Sample ID: MW-2017-1
Date Collected: 06/22/22 13:20
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.70		3.00		mg/L			06/27/22 18:36	1
Fluoride	ND		0.500		mg/L			06/30/22 19:24	1
Sulfate	219		25.0		mg/L			06/30/22 19:40	5
Total Dissolved Solids (TDS)	906		20.0		mg/L			06/28/22 11:07	1

Client Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

General Chemistry

Client Sample ID: DUP
Date Collected: 06/22/22 09:45
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.0		3.00		mg/L			06/27/22 18:52	1
Fluoride	0.502		0.500		mg/L			06/30/22 19:56	1
Sulfate	406		25.0		mg/L			06/29/22 03:58	5
Total Dissolved Solids (TDS)	1910		20.0		mg/L			06/28/22 11:07	1

Client Sample ID: DUP
Date Collected: 06/22/22 13:20
Date Received: 06/24/22 10:40

Lab Sample ID: 280-163765-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.77		3.00		mg/L			06/27/22 19:40	1
Fluoride	ND		0.500		mg/L			06/30/22 20:12	1
Sulfate	234		10.0		mg/L			06/29/22 03:42	2
Total Dissolved Solids (TDS)	882		20.0		mg/L			06/28/22 11:07	1

QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-579736/1-A
Matrix: Water
Analysis Batch: 580026

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 579736

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100		ug/L		07/05/22 08:42	07/05/22 19:54	1
Calcium	ND		200		ug/L		07/05/22 08:42	07/05/22 19:54	1

Lab Sample ID: LCS 280-579736/2-A
Matrix: Water
Analysis Batch: 580026

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 579736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2000	2112		ug/L		106	86 - 110
Calcium	50000	52450		ug/L		105	90 - 111

Lab Sample ID: MB 280-580071/1-A
Matrix: Water
Analysis Batch: 580398

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 580071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100		ug/L		07/07/22 16:21	07/08/22 20:04	1
Calcium	ND		200		ug/L		07/07/22 16:21	07/08/22 20:04	1
Lithium	ND		20.0		ug/L		07/07/22 16:21	07/08/22 20:04	1

Lab Sample ID: LCS 280-580071/2-A
Matrix: Water
Analysis Batch: 580398

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 580071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2000	2019		ug/L		101	86 - 110
Calcium	50000	50630		ug/L		101	90 - 111
Lithium	1000	985.4		ug/L		99	90 - 112

Lab Sample ID: LCSD 280-580071/3-A
Matrix: Water
Analysis Batch: 580398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 580071

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	2000	2008		ug/L		100	86 - 110	1	20
Calcium	50000	50360		ug/L		101	90 - 111	1	20
Lithium	1000	979.0		ug/L		98	90 - 112	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-580058/1-A
Matrix: Water
Analysis Batch: 580296

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 580058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Arsenic	ND		5.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Beryllium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Cadmium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Chromium	ND		2.00		ug/L		07/07/22 09:24	07/07/22 21:03	1

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QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: MB 280-580058/1-A
Matrix: Water
Analysis Batch: 580296

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 580058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		1.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Lead	ND		1.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Molybdenum	ND		2.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Selenium	ND		5.00		ug/L		07/07/22 09:24	07/07/22 21:03	1
Thallium	ND		1.00		ug/L		07/07/22 09:24	07/07/22 21:03	1

Lab Sample ID: MB 280-580058/1-A
Matrix: Water
Analysis Batch: 580427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 580058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	^6+	1.00		ug/L		07/07/22 09:24	07/08/22 18:38	1

Lab Sample ID: LCS 280-580058/2-A
Matrix: Water
Analysis Batch: 580296

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 580058

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	40.0	39.91		ug/L		100	85 - 115
Arsenic	40.0	38.42		ug/L		96	85 - 117
Beryllium	40.0	37.00		ug/L		92	80 - 125
Cadmium	40.0	37.98		ug/L		95	85 - 115
Chromium	40.0	39.56		ug/L		99	84 - 121
Cobalt	40.0	38.85		ug/L		97	85 - 120
Lead	40.0	39.28		ug/L		98	85 - 118
Molybdenum	40.0	40.02		ug/L		100	85 - 119
Selenium	40.0	37.64		ug/L		94	77 - 122
Thallium	40.0	39.01		ug/L		98	85 - 118

Lab Sample ID: LCS 280-580058/2-A
Matrix: Water
Analysis Batch: 580427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 580058

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	40.0	39.02	^6+	ug/L		98	85 - 118

Lab Sample ID: LCSD 280-580058/3-A
Matrix: Water
Analysis Batch: 580296

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 580058

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	40.0	35.95		ug/L		90	85 - 115	10	20
Arsenic	40.0	34.16		ug/L		85	85 - 117	12	20
Beryllium	40.0	34.81		ug/L		87	80 - 125	6	20
Cadmium	40.0	34.01		ug/L		85	85 - 115	11	20
Chromium	40.0	34.78		ug/L		87	84 - 121	13	20
Cobalt	40.0	35.16		ug/L		88	85 - 120	10	20
Lead	40.0	35.50		ug/L		89	85 - 118	10	20
Molybdenum	40.0	35.30		ug/L		88	85 - 119	13	20
Selenium	40.0	33.56		ug/L		84	77 - 122	11	20

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QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: LCSD 280-580058/3-A
 Matrix: Water
 Analysis Batch: 580296

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 580058

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	40.0	34.98		ug/L		87	85 - 118	11	20

Lab Sample ID: LCSD 280-580058/3-A
 Matrix: Water
 Analysis Batch: 580427

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 580058

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	40.0	36.90	^6+	ug/L		92	85 - 118	6	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-579525/1-A
 Matrix: Water
 Analysis Batch: 579678

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 579525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/22 23:20	06/30/22 18:24	1

Lab Sample ID: LCS 280-579525/2-A
 Matrix: Water
 Analysis Batch: 579678

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 579525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.004895		mg/L		98	84 - 120

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-579168/6
 Matrix: Water
 Analysis Batch: 579168

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/27/22 10:41	1
Sulfate	ND		5.00		mg/L			06/27/22 10:41	1

Lab Sample ID: LCS 280-579168/4
 Matrix: Water
 Analysis Batch: 579168

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	100.7		mg/L		101	90 - 110
Sulfate	100	99.95		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-579168/5
 Matrix: Water
 Analysis Batch: 579168

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	100.9		mg/L		101	90 - 110	0	10
Sulfate	100	100.2		mg/L		100	90 - 110	0	10

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QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: MRL 280-579168/3
Matrix: Water
Analysis Batch: 579168

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.587		mg/L		92	50 - 150
Sulfate	5.00	ND		mg/L		90	50 - 150

Lab Sample ID: 280-163765-8 MS
Matrix: Water
Analysis Batch: 579168

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.6		50.0	63.40		mg/L		106	80 - 120

Lab Sample ID: 280-163765-8 MSD
Matrix: Water
Analysis Batch: 579168

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.6		50.0	63.73		mg/L		106	80 - 120	1	20

Lab Sample ID: 280-163765-8 DU
Matrix: Water
Analysis Batch: 579168

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	10.6		10.53		mg/L		0.3	15

Lab Sample ID: MB 280-579295/90
Matrix: Water
Analysis Batch: 579295

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.00		mg/L			06/29/22 03:26	1

