



2024 Annual Groundwater Monitoring and Corrective Action Report

Former LOS Ponds 2 and 3 Multiunit

Leland Olds Station

Stanton, North Dakota



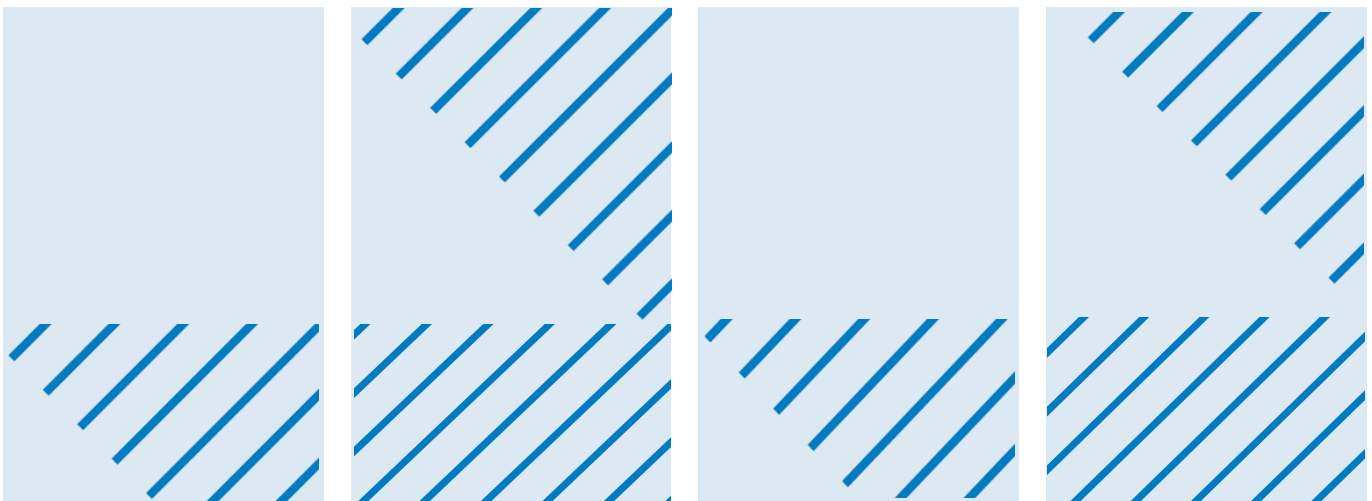
Prepared for
Basin Electric Power Cooperative

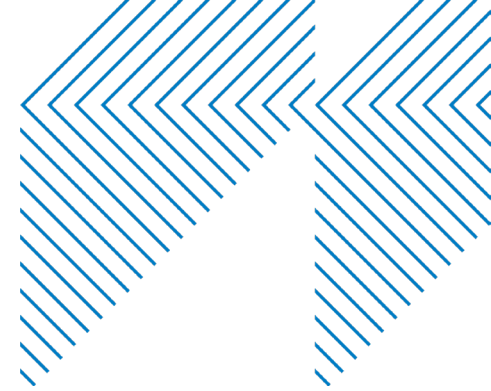
Prepared by
Barr Engineering Co.

January 2025

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2024 Annual Groundwater Monitoring and Corrective Action Report

January 2025



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Abbreviations

asml	above mean sea level
ASD	Alternative Source Demonstration
bgs	below ground surface
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
cm	Centimeter
EPA	Environmental Protection Agency
FGD	Flue gas desulfurization
ft	feet
LOS	Leland Olds Station
NDAC	North Dakota Administrative Code
NDDEQ	North Dakota Department of Environmental Quality
NPDES	National pollution discharge and elimination system
SAP	Sampling and Analysis Plan
sec	Second
SSI	Statistically Significant Increase
TDS	Total Dissolved Solids

Executive Summary

This 2024 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) describes the monitoring program and results for the former Ponds 2 and 3 Multiunit (Multiunit) at Basin Electric Power Cooperative's (Basin Electric) Leland Olds Station (LOS; Site). Content of this report is to satisfy requirements of the federal CCR rule.

Monitoring locations MW-2017-10 and MW-2017-11 were installed in October 2022 and added to the monitoring network as replacements for MW-2017-5 and MW-2017-6. MW-2017-10 and MW-2017-11 were first included in the detection monitoring program for the spring 2024 sampling event.

At the beginning, end, and throughout 2024, the Multiunit was operating under a detection monitoring program as described in 40 CFR 257.94 and NDAC 33.1-20-08-06-04. This program includes semi-annual detection monitoring events conducted in the early summer and fall.

Pursuant to § 257.94 and NDAC 33.1-20-08-06-04, no statistically significant increases (SSIs) were determined for the May/June 2024 and September 2024 sampling events. Therefore, no assessment monitoring program (§ 257.95 and NDAC 33.1-20-08-06-04) or related corrective or remedial measures (§§ 257.96, 257.97, and 257.98; NDAC 33.1-20-08-06-06, -07, and -08) were necessary.

1 Introduction

Basin Electric Power Cooperative (Basin) owns Leland Olds Station (LOS), comprised of a coal-fired generating station consisting of two power generating units, located southeast of Stanton, Mercer County, North Dakota (Figure 1). Unit 1 coal-based operations began in 1966 and Unit 2 operations began in 1975. Coal combustion residuals (CCR) were directed to four surface impoundments (Pond 1, Pond 2, Pond 3, and Pond 4) on the southeast side of the property. CCR produced at LOS includes fly ash, bottom ash, and flue gas desulfurization (FGD) waste.

Ponds 1 and 4 were closed-in-place in the mid-1990s. Bottom ash Ponds 2 and 3 (Multiunit or Site) continued operating until 2015. Pond 2 flowed into Pond 3 which discharged through Outfall 003 in accordance with the National Pollution discharge and Elimination System (NPDES) permit. In 2015, LOS converted to dry handling of bottom ash and the Multiunit ceased accepting CCRs.

Closure of the southern half of Pond 2 was completed in 2017. Closure of the remaining portion of Pond 2 and all of Pond 3 began in 2019 and was completed in 2020. In compliance with the CCR Rule, a closure notification including certification by a qualified professional engineer that the closure was completed in accordance with the written closure plan and the requirements of Chapter 40 Code of Federal Regulations (CFR) § 257.102, was posted on October 26, 2020. The Multiunit is now closed-in-place.

This 2024 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) describes the monitoring program and results for the Multiunit at the Site. No corrective actions were required or conducted in 2024.

Basin Electric utilizes a consulting firm, Barr Engineering Co. (Barr) to assist in groundwater reporting and analysis. Barr is familiar with the site and has reviewed the historical groundwater data and CCR information for the site and is knowledgeable about facility design and operation.

Additional Site monitoring information, including CCR reports and certifications can be found on Basin Electric's CCR website: [Pond 2 Surface Impoundment - LOS - Basin Electric Power Cooperative](#) and [Pond 3 Surface Impoundment - LOS - Basin Electric Power Cooperative](#).

1.1 Physical Setting

The Multiunit 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 (MW-2017-1 through MW-2017-4, MW-2017-7, MW-2017-10 and MW-2017-11) are located on the lower (first) terrace level, while one is located on the upper (second) terrace (MW-2017-8).

The geology underlying the Multiunit is generally comprised of more than 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 Multiunit. 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 from approximately 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]) (AECOM, 2019).

The potentiometric surface of the uppermost groundwater underlying the lower terrace area is typically encountered at elevations between 1,658 to 1,662 ft asml depending on the stage of the adjacent Missouri River. The stage of the Missouri River was 1657.41 ft asml during the spring sampling event and 1658.28 ft asml during the fall sampling event. 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 Multiunit.

Additional Site information can be found on Basin Electric's CCR website in the Pond 2 and Pond 3 Multiunit CCR Groundwater Monitoring System Report (AECOM, 2019).

1.2 Purpose

As stated in § 257.90(e) and NDAC 33.1-20-08-06-01(e), the Annual Report must:

- Document the status of groundwater monitoring and any corrective action programs for the CCR unit,
- Summarize key actions completed,
- Describe any problems encountered,
- Discuss actions to resolve the problems, and
- Project key activities for the upcoming year.

1.3 CCR Rule Requirements

Additional requirements for the Annual Report, as outlined in § 257.90(e) and NDAC 33.1-20-08-06-01(e), and this Site's compliance with the CCR Rules, are summarized in Table 1.