Lab Sample ID: LCS 280-579295/88
Matrix: Water
Analysis Batch: 579295

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	100	101.0		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-579295/89
Matrix: Water
Analysis Batch: 579295

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	100	101.2		mg/L		101	90 - 110	0	10

QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: MRL 280-579295/3
Matrix: Water
Analysis Batch: 579295

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	5.00	ND		mg/L		86	50 - 150

Lab Sample ID: 280-163765-8 MS
Matrix: Water
Analysis Batch: 579295

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	305		250	596.0		mg/L		117	80 - 120

Lab Sample ID: 280-163765-8 MSD
Matrix: Water
Analysis Batch: 579295

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	305		250	560.3		mg/L		102	80 - 120	6	20

Lab Sample ID: 280-163765-8 DU
Matrix: Water
Analysis Batch: 579295

Client Sample ID: MW-2017-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	305		298.9		mg/L		2	15

Lab Sample ID: MB 280-579579/6
Matrix: Water
Analysis Batch: 579579

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			06/30/22 11:02	1
Sulfate	ND		5.00		mg/L			06/30/22 11:02	1

Lab Sample ID: LCS 280-579579/4
Matrix: Water
Analysis Batch: 579579

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	5.00	4.778		mg/L		96	90 - 110
Sulfate	100	100.9		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-579579/5
Matrix: Water
Analysis Batch: 579579

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	5.00	4.754		mg/L		95	90 - 110	1	10
Sulfate	100	100.5		mg/L		100	90 - 110	0	10

QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: MRL 280-579579/3
Matrix: Water
Analysis Batch: 579579

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.500	ND		mg/L		92	50 - 150
Sulfate	5.00	ND		mg/L		88	50 - 150

Lab Sample ID: 280-163765-4 MS
Matrix: Water
Analysis Batch: 579579

Client Sample ID: MW-2017-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.768	F1	5.00	7.759	F1	mg/L		140	80 - 120

Lab Sample ID: 280-163765-4 MSD
Matrix: Water
Analysis Batch: 579579

Client Sample ID: MW-2017-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.768	F1	5.00	7.940	F1	mg/L		143	80 - 120	2	20

Lab Sample ID: 280-163765-4 DU
Matrix: Water
Analysis Batch: 579579

Client Sample ID: MW-2017-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.768	F1	0.7658		mg/L		0.2	15

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

Lab Sample ID: MB 280-579186/1
Matrix: Water
Analysis Batch: 579186

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10.0		mg/L			06/27/22 10:33	1

Lab Sample ID: LCS 280-579186/2
Matrix: Water
Analysis Batch: 579186

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids (TDS)	503	477.0		mg/L		95	88 - 114

Lab Sample ID: 280-163765-4 DU
Matrix: Water
Analysis Batch: 579186

Client Sample ID: MW-2017-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	804		816.0		mg/L		1	10

QC Sample Results

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

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

Lab Sample ID: MB 280-579320/1
Matrix: Water
Analysis Batch: 579320

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10.0		mg/L			06/28/22 11:07	1

Lab Sample ID: LCS 280-579320/2
Matrix: Water
Analysis Batch: 579320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids (TDS)	502	474.0		mg/L		94	88 - 114

Lab Sample ID: LCSD 280-579320/3
Matrix: Water
Analysis Batch: 579320

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	502	472.0		mg/L		94	88 - 114	0	20

QC Association Summary

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Metals

Prep Batch: 579525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	7470A	
280-163765-10	DUP	Total/NA	Water	7470A	
MB 280-579525/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-579525/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 579678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	7470A	579525
280-163765-10	DUP	Total/NA	Water	7470A	579525
MB 280-579525/1-A	Method Blank	Total/NA	Water	7470A	579525
LCS 280-579525/2-A	Lab Control Sample	Total/NA	Water	7470A	579525

Prep Batch: 579736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-1	MW-2017-7	Total Recoverable	Water	3005A	
280-163765-2	MW-2017-6	Total Recoverable	Water	3005A	
280-163765-3	MW-2017-5	Total Recoverable	Water	3005A	
280-163765-4	MW-2017-4	Total Recoverable	Water	3005A	
280-163765-5	MW-2017-8	Total Recoverable	Water	3005A	
MB 280-579736/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-579736/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 580026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-1	MW-2017-7	Total Recoverable	Water	6010C	579736
280-163765-2	MW-2017-6	Total Recoverable	Water	6010C	579736
280-163765-3	MW-2017-5	Total Recoverable	Water	6010C	579736
280-163765-4	MW-2017-4	Total Recoverable	Water	6010C	579736
280-163765-5	MW-2017-8	Total Recoverable	Water	6010C	579736
MB 280-579736/1-A	Method Blank	Total Recoverable	Water	6010C	579736
LCS 280-579736/2-A	Lab Control Sample	Total Recoverable	Water	6010C	579736

Prep Batch: 580058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	3020A	
280-163765-10	DUP	Total/NA	Water	3020A	
MB 280-580058/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-580058/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-580058/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	

Prep Batch: 580071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total Recoverable	Water	3005A	
280-163765-7	MW-2017-3	Total Recoverable	Water	3005A	
280-163765-8	MW-2017-2	Total Recoverable	Water	3005A	
280-163765-9	MW-2017-1	Total Recoverable	Water	3005A	
280-163765-10	DUP	Total Recoverable	Water	3005A	
280-163765-11	DUP	Total Recoverable	Water	3005A	
MB 280-580071/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-580071/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 280-580071/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

QC Association Summary

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Metals

Analysis Batch: 580296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	6020A	580058
280-163765-10	DUP	Total/NA	Water	6020A	580058
MB 280-580058/1-A	Method Blank	Total/NA	Water	6020A	580058
LCS 280-580058/2-A	Lab Control Sample	Total/NA	Water	6020A	580058
LCSD 280-580058/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	580058

Analysis Batch: 580398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total Recoverable	Water	6010C	580071
280-163765-7	MW-2017-3	Total Recoverable	Water	6010C	580071
280-163765-8	MW-2017-2	Total Recoverable	Water	6010C	580071
280-163765-9	MW-2017-1	Total Recoverable	Water	6010C	580071
280-163765-10	DUP	Total Recoverable	Water	6010C	580071
280-163765-11	DUP	Total Recoverable	Water	6010C	580071
MB 280-580071/1-A	Method Blank	Total Recoverable	Water	6010C	580071
LCS 280-580071/2-A	Lab Control Sample	Total Recoverable	Water	6010C	580071
LCSD 280-580071/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	580071

Analysis Batch: 580427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-6	MW-2017-8D	Total/NA	Water	6020A	580058
280-163765-10	DUP	Total/NA	Water	6020A	580058
MB 280-580058/1-A	Method Blank	Total/NA	Water	6020A	580058
LCS 280-580058/2-A	Lab Control Sample	Total/NA	Water	6020A	580058
LCSD 280-580058/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	580058

Analysis Batch: 580651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-10	DUP	Total Recoverable	Water	6010C	580071