Table 1 CCR Rule Requirements and Compliance

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in Report	Location
§ 257.90(e)(1)	§ 33.1-20-08-06-01(e)(1)	Monitoring System Figure: A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit.	Section 2.1 Groundwater Monitoring System; see Figure 1
§ 257.90(e)(2)	§ 33.1-20-08-06-01(e)(2)	Monitoring System Adjustments: Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken.	Section 2.1.1 Changes to Groundwater Monitoring System
§ 257.90(e)(3)	§ 33.1-20-08-06-01(e)(3)	Data and Collection Summary: In addition to all the monitoring data obtained under §257.90 through §257.98 and §33.1-20-08-06, a summary including the number of groundwater samples that were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs.	Section 2.3 Data and Collection Summary; monitoring data included in Table 3, Table 4, Table 5, Appendix A, and Appendix B
§ 257.90(e)(4)	§ 33.1-20-08-06-01(e)(4)	Monitoring Program: A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels).	Not applicable – No transition between monitoring programs was necessary
§ 257.90(e)(5)	§ 33.1-20-08-06-01(e)(5)	Other Information: Other information required, if applicable, to be included in the annual report as specified in §257.90 through §257.98 and §33.1-20-08-06.	Section 2.2 Actions Completed/Problems Encountered
§ 257.90(e)(6)	n/a	Executive Summary: A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit.	Executive Summary

2 Groundwater Monitoring Program

This section documents the status of the groundwater monitoring and corrective action program for the Multiunit in 2024. A description of the groundwater monitoring system is included in Section 2.1, key actions completed and problems encountered are described in Section 2.2, the monitoring and analytical results are described in Section 2.3, and key activities planned for 2025 are described in Section 2.4.

2.1 Groundwater Monitoring System

The certified groundwater monitoring well network around the Multiunit consists of two background wells and six downgradient wells, sampled for groundwater analysis on a semi-annual basis. Background wells monitor water quality that is not potentially influenced by the presence of CCR in the Multiunit. Well locations are described below on Table 2 and shown on Figure 2.

Table 2 Groundwater Monitoring System

CCR Unit	Background Wells	Downgradient Wells
Ponds 2 and 3 Multiunit	MW-2017-1 and MW-2017-8	MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-7, MW-2017-10, and MW-2017-11

Several wells are not included in the compliance network as they are used for characterization, including MW-2017-8D and MW-2017-9. MW-2017-8D is screened in bedrock.

Two monitoring wells, MW-2017-5 and MW-2017-6, have been excluded from the groundwater monitoring network due to concerns about installation, i.e., improper placement of the annular seal and grout in contact with groundwater. The wells remain in place for optional collection of groundwater level measurements for potential inclusion in the potentiometric evaluation of the Site.

Baseline monitoring initiated in September 2017 for wells in the monitoring network (except MW-2017-10 and MW-2017-11 as described below) and included sampling groundwater over eight baseline monitoring events. The results of baseline monitoring are discussed in previous Annual Reports.

Detection monitoring events in 2024 and prior to 2024 were performed in general accordance with procedures established in the site-specific Sampling and Analysis Plan (SAP) (AECOM, 2022), which is included in the facility's Operating Record. The Multiunit was placed in Detection monitoring in April 2019, with the first Detection monitoring groundwater sampling event completed in November 2019. Detection monitoring events have been completed semi-annually since November 2019. The results of previous Detection monitoring events were presented and discussed in the previous Annual Reports, which can be found on Basin Electric's CCR website.

2.1.1 Changes to Groundwater Monitoring System

Monitoring locations MW-2017-10 and MW-2017-11 were installed in October 2022 and added to the monitoring network as replacements for MW-2017-5 and MW-2017-6 to further evaluate the groundwater conditions along the eastern edge of former Ponds 2 and 3. Baseline monitoring began in June 2023 and

will continue until at least eight samples have been collected. Baseline sampling results are included in Appendix C. MW-2017-10 and MW-2017-11 were included in the detection monitoring program beginning in June 2024. The system described in Section 2.1 and shown on Figure 2 supplanted the groundwater monitoring system described in the Groundwater Monitoring System Certification (AECOM, 2019).

2.2 Actions Completed/Problems Encountered

The following actions were completed in 2024:

- **Background Update:** Background was statistically evaluated and updated to include data through 2023 from upgradient wells MW-2017-1 and MW-2017-8 in accordance with the Groundwater Statistical Method Selection Certification (AECOM, 2019). The updated prediction limits were used for the spring and fall 2024 detection monitoring events.
- **Baseline Sampling:** Baseline Groundwater samples were collected at MW-2017-10 and MW-2017-11 in April, June, August, September, and October 2024. A baseline sample was collected at MW-2017-11 in November 2024 as well (Appendix C).
- **Detection Monitoring Sampling:** Groundwater samples were collected from each well in the groundwater monitoring system on May 13-14, 2024 and June 25, 2024 and September 17, 2024. Groundwater samples were analyzed for Appendix III constituents, per the detection monitoring program of the CCR Rules (§ 257.94 and NDAC 33.1-20-08-06-04) (Table 3).
- **SSI Evaluation:** SSI evaluations were conducted in accordance with the Groundwater Statistical Method Selection Certification (AECOM, 2019) for the May/June 2024 and September 2024 detection monitoring events. There were no SSIs from either event. (Table 4)

No problems were encountered in 2024.

2.3 Data and Collection Summary

2.3.1 May/June 2024 Detection Monitoring Event

Groundwater samples were collected from the nine groundwater monitoring network wells at the Site on May 13-14, 2024 and June 25, 2024. No SSIs were identified. A summary of results is included in Table 5. Field data sheets and analytical laboratory reports for detection monitoring sampling are included in Appendix A. Water level contours are shown on Figure 3, and flow calculations are included in Appendix B.

2.3.2 September 2024 Detection Monitoring Event

Groundwater samples were collected from the nine groundwater monitoring network wells at the Site on September 17, 2024. No SSIs were identified. A summary of results is included in Table 5. Field data sheets and analytical laboratory reports for detection monitoring sampling are included in Appendix A. Water level contours are shown on Figure 4, and flow calculations are included in Appendix B.

2.4 Activities for Upcoming Year

The following key activities for analytical results and statistical evaluations are planned for 2025:

- Evaluate analytical results from 2025 semi-annual detection monitoring events for SSIs according to the Statistical Certification (AECOM, 2019).
- Continue baseline sample collection at MW-2017-10 and MW-2017-11 until eight baseline samples have been collected.
- Review the conceptual site model and consider recommendations for improvements to the monitoring well network if needed.

3 References

AECOM, 2019. Pond 2 and Pond 3 Multiunit CCR Groundwater Monitoring System Report, Leland Olds Station. Prepared for Basin Electric Power Cooperative. April 2019.

AECOM, 2022. Pond 2 and Pond 3 Multiunit Sampling and Analysis Plan, CCR Monitoring Program, Leland Olds Station. Prepared for Basin Electric Power Cooperative. June 2022.



Tables



Table 3 Sampling Summary

Table 3
Sampling Summary
2024 Annual Monitoring Report
BEPC-LOS Multiunit

Event Classification and Number	Monitoring Well	Up or Down Gradient	Event date	No. Samples
Detection Monitoring Event #1	MW-2017-1	Up	5/13/2024	2
Detection Monitoring Event #1	MW-2017-2	Down	5/13/2024	1
Detection Monitoring Event #1	MW-2017-3	Down	5/13/2024	1
Detection Monitoring Event #1	MW-2017-4	Down	5/14/2024	1
Detection Monitoring Event #1	MW-2017-7	Down	5/13/2024	1
Detection Monitoring Event #1	MW-2017-8	Up	5/14/2024	1
Detection Monitoring Event #1	MW-2017-10	Down	6/25/2024	2
Detection Monitoring Event #1	MW-2017-11	Down	6/25/2024	1
Detection Monitoring Event #2	MW-2017-1	Up	9/17/2024	1
Detection Monitoring Event #2	MW-2017-2	Down	9/17/2024	2
Detection Monitoring Event #2	MW-2017-3	Down	9/17/2024	1
Detection Monitoring Event #2	MW-2017-4	Down	9/17/2024	1
Detection Monitoring Event #2	MW-2017-7	Down	9/17/2024	1
Detection Monitoring Event #2	MW-2017-8	Up	9/17/2024	1
Detection Monitoring Event #2	MW-2017-10	Down	9/17/2024	1
Detection Monitoring Event #2	MW-2017-11	Down	9/17/2024	1