General Chemistry

Analysis Batch: 579168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-1	MW-2017-7	Total/NA	Water	9056A	
280-163765-1	MW-2017-7	Total/NA	Water	9056A	
280-163765-2	MW-2017-6	Total/NA	Water	9056A	
280-163765-2	MW-2017-6	Total/NA	Water	9056A	
280-163765-3	MW-2017-5	Total/NA	Water	9056A	
280-163765-3	MW-2017-5	Total/NA	Water	9056A	
280-163765-4	MW-2017-4	Total/NA	Water	9056A	
280-163765-4	MW-2017-4	Total/NA	Water	9056A	
280-163765-5	MW-2017-8	Total/NA	Water	9056A	
280-163765-5	MW-2017-8	Total/NA	Water	9056A	
280-163765-6	MW-2017-8D	Total/NA	Water	9056A	
280-163765-6	MW-2017-8D	Total/NA	Water	9056A	
280-163765-7	MW-2017-3	Total/NA	Water	9056A	
280-163765-7	MW-2017-3	Total/NA	Water	9056A	
280-163765-8	MW-2017-2	Total/NA	Water	9056A	
280-163765-9	MW-2017-1	Total/NA	Water	9056A	
280-163765-10	DUP	Total/NA	Water	9056A	

QC Association Summary

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

General Chemistry (Continued)

Analysis Batch: 579168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-11	DUP	Total/NA	Water	9056A	
MB 280-579168/6	Method Blank	Total/NA	Water	9056A	
LCS 280-579168/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-579168/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-579168/3	Lab Control Sample	Total/NA	Water	9056A	
280-163765-8 MS	MW-2017-2	Total/NA	Water	9056A	
280-163765-8 MSD	MW-2017-2	Total/NA	Water	9056A	
280-163765-8 DU	MW-2017-2	Total/NA	Water	9056A	

Analysis Batch: 579186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-1	MW-2017-7	Total/NA	Water	SM 2540C	
280-163765-2	MW-2017-6	Total/NA	Water	SM 2540C	
280-163765-3	MW-2017-5	Total/NA	Water	SM 2540C	
280-163765-4	MW-2017-4	Total/NA	Water	SM 2540C	
280-163765-5	MW-2017-8	Total/NA	Water	SM 2540C	
280-163765-6	MW-2017-8D	Total/NA	Water	SM 2540C	
280-163765-7	MW-2017-3	Total/NA	Water	SM 2540C	
MB 280-579186/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-579186/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-163765-4 DU	MW-2017-4	Total/NA	Water	SM 2540C	

Analysis Batch: 579295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-8	MW-2017-2	Total/NA	Water	9056A	
280-163765-10	DUP	Total/NA	Water	9056A	
280-163765-11	DUP	Total/NA	Water	9056A	
MB 280-579295/90	Method Blank	Total/NA	Water	9056A	
LCS 280-579295/88	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-579295/89	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-579295/3	Lab Control Sample	Total/NA	Water	9056A	
280-163765-8 MS	MW-2017-2	Total/NA	Water	9056A	
280-163765-8 MSD	MW-2017-2	Total/NA	Water	9056A	
280-163765-8 DU	MW-2017-2	Total/NA	Water	9056A	

Analysis Batch: 579320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-8	MW-2017-2	Total/NA	Water	SM 2540C	
280-163765-9	MW-2017-1	Total/NA	Water	SM 2540C	
280-163765-10	DUP	Total/NA	Water	SM 2540C	
280-163765-11	DUP	Total/NA	Water	SM 2540C	
MB 280-579320/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-579320/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-579320/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 579579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-1	MW-2017-7	Total/NA	Water	9056A	
280-163765-2	MW-2017-6	Total/NA	Water	9056A	
280-163765-3	MW-2017-5	Total/NA	Water	9056A	
280-163765-4	MW-2017-4	Total/NA	Water	9056A	

QC Association Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

General Chemistry (Continued)

Analysis Batch: 579579 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-163765-5	MW-2017-8	Total/NA	Water	9056A	
280-163765-6	MW-2017-8D	Total/NA	Water	9056A	
280-163765-7	MW-2017-3	Total/NA	Water	9056A	
280-163765-8	MW-2017-2	Total/NA	Water	9056A	
280-163765-9	MW-2017-1	Total/NA	Water	9056A	
280-163765-9	MW-2017-1	Total/NA	Water	9056A	
280-163765-10	DUP	Total/NA	Water	9056A	
280-163765-11	DUP	Total/NA	Water	9056A	
MB 280-579579/6	Method Blank	Total/NA	Water	9056A	
LCS 280-579579/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-579579/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-579579/3	Lab Control Sample	Total/NA	Water	9056A	
280-163765-4 MS	MW-2017-4	Total/NA	Water	9056A	
280-163765-4 MSD	MW-2017-4	Total/NA	Water	9056A	
280-163765-4 DU	MW-2017-4	Total/NA	Water	9056A	

Lab Chronicle

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: MW-2017-7

Lab Sample ID: 280-163765-1

Date Collected: 06/21/22 08:55

Matrix: Water

Date Received: 06/24/22 10:40

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	579736	07/05/22 08:42	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580026	07/05/22 21:11	LMT	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 13:16	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 13:32	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 15:56	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-6

Lab Sample ID: 280-163765-2

Date Collected: 06/21/22 10:50

Matrix: Water

Date Received: 06/24/22 10:40

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	579736	07/05/22 08:42	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580026	07/05/22 21:15	LMT	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 13:48	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 14:03	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 16:12	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-5

Lab Sample ID: 280-163765-3

Date Collected: 06/21/22 13:15

Matrix: Water

Date Received: 06/24/22 10:40

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	579736	07/05/22 08:42	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580026	07/05/22 21:19	LMT	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 14:19	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 14:35	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 16:28	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-4

Lab Sample ID: 280-163765-4

Date Collected: 06/21/22 13:55

Matrix: Water

Date Received: 06/24/22 10:40

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	579736	07/05/22 08:42	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580026	07/05/22 21:23	LMT	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 14:51	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 15:07	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 16:44	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Lab Chronicle

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: MW-2017-8

Lab Sample ID: 280-163765-5

Date Collected: 06/22/22 08:50

Matrix: Water

Date Received: 06/24/22 10:40

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	579736	07/05/22 08:42	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580026	07/05/22 21:27	LMT	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 15:23	MEC	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	579168	06/27/22 15:39	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 17:48	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-8D

Lab Sample ID: 280-163765-6

Date Collected: 06/22/22 09:45

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:01	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	580058	07/07/22 09:24	MAB	TAL DEN
Total/NA	Analysis	6020A		1			580296	07/07/22 22:10	LMT	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	580058	07/07/22 09:24	MAB	TAL DEN
Total/NA	Analysis	6020A		1			580427	07/08/22 19:27	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	579525	06/29/22 23:20	CEH	TAL DEN
Total/NA	Analysis	7470A		1			579678	06/30/22 19:30	CEH	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 16:27	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 16:43	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 18:04	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-3

Lab Sample ID: 280-163765-7

Date Collected: 06/22/22 10:45

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:05	MAB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 16:59	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579168	06/27/22 17:15	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 18:20	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	579186	06/27/22 10:33	ASP	TAL DEN