**Table 4 Statistical Evaluation
Summary**

Table 4
Statistical Evaluation Summary
2024 Annual Monitoring Report
LOS Multiunit CCR Groundwater Compliance

Spring 2024

Appendix III Constituents							
Well	Boron (T)	Calcium (T)	Chloride	Fluoride	pH	Sulfate	TDS
MW-2017-2							
MW-2017-3							
MW-2017-4							
MW-2017-7							
MW-2017-10							
MW-2017-11							

Fall 2024

Appendix III Constituents							
Well	Boron (T)	Calcium (T)	Chloride	Fluoride	pH	Sulfate	TDS
MW-2017-2							
MW-2017-3							
MW-2017-4							
MW-2017-7							
MW-2017-10							
MW-2017-11							

Sample had a value higher than the prediction limit determined from background data and is a verified SSI

Sample did not have a value higher than the prediction limit determined from background data

pH: two-sided prediction limit; color indicates sample higher and/or lower than prediction limits



**Table 5 Water Quality Analytical
Data Summary**

**Table 5
Water Quality Analytical Data Summary
2024 Annual Monitoring Report
BEPC LOS Multiunit**

Location			MW-2017-1		MW-2017-1	MW-2017-2	MW-2017-2		MW-2017-3	MW-2017-3	MW-2017-4	MW-2017-4	MW-2017-7	MW-2017-7	MW-2017-8	MW-2017-8	MW-2017-8D
Date			5/13/2024		9/17/2024	5/13/2024	9/17/2024		5/13/2024	9/17/2024	5/14/2024	9/17/2024	5/13/2024	9/17/2024	5/14/2024	9/17/2024	5/14/2024
Sample Type			N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N
Parameter	Analysis Location	Units															
Appendix III																	
Boron, total	Lab	mg/l	0.50	0.48	0.45	1.11	1.30	1.34	1.24	1.38	1.18	1.16	2.05	2.27	< 0.5	0.43	0.65
Calcium, total	Lab	mg/l	226	217	248	112	83.8	82.7	110	114	147	153	67.1	75.5	134	135	8.54
Chloride	Lab	mg/l	13.0	12.5	14.3	10.5	11.4	11.6	9.9	11.6	9.7	10.2	11.1	11.5	24.7	26.6	15.6
Fluoride	Lab	mg/l	0.39	0.39	0.34	0.42	0.44	0.44	0.53	0.44	0.82	0.76	1.32	1.16	0.41	0.37	0.63
pH	Field	pH units	7.05	--	7.05	7.27	7.35	--	7.32	7.34	7.16	7.18	7.57	7.60	7.39	7.47	7.95
Solids, total dissolved	Lab	mg/l	1280	1280	1290	859	696	716	920	882	855	862	704	692	3680	3620	1810
Sulfate, as SO4	Lab	mg/l	337	332	337	274	250	261	123	128	293	256	267	264	1430	1810	371

-- Not analyzed/Not available.
N Sample Type: Normal
FD: Sample Type: Field Duplicate
U: The analyte was analyzed for, but was not detected.

**Table 5
Water Quality Analytical Data Summary
2024 Annual Monitoring Report
BEPC LOS Multiunit**

Location			MW-2017-8D	MW-2017-10		MW-2017-10	MW-2017-10	MW-2017-10	MW-2017-11	MW-2017-11	MW-2017-11	MW-2017-11	MW-2017-11
Date			9/17/2024	6/25/2024		8/16/2024	9/17/2024	10/15/2024	6/25/2024	8/16/2024	9/17/2024	10/15/2024	11/13/2024
Sample Type			N	N	FD	N	N	N	N	N	N	N	N
Parameter	Analysis Location	Units											
Appendix III													
Boron, total	Lab	mg/l	0.69	0.87	0.88	0.84	0.87	0.90	1.24	1.26	0.77	1.36	1.23
Calcium, total	Lab	mg/l	9.08	92.6	95.8	95.2	95.9	93.6	63.2	70.1	90.4	61.9	67.6
Chloride	Lab	mg/l	17.3	10.3	10.3	11.2	10.6	10.9	10.6	11.8	11.2	11.2	11.0
Fluoride	Lab	mg/l	0.54	0.82	0.84	0.88	0.84	0.85	0.73	0.76	0.92	0.75	0.44
pH	Field	pH units	8.07	7.57	--	7.59	7.56	7.57	7.57	7.58	7.55	7.53	7.58
Solids, total dissolved	Lab	mg/l	1960	676	679	672	672	677	592	573	643	590	593
Sulfate, as SO4	Lab	mg/l	341	298	294	297	280	315	179	202	241	168	168