Client Sample ID: MW-2017-2

Lab Sample ID: 280-163765-8

Date Collected: 06/22/22 11:30

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:09	MAB	TAL DEN

Eurofins Denver

Lab Chronicle

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: MW-2017-2

Lab Sample ID: 280-163765-8

Date Collected: 06/22/22 11:30

Matrix: Water

Date Received: 06/24/22 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 17:32	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579295	06/29/22 04:30	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 19:08	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	579320	06/28/22 11:07	ASP	TAL DEN

Client Sample ID: MW-2017-1

Lab Sample ID: 280-163765-9

Date Collected: 06/22/22 13:20

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:29	MAB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 18:36	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 19:24	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579579	06/30/22 19:40	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	579320	06/28/22 11:07	ASP	TAL DEN

Client Sample ID: DUP

Lab Sample ID: 280-163765-10

Date Collected: 06/22/22 09:45

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:33	MAB	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580651	07/12/22 14:25	MAB	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	580058	07/07/22 09:24	MAB	TAL DEN
Total/NA	Analysis	6020A		1			580296	07/07/22 22:14	LMT	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	580058	07/07/22 09:24	MAB	TAL DEN
Total/NA	Analysis	6020A		1			580427	07/08/22 19:31	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	579525	06/29/22 23:20	CEH	TAL DEN
Total/NA	Analysis	7470A		1			579678	06/30/22 19:33	CEH	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 18:52	MEC	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	579295	06/29/22 03:58	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 19:56	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	579320	06/28/22 11:07	ASP	TAL DEN

Client Sample ID: DUP

Lab Sample ID: 280-163765-11

Date Collected: 06/22/22 13:20

Matrix: Water

Date Received: 06/24/22 10:40

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	580071	07/07/22 16:21	KMS	TAL DEN
Total Recoverable	Analysis	6010C		1			580398	07/08/22 22:37	MAB	TAL DEN

Eurofins Denver

Lab Chronicle

Client: Basin Electric Power Cooperative
 Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
 SDG: LOS Ponds

Client Sample ID: DUP

Lab Sample ID: 280-163765-11

Date Collected: 06/22/22 13:20

Matrix: Water

Date Received: 06/24/22 10:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	10 mL	10 mL	579168	06/27/22 19:40	MEC	TAL DEN
Total/NA	Analysis	9056A		2	10 mL	10 mL	579295	06/29/22 03:42	MEC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	579579	06/30/22 20:12	MEC	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	579320	06/28/22 11:07	ASP	TAL DEN

Laboratory References:

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

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- 2
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Accreditation/Certification Summary

Client: Basin Electric Power Cooperative
Project/Site: CCR Groundwater - ND Sites - LOS Ponds

Job ID: 280-163765-2
SDG: LOS Ponds

Laboratory: Eurofins Denver

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

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

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Water	Mercury

- 1
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- 14

Chain of Custody Record

Client Information		Sampler: <u>A. Knutson</u>		Lab P.M.: <u>Turner, Shelby R</u>		Carrier Tracking No(s):		COC No:	
Client Contact: <u>Mr. Aaron Knutson</u>		Phone: <u>701-745-7238</u>		E-Mail: <u>Shelby.Turner@ET.EurofinsUS.com</u>		Page: <u>1 of 1</u>		Job #:	
Company: <u>Basin Electric Power Cooperative</u>		Address: <u>3901 Highway 200A</u>		City: <u>Stanton</u>		State, Zip: <u>ND, 58571</u>		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Z - other (specify) Other:	
Due Date Requested:		TAT Requested (days): <u>Standard</u>		PO #:		WO #:		Project #:	
Email: <u>aknutson@bepec.com</u>		Project Name: <u>CCR Groundwater - North Dakota Sites</u>		SSOW#:		Site: <u>LOS POUNDS</u>		Special Instructions/Note:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, B=Trace, A=Air)	
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
MW-2017-7		6-21-22		0855		G		W	
MW-2017-6		6-21-22		1050		G		W	
MW-2017-5		6-21-22		1315		G		W	
MW-2017-4		6-21-22		1355		G		W	
MW-2017-8		6-22-22		0850		G		W	
MW-2017-8 D		6-22-22		0945		G		W	
MW-2017-3		6-22-22		1045		G		W	
MW-2017-2		6-22-22		1130		G		W	
MW-2017-1		6-22-22		1320		G		W	
Dup		6-22-22		0945		G		W	
Dup		6-22-22		1330		G		W	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input checked="" type="checkbox"/> Unknown		<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab	
Empty Kit Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by: <u>[Signature]</u>		6-22-22		Company		Company		Company	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>2.67 2.5 1.2 (CF TO)</u>		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:	



ORIGIN ID: BISA (701) 745-3371
LELAND OLDS STATION
BASIN ELECTRIC
3901 HWY 200A

SHIP DATE: 23 JUN 22
ACTWGT: 50.00 LB
CAD: 251286197/MET4490
TestAmeric

STANTON, ND 58571
UNITED STATES US

1931897

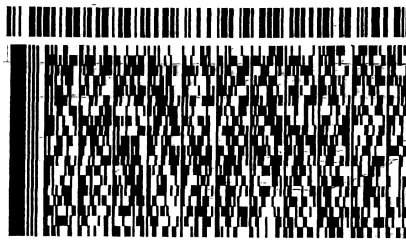
TO **SHELBY TURNER**
EUROFINS TESTAMERICA, DENVER
4955 YARROW ST

ARVADA CO 80002

(303) 736-0100
INV:
PO:

REF: CCR GROUNDWATER - ND SITE

DEPT:



581.122741FEKA

1 of 2

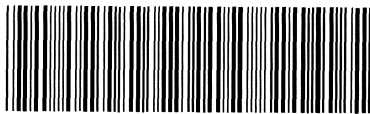
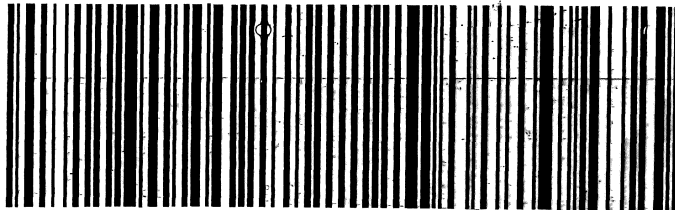
FRI - 24 JUN 10:30A

TRK# 7772 0738 8842
0201
MASTER

PRIORITY OVERNIGHT

XA LAAA

80002
CO-US DEN



280-163765 Waybill

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SHIP DATE: 23JUN22
 ACTWGT: 42.00 LB
 CAD: 251286197/INET4490

ORIGIN DATE: 7/03/22

Signature: *M. M. M.*
 DATE: 7/3/22

Sender: **euofins** Environment Testing
 TestAmerica

1931896

6813217AFERA

ARVADA CO 80001
 (303) 738-0100
 NV
 PC

CCR GROUNDWATER MON SITE
 DEPT:



28

2 of 2

FRI - 24 JUN 10:30A
 PRIORITY OVERNIGHT

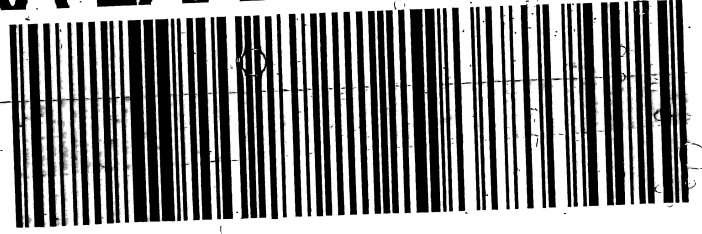
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Mstr# 7772 0738 8842

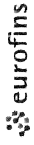
0201

XA LAAA

80002
 CO-US DEN



Chain of Custody Record



Client Information Client Contact: Mr. Aaron Knutson Phone: 701-745-7238 Email: aknutson@bebc.com Project Name: CCR Groundwater - North Dakota Sites Site: LOS POUNDS		Lab PM: Turner, Shelby R E-Mail: Shelby.Turner@ET.EurofinsUS.com		Carrier Tracking No(s): COC No: Page: (cf) Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSOW#:		Analysis Requested 6010C - Total Calcium and Boron (App III) 9056A_28D - Chloride, Fluoride, Sulfate 2540C - Calcd - TDS 6010C - Total Lithium (1 of 3), 6020A - Total 11 Metals (2 of 3), 7470A - Total Mercury (3 of 3) (Appendix IV) 9315_Ra226, 9320_Ra228, Combined Radium-226 and Radium-228			
Sample Identification MW-2017-7 MW-2017-6 MW-2017-5 MW-2017-4 MW-2017-8 MW-2017-3 MW-2017-2 MW-2017-1 Dup Dup		Sample Date 6-21-22 6-21-22 6-21-22 6-22-22 6-22-22 6-22-22 6-22-22 6-22-22 6-22-22		Sample Time 0855 1050 1315 1355 0850 0945 1045 1130 1320 0945 1320	
Sample Type (C=Comp, G=grab) G G G G G G G G G G		Matrix (Water, Sludge, Other Soil) W W W W W W W W W W		Field Filtered Sample (Yes or No) X X X X X X X X X X X	
Preservation Code: PH-6.93 PH-7.38 PH-7.03 PH-6.86 PH-7.13 PH-7.71 PH-6.50 PH-6.84 PH-7.71 PH-6.65		Special Instructions/Note: PH-6.93 PH-7.38 PH-7.03 PH-6.86 PH-7.13 PH-7.71 PH-6.50 PH-6.84 PH-7.71 PH-6.65		Total Number of Containers X X X X X X X X X X	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Method of Shipment:			
Relinquished by:		Date/Time: 6-22-22		Received by: [Signature] Company:	
Relinquished by:		Date/Time:		Received by: [Signature] Company:	
Relinquished by:		Date/Time:		Received by: [Signature] Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:			



Login Sample Receipt Checklist

Client: Basin Electric Power Cooperative

Job Number: 280-163765-2

SDG Number: LOS Ponds

Login Number: 163765

List Number: 1

Creator: Roehsner, Karen P

List Source: Eurofins Denver

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





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www.MVTL.com



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS Plant CCR (3866) **PO:** 790708-04 LOS

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:

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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Report Date: Thursday, November 17, 2022 4:46:12 PM

Page 1 of 14



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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

3866009 (MW-2017-7) - Sample

Sample amended to rerun TDS. CC 9Nov22

3866010 (Dup 1) - Sample

Time sampled was not supplied by the client.

Analysis Results Comments

3866008 (MW-2017-8D)

Matrix spike and/or matrix spike duplicate recovery was low; the associated laboratory control sample recovery was acceptable.(Sulfate)

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866001 **Date Collected:** 10/05/2022 12:35 **Matrix:** Groundwater
Sample ID: MW-2017-1 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	195	mg/L	25	5	10/12/2022 11:38	10/12/2022 11:38	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	0.53	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:10	MDE	MA,NDA	
Calcium	170	mg/L	1	1	10/07/2022 15:44	10/12/2022 14:59	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.8	mg/L	2.0	1	10/17/2022 11:28	10/17/2022 11:28	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.38	mg/L	0.1	1	10/07/2022 12:29	10/07/2022 12:29	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	975	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866002 **Date Collected:** 10/05/2022 11:20 **Matrix:** Groundwater
Sample ID: MW-2017-2 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	266	mg/L	25	5	10/12/2022 11:39	10/12/2022 11:39	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.24	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:11	MDE	MA,NDA	
Calcium	86.1	mg/L	1	1	10/07/2022 15:44	10/12/2022 14:59	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.7	mg/L	2.0	1	10/17/2022 11:29	10/17/2022 11:29	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.44	mg/L	0.1	1	10/07/2022 12:47	10/07/2022 12:47	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	763	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866003 **Date Collected:** 10/04/2022 13:00 **Matrix:** Groundwater
Sample ID: MW-2017-3 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	180	mg/L	25	5	10/12/2022 11:40	10/12/2022 11:40	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.50	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:11	MDE	MA,NDA	
Calcium	112	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:00	MDE	MA,NDA	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.6	mg/L	2.0	1	10/17/2022 11:30	10/17/2022 11:30	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.48	mg/L	0.1	1	10/07/2022 12:53	10/07/2022 12:53	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	888	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866004 **Date Collected:** 10/04/2022 11:00 **Matrix:** Groundwater
Sample ID: MW-2017-4 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	289	mg/L	25	5	10/12/2022 11:41	10/12/2022 11:41	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.29	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:12	MDE	MA,NDA	
Calcium	134	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:01	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	10.9	mg/L	2.0	1	10/17/2022 11:39	10/17/2022 11:39	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.77	mg/L	0.1	1	10/07/2022 12:59	10/07/2022 12:59	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	807	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866005 **Date Collected:** 10/04/2022 10:15 **Matrix:** Groundwater
Sample ID: MW-2017-5 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	283	mg/L	25	5	10/12/2022 11:42	10/12/2022 11:42	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	0.76	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:13	MDE	MA,NDA	
Calcium	83.3	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:03	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.7	mg/L	2.0	1	10/17/2022 11:40	10/17/2022 11:40	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.93	mg/L	0.1	1	10/07/2022 13:05	10/07/2022 13:05	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	631	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866006 **Date Collected:** 10/04/2022 08:55 **Matrix:** Groundwater
Sample ID: MW-2017-6 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	187	mg/L	25	5	10/12/2022 11:43	10/12/2022 11:43	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.56	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:13	MDE	MA,NDA	
Calcium	60.3	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:04	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.5	mg/L	2.0	1	10/17/2022 11:41	10/17/2022 11:41	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.60	mg/L	0.1	1	10/07/2022 13:11	10/07/2022 13:11	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	577	mg/L	10	1	10/07/2022 08:37	10/07/2022 08:37	RAA	MA,NDA	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 3866007 **Date Collected:** 10/04/2022 08:03 **Matrix:** Groundwater
Sample ID: MW-2017-8 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	1850	mg/L	100	20	10/12/2022 11:54	10/12/2022 11:54	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	0.41	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:14	MDE	MA,NDA	
Calcium	132	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:05	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	25.2	mg/L	2.0	1	10/17/2022 11:42	10/17/2022 11:42	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.39	mg/L	0.1	1	10/07/2022 13:17	10/07/2022 13:17	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	3920	mg/L	10	1	10/10/2022 11:30	10/10/2022 11:30	AMC	MA,NDA	

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Report Date: Thursday, November 17, 2022 4:46:12 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