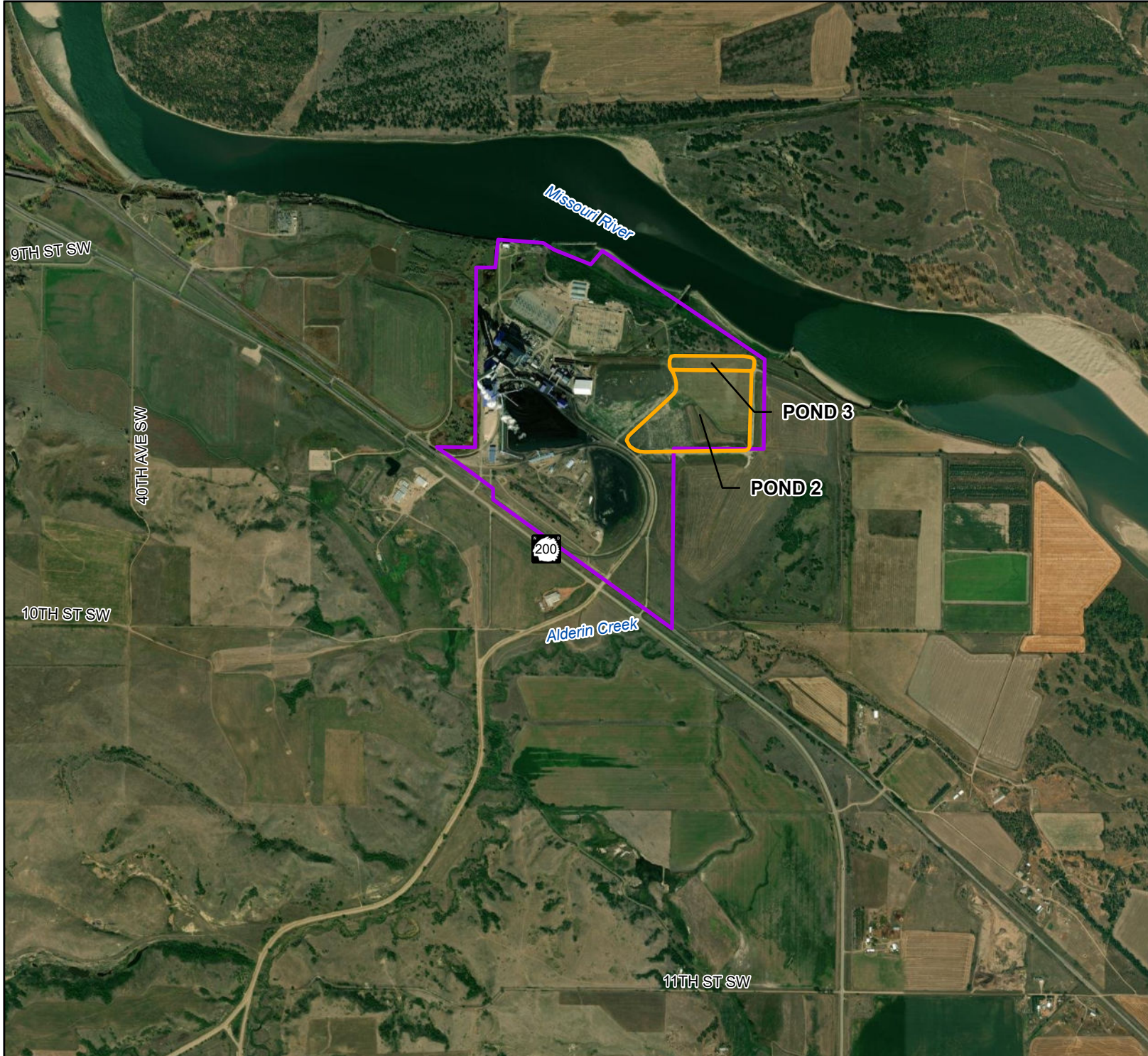
-- Not analyzed/Not available.
N Sample Type: Normal
FD: Sample Type: Field Duplicate
U: The analyte was analyzed for, but was not detected.