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 #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 3866008 **Date Collected:** 10/04/2022 09:30 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	416	mg/L	25	5	10/12/2022 12:12	10/12/2022 12:12	EJV	MA,NDA	*

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Mercury	<0.0002	mg/L	0.0002	1	10/18/2022 09:55	10/19/2022 09:00	AMC	MA,NDA, SDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	0.66	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:15	MDE	MA,NDA	
Calcium	8.56	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:06	MDE	MA,NDA	
Lithium	0.0585	mg/L	0.02	1	10/07/2022 15:44	10/07/2022 09:00	SLZ	NDA	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Antimony	<0.001	mg/L	0.001	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Arsenic	<0.002	mg/L	0.002	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Barium	0.0493	mg/L	0.002	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Beryllium	<0.0005	mg/L	0.0005	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Cadmium	<0.0005	mg/L	0.0005	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Chromium	<0.002	mg/L	0.002	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Cobalt	<0.002	mg/L	0.002	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Lead	<0.0005	mg/L	0.0005	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Molybdenum	<0.002	mg/L	0.002	5	10/07/2022 15:44	10/28/2022 10:45	MDE	MA,NDA	
Selenium	<0.005	mg/L	0.005	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	
Thallium	<0.0005	mg/L	0.0005	5	10/07/2022 15:44	10/26/2022 18:12	MDE	MA,NDA	

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Report Date: Thursday, November 17, 2022 4:46:12 PM



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1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVT L.com



Account #: 2040 **Client:** Basin Electric Power Cooperative

Analytical Results

Lab ID: 3866008 **Date Collected:** 10/04/2022 09:30 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	17.8	mg/L	2.0	1	10/17/2022 11:43	10/17/2022 11:43	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.61	mg/L	0.1	1	10/07/2022 13:22	10/07/2022 13:22	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	1990	mg/L	10	1	10/10/2022 11:30	10/10/2022 11:30	AMC	MA,NDA	

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Report Date: Thursday, November 17, 2022 4:46:12 PM

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**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866009 **Date Collected:** 10/04/2022 08:10 **Matrix:** Groundwater
Sample ID: MW-2017-7 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	319	mg/L	25	5	10/12/2022 11:56	10/12/2022 11:56	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.94	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:17	MDE	MA,NDA	
Calcium	64.4	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:07	MDE	MA,NDA	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	12.5	mg/L	2.0	1	10/17/2022 11:45	10/17/2022 11:45	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	1.61	mg/L	0.1	1	10/07/2022 13:28	10/07/2022 13:28	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	722	mg/L	10	1	11/14/2022 15:55	11/14/2022 15:55	AMC	MA,NDA	

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 www.MVTL.com

**Account #:** 2040**Client:** Basin Electric Power Cooperative**Analytical Results**

Lab ID: 3866010 **Date Collected:** 10/12/2022 **Matrix:** Groundwater
Sample ID: Dup 1 **Date Received:** 10/06/2022 15:38 **Collector:** Client

Temp @ Receipt (C): 4.4**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Sulfate	185	mg/L	25	5	10/12/2022 11:57	10/12/2022 11:57	EJV	MA,NDA	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Boron	1.50	mg/L	0.1	1	10/07/2022 15:44	10/12/2022 11:17	MDE	MA,NDA	
Calcium	111	mg/L	1	1	10/07/2022 15:44	10/12/2022 15:08	MDE	MA,NDA	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Chloride	11.6	mg/L	2.0	1	10/17/2022 11:46	10/17/2022 11:46	EJV	MA,NDA	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Fluoride	0.47	mg/L	0.1	1	10/07/2022 13:34	10/07/2022 13:34	RAA		

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Cert	Qual
Total Dissolved Solids	951	mg/L	10	1	10/10/2022 11:30	10/10/2022 11:30	AMC	MA,NDA	

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www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720

Basin Electric Power Cooperative

WO: 3866

Custody Record

Page 1 of 1



Toll Free: (800) 279-6885 Fax: (701) 258-9724

BASIN ELECTRIC POWER COOP.
Leland Olds Station
3901 HIGHWAY 200A
STANTON, ND 58571

Account #: Phone #: Kevin 557-5495 Aaron 745-7238
Contact: Kevin Solie Email: Ksolie@bepc.com a.knutsen@bepc.com
Name of Sampler: m/s For e-mail report check box [X]
Quote Number: Date Submitted: 10-6-22
Project Name/Number: LOS Plant CCR Purchase Order #:

Table with columns: Lab Use Only, Lab Number, Sample ID, Sample Matrix, Date Sampled, Time Sampled, Filtered Y or N, Bottle Type (Untreated, Sterile, 500 ml HNO3, 1000 ml H2SO4, 250 ml H2SO4, 1000 ml NaOH, Amber HCl, Amber Unpres., VOC Vials HCl, Amber H2SO4, 40 ml Vials H2SO4, Other), Analysis Required. Includes handwritten entries for samples 001-010 and analysis notes like '+Sb, As, Ba, Be, Cd, Co' and 'F, Pb, Li, Hg, Mn, Se, Tl, Radium'.

Please submit the top two copies with your samples. We will return the completed original with your results.

N1157-9 0118

Form # 80-90003-1

See above for page number

Effective Date: 15 Jan 2018

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Report Date: Thursday, November 17, 2022 4:46:12 PM

Attachment B

Boring Logs and Construction Diagrams

MW-2017-10 and MW-2017-11






CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota
DATE STARTED 10/6/2022 **COMPLETED** 10/6/2022 **GROUND ELEVATION** 1695.566 ft NAV88 **TOC ELEVATION** 1698.205 ft NAV88
DRILLING CONTRACTOR Cascade Drilling **GROUND WATER LEVELS: Measured bgs or from top of casing, as noted**
DRILLING METHOD SONIC ∇ **AT TIME OF DRILLING** 25 ft bgs / Elev. 1670.56 ft above msl /
LOGGED BY David Buhl **CHECKED BY** JDL ▼ **AT END OF DRILLING** 38.1 ft bgs / Elev. 1657.46 ft above msl /
COORDINATES 588543.456 N 1800050.3 E **AFTER DRILLING** None Encountered AD

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
0									Protective Casing with Locking Cap
2.0	SONIC 1	76	NA	OL		2.0	Very dark grayish brown (10YR 3/2) SILT and CLAY with gravel	1693.6	
3.5				CL		3.5	Grayish brown (10YR 5/2) sandy CLAY, dry, stiff, low to medium plasticity, fine sand (20%)	1692.1	
5	SONIC 2	100	NA	SP			Poorly graded brown (10YR 4/3) SAND, very loose, dry, fine		
8.8	SONIC 3	80	NA	SP		8.8		1686.8	
10				CL			Dark grayish brown (10YR 4/2) clay, medium stiffness, dry to moist, medium plasticity		Volclay grout (Bentonite grout)
15	SONIC 4	83	NA	CL			grades to very dark gray (2.5Y 3/1)		2-in sch 40 PVC
20	SONIC 5	77	NA	CL			grades to moist		

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:32 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\ENR\60634880_LOS_MILLTIUT2020\400_TECHNICAL\2022_LOS_WELL INSTALLATIONS_OCT 2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:32 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\ENR\60634880_LOS_MILLTUT2020\400_TECHNICAL\2022_LOS_WELL_INSTALLATIONS_OCT_2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
20									
	SONIC 6	53	NA	CL					
25									
				CL		29.0	grades back to dark gray (10YR 4/1)	1666.6	
30	SONIC 7	42	NA				NOTE: bottom 5' were very soft, likely pushed to the side rather than into core barrel. DEDUCT 29-35' from log		
									Volclay grout (Bentonite grout)
									2" sch 40 PVC
35				CL		35.0	Dark gray (10YR 4/1) CLAY, wet, medium plasticity, stiff	1660.6	
				ML		37.0	Very dark gray (2.5Y 3/1) sandy SILT, wet, soft, low plasticity, 30-40% sand (very fine)	1658.6	
				ML		39.0	Very dark gray (2.5Y 3/1) SILT, wet, soft, low plasticity	1656.6	
40	SONIC 8	100	NA						Hydrated bentonite chip seal

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:32 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\ENR\60634880_LOS_MUL\TUT2020\400_TECHNICAL\2022 LOS WELL INSTALLATIONS_OCT 2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
45				ML					
				SW		47.5	Black, coarse SAND, black is from staining, wet, well-graded, poorly sorted, some gravel up to 50 mm	1648.1	Filter sand #40
				SP		48.5	Dark gray (2.5 Y 4/1) medium SAND, wet, poorly graded, high sphericity, angular, loose	1647.1	10 Slot 2" PVC
50	SONIC 9	100	NA	SP			becomes coarse		
55				SP		55.0		1640.6	

Bottom of borehole at 55.0 feet.

State of North Dakota
BOARD OF WATER WELL CONTRACTORS
 900 E. BOULEVARD • BISMARCK, NORTH DAKOTA 58505

MONITORING WELL REPORT

State law requires that this report be filed with the State Board of Water Well Contractors within 30 days after completion or abandonment of the well.

1. WELL OWNER
 Name Basin Electric
 Address 1717 E Interstate Ave
Bismarck, ND 58503

Well head completion:
 24" above grade Protap Other _____
 If other, specify _____
 Was protective casing installed? Yes No
 Was well disinfected upon completion? Yes No

2. WELL LOCATION
 Address (if in city) 3901 Highway 200 A
Stanton, ND 58571
 County MERCER
 SE 1/4 SW 1/4 NE 1/4 Sec. 22 Twp. 144 N. Rge. 84 W.
 Lat.: 47.277681° Long.: 101.305973°
 Altitude: 1700
MW-2017-10

5. WATER LEVEL
 Static water level 38.1 feet below surface
 If flowing: closed-in pressure _____ psi or ft. above land surface

3. METHOD DRILLED
 Auger Other Sonic

6. WELL LOG

Formation	Depth (Ft.)	From		To	
		0	To	0	To
<u>Fill</u>	<u>gray</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>sand</u>	<u>L Brown</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>9</u>
<u>clay</u>	<u>gray</u>	<u>9</u>	<u>35</u>	<u>9</u>	<u>35</u>
<u>silt</u>	<u>gray</u>	<u>35</u>	<u>47</u>	<u>35</u>	<u>47</u>
<u>sand</u>	<u>Dr. gray</u>	<u>47</u>	<u>55</u>	<u>47</u>	<u>55</u>

(Use separate sheet if necessary)

4. WELL CONSTRUCTION
 Diameter of Hole 6 inches Depth 55 feet
 Riser: PVC Other
 Threaded Solvent Other
 Riser rating SDR _____ Schedule 40
 Diameter 2 inches
 From 0 ft. to 45 ft.
 Was a well screen installed? Yes No
 Material SCH 40 PVC Diameter 2 inches
 Slot Size .010 set from 45 feet to 55 feet
 Sand packed from 42 to 55
 Depth grouted from 0 to 42
 Grouting Material
 Bentonite vo clay Other NEAR CEMENT
 If other explain: _____

7. WAS THE HOLE PLUGGED OR ABANDONED?
 Yes No
 If so, how? _____

8. REMARKS

9. DATE COMPLETED 10-6-2022

10. CONTRACTOR CERTIFICATION
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge.
CASCADE Drilling 454
 Monitoring Well Contractor Certificate No.
209 Lemieux St, Little Falls, MN
 Address 56345
Mark Cowl 11-2-22
 Signature Date

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:32 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\ENR\60634880_LOS_MILLTUT2020\400_TECHNICAL\2022 LOS WELL INSTALLATIONS_OCT 2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota
DATE STARTED 10/6/2022 **COMPLETED** 10/6/2022 **GROUND ELEVATION** 1689.655 ft NAV88 **TOC ELEVATION** 1692.153 ft NAV88
DRILLING CONTRACTOR Cascade Drilling **GROUND WATER LEVELS: Measured bgs or from top of casing, as noted**
DRILLING METHOD SONIC **AT TIME OF DRILLING** None Encountered ATD
LOGGED BY David Buhl **CHECKED BY** JDL **AT END OF DRILLING** 32.3 ft bgs / Elev. 1657.355 ft above msl /
COORDINATES 589281.013 N 1800096.8 E **AFTER DRILLING** None Encountered AD

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
0									Protective Casing with Locking Cap
	SONIC 1	50	NA			3.0	No recovery	1686.7	
				OL		4.0	Brown (10YR 5/3) organic SILTS and CLAYS	1685.7	
5				ML			FILL material - Brown (10 YR 5/3) silt, sand, clay, moist		
10	SONIC 2	100	NA			12.0	Dark grayish brown (10YR 5/3) silty SAND, moist, medium density, high sphericity, angular, fine	1677.7	Volclay grout (Bentonite grout)
				SM		14.0	Dark grayish brown (10YR 4/2) sandy CLAY, medium plasticity, moist, fine sand (20%), soft	1675.7	2-in sch 40 PVC
15				CL		17.0	Dark grayish brown (2.5Y 4/2) CLAY, medium plasticity, medium stiffness, moist	1672.7	
20	SONIC			CL					

(Continued Next Page)


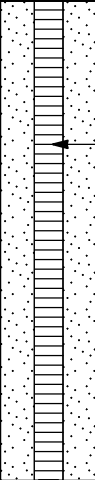



CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:32 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\EN\60634880_LOS_MILLTUT2020\400_TECHNICAL\2022_LOS_WELL_INSTALLATIONS_OCT_2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
20	3	100	NA	CL					
25						26.0	Dark gray (2.5Y 4/1) sandy SILT, soft, wet, low plasticity, 40-50% fine sand	1663.7	
30	SONIC 4	100	NA	ML					
32.0						32.0	Dark gray (2.5Y 4/1) silty SAND, medium density, wet, medium grain, high sphericity, angular, poorly graded, well sorted	1657.7	Volclay grout (Bentonite grout) 2" sch 40 PVC
35				SM					Hydrated bentonite chip seal
36.0						36.0	Dark grayish brown (2.5Y 4/2) medium SAND, loose, wet, some silt <10%, high sphericity, angular to subangular, poorly graded, well sorted	1653.7	
40				SP					Filter sand #40
	SONIC 5	100	NA	SM			slightly more silt rich (~30%)		
				SP					

BASIN OCT 2022 WELLS - MILLCREEK.GDT - 1/26/23 16:33 - L:\CINCINNATI-USCNC02\DCS\PROJECTS\ENR\60634880_LOS_MUL\TUT2020\400_TUT2020\400_TECHNICAL\2022 LOS WELL INSTALLATIONS_OCT 2022\BASIN LOS 2017 AND 2016 WELLS.GPJ

CLIENT Basin Electric Power Cooperative **PROJECT NAME** Leland Olds Station
PROJECT NUMBER 60634880 **PROJECT LOCATION** Stanton, North Dakota

DEPTH (ft)	SAMPLE TYPE NUMBER	% RECOVERY	POCKET PENE-TROMETER, TSF	U.S.C.S.	GRAPHIC LOG	Depth, bgs	MATERIAL DESCRIPTION	Elevation	WELL CONSTRUCTION
45				SM			slightly more silt rich (~30%)		 <p>10 Slot 2" PVC</p>
				SP			slightly more silt rich (~30%)		
				SM					
50				SP		50.0		1639.7	

Bottom of borehole at 50.0 feet.