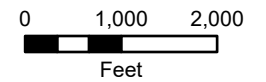
Figures



Figure 1 Site Location



-  Leland Olds Power Plant
-  Ponds



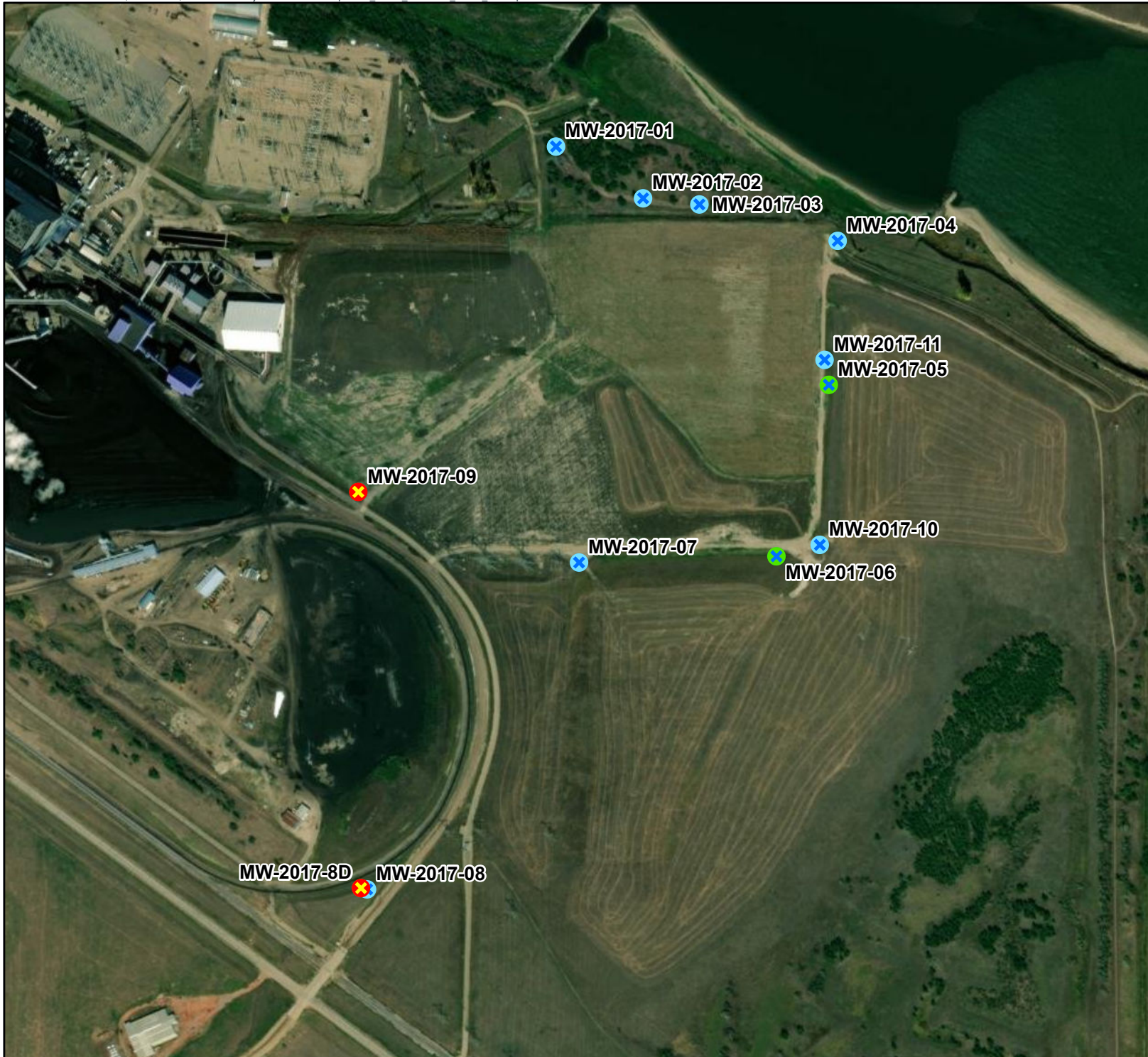
Imagery: ESRI 2024

Site Location
Leland Olds Station- Ponds
2024 Annual Monitoring Report
Basin Electric Power Cooperative
Stanton, North Dakota