State of North Dakota
BOARD OF WATER WELL CONTRACTORS
 900 E. BOULEVARD • BISMARCK, NORTH DAKOTA 58505

MONITORING WELL REPORT

State law requires that this report be filed with the State Board of Water Well Contractors within 30 days after completion or abandonment of the well.

1. WELL OWNER
 Name Basin Electric
 Address 1717 E Interstate Ave
Bismarck, ND 58503

2. WELL LOCATION
 Address (if in city) 3901 Highway 200 A
Stanton, ND 58571
 County MERCER
 NE 1/4 SW 1/4 NE 1/4 Sec. 22 Twp. 144 N. Rge. 84 W.
 Lat.: N 47. 279702° Long.: W 101. 305813°
 Altitude: 1699
MW-2017-11

3. METHOD DRILLED
 Auger Other SONIC

4. WELL CONSTRUCTION
 Diameter of Hole 6 inches Depth 50 feet
 Riser: PVC Other
 Threaded Solvent Other
 Riser rating SDR _____ Schedule 40
 Diameter 2 inches
 From 0 ft. to 40 ft.
 Was a well screen installed? Yes No
 Material SCH 40 PVC Diameter 2 inches
 Slot Size .010 set from 40 feet to 50 feet
 Sand packed from 37 to 50
 Depth grouted from 0 to 37
 Grouting Material
 Bentonite veclay Other NEAT GROUT
 If other explain: _____

Well head completion:
 24" above grade Protap Other _____
 If other, specify _____
 Was protective casing installed? Yes No
 Was well disinfected upon completion? Yes No

5. WATER LEVEL
 Static water level 32.3 feet below surface
 If flowing: closed-in pressure _____ psi or ft. above land surface

6. WELL LOG

Formation	Color	Depth (Ft.)
		From To
<u>sand</u>	<u>L Brown</u>	<u>0</u> To <u>9</u>
<u>clay</u>	<u>Gray</u>	<u>9</u> - <u>33</u>
<u>silt</u>	<u>Gray</u>	<u>33</u> - <u>41</u>
<u>sand</u>	<u>Gray</u>	<u>41</u> - <u>50</u>
		<u>TD</u>

(Use separate sheet if necessary)

7. WAS THE HOLE PLUGGED OR ABANDONED?
 Yes No
 If so, how? _____

8. REMARKS

9. DATE COMPLETED 10-7-22

10. CONTRACTOR CERTIFICATION
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge.
CASCADE Drilling 454
 Monitoring Well Contractor Certificate No.
209 Lemieux St, Little Falls, MN
 Address 56345
Met Core
 Signature Date 11-2-22

Attachment C

Input Data Files for Calculation of Upper and Lower Prediction Limits

**Background Monitoring Wells MW-2017-1 and MW-2017-8
LOS Pond 2 and Pond 3 (Multi-Unit) CCR Monitoring Well Network
Leland Olds Station – Stanton, North Dakota**

WellNo	Date	B	D B	Ca	D Ca	Cl	D Cl	F	D F	pH	D pH	SO4	D SO4	TDS	D TDS
MW-2017-1	03/12/2018	2	1	100	1	8.8	1	0.5	0	6.95	1	210	1	710	1
MW-2017-1	04/17/2018	2.1	1	96	1	9.4	1	0.5	0	6.86	1	200	1	680	1
MW-2017-1	06/14/2018	2.2	1	89	1	8.2	1	0.5	0	7.06	1	220	1	690	1
MW-2017-1	07/25/2018	2.36	1	91	1	8.73	1	0.5	0	7.21	1	218	1	710	1
MW-2017-1	08/27/2018	2.37	1	90	1	8.65	1	0.5	0	7.38	1	219	1	707	1
MW-2017-1	03/12/2019	2.15	1	103	1	8.5	1	0.5	0	7.19	1	217	1	735	1
MW-2017-1	03/27/2019	2.02	1	98	1	8.53	1	0.5	0	7.26	1	212	1	718	1
MW-2017-1	04/09/2019	2.02	1	107	1	8.91	1	0.5	0	7.23	1	221	1	761	1
MW-2017-1	11/12/2019	1.11	1	130	1	9	1	0.43	1	7.73	1	233	1	740	1
MW-2017-1	06/08/2020	1.04	1	150	1	7.74	1	0.5	0	6.86	1	260	1	1050	1
MW-2017-1	10/05/2020	0.96	1	158	1	9.87	1	0.5	0	7.01	1	270	1	960	1
MW-2017-8	03/14/2018	0.48	1	150	1	25	1	1	0	7.03	1	2,000	1	3,800	1
MW-2017-8	04/18/2018	0.46	1	150	1	25	1	1	0	7.38	1	2,100	1	4,000	1
MW-2017-8	06/15/2018	0.46	1	140	1	22	1	1	0	7.19	1	2,100	1	4,000	1
MW-2017-8	07/25/2018	0.47	1	145	1	24.3	1	1	0	7.23	1	2,010	1	3,900	1
MW-2017-8	08/28/2018	0.47	1	140	1	24	1	1	0	7.52	1	2,020	1	3,880	1
MW-2017-8	06/08/2020	0.45	1	133	1	20.8	1	4.68	1	7.29	1	1,860	1	3800	1
MW-2017-8	10/06/2020	0.48	1	137	1	24.6	1	4.57	1	7.16	1	1,960	1	2,960	1

D_(Analyte): 0= non-detect and 1 = detect

pH in Standard Units

All other analytes reported in mg/L

the \mathbb{R}^n is a linear space over \mathbb{R} with the usual addition and scalar multiplication. The inner product is defined by

$$\langle x, y \rangle = x_1 y_1 + x_2 y_2 + \dots + x_n y_n \quad (1)$$

where $x = (x_1, x_2, \dots, x_n)$ and $y = (y_1, y_2, \dots, y_n)$ are vectors in \mathbb{R}^n . The norm of a vector x is defined by

$$\|x\| = \sqrt{\langle x, x \rangle} = \sqrt{x_1^2 + x_2^2 + \dots + x_n^2} \quad (2)$$

The distance between two vectors x and y is defined by

$$d(x, y) = \|x - y\| = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (3)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (4)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (5)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (6)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (7)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (8)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (9)$$

The distance between two points x and y in \mathbb{R}^n is defined by

$$d(x, y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad (10)$$