FIGURE 1



Figure 2 Monitoring Network



- ⊗ Compliance Well
- ⊗ Site Characterization Well
- ⊗ Water Level Only



0 300 600
Feet

Imagery: ESRI 2024

Monitoring Network
Leland Olds Station- Ponds
2024 Annual Monitoring Report
Basin Electric Power Cooperative
Stanton, North Dakota

FIGURE 2

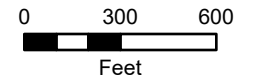


Figure 3 Spring 2024 Potentiometric Surface



- ⊗ Compliance Well
- ⊗ Site Characterization Well
- ⊗ Water Level Only
- ➔ Flow Direction
- Groundwater Contours

Notes:
* = Wells not used for contouring
Groundwater elevations were obtained on May 13, 2024
NM = not measured



Imagery: ESRI 2024

**Spring 2024
Potentiometric Surface
Leland Olds Station- Ponds
2024 Annual Monitoring Report
Basin Electric Power Cooperative
Stanton, North Dakota**

FIGURE 3

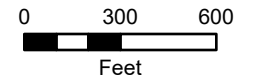


Figure 4 Fall 2024 Potentiometric Surface



- ⊗ Compliance Well
- ⊗ Site Characterization Well
- ⊗ Water Level Only
- ➔ Flow Direction
- Groundwater Contour

Notes:
* = Wells not used for contouring
Groundwater elevations were obtained on Sept. 17, 2024
NM = not measured



Imagery: ESRI 2024

Fall 2024
Potentiometric Surface
Leland Olds Station- Ponds
2024 Annual Monitoring Report
Basin Electric Power Cooperative
Stanton, North Dakota

FIGURE 4



Appendices



Appendix A Lab and Field Reports

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

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



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Plant Ponds (45645) **PO:** 790708-04 LOS

Mark Dihle
 Basin Electric Power Cooperative
 1717 E. Interstate Avenue
 Bismarck, ND 58503

Certificate of Analysis**Approval**

All data reported has been reviewed and approved by:

C. Carroll

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 SD SDWA

Subcontracted Analyses

Analyzed By	Company	Address	Phone	Certification
SUBv	Energy Labs Casper	2393 Salt Creek Highway, Casper. WY 82601	307-235-0515	CERT

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.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Friday, May 31, 2024 4:28:59 PM



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www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	45645001	Date Collected:	04/15/2024 08:42	Matrix:	Groundwater		
Sample ID:	MW-2017-10	Date Received:	04/16/2024 15:59	Collector:	Client		
Temp @ Receipt (C):	5.4	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		05/31/2024 15:23	
Radium 228	See Attached			1		05/31/2024 15:23	

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Report Date: Friday, May 31, 2024 4:28:59 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	45645002	Date Collected:	04/15/2024 10:15	Matrix:	Groundwater		
Sample ID:	MW-2017-11	Date Received:	04/16/2024 15:59	Collector:	Client		
Temp @ Receipt (C):	5.4	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		05/31/2024 15:23	
Radium 228	See Attached			1		05/31/2024 15:23	

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ANALYTICAL SUMMARY REPORT

May 30, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24040681 Quote ID: C15480

Project Name: 45645

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 4/22/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24040681-001	45645001, MW-2017-10	04/15/24 8:42	04/22/24	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C24040681-002	45645002, MW-2017-11	04/15/24 10:15	04/22/24	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 45645
Lab ID: C24040681-001
Client Sample ID: 45645001, MW-2017-10

Report Date: 05/30/24
Collection Date: 04/15/24 08:42
Date Received: 04/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.3	pCi/L			E903.0		05/01/24 12:55 / alb
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/01/24 12:55 / alb
Radium 226 MDC	0.2	pCi/L			E903.0		05/01/24 12:55 / alb
Radium 228	0.2	pCi/L	U		RA-05		04/26/24 14:47 / kdk
Radium 228 precision (±)	0.5	pCi/L			RA-05		04/26/24 14:47 / kdk
Radium 228 MDC	0.9	pCi/L			RA-05		04/26/24 14:47 / kdk
Radium 226 + Radium 228	0.8	pCi/L	U		A7500-RA		05/02/24 11:08 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L			A7500-RA		05/02/24 11:08 / dmf
Radium 226 + Radium 228 MDC	0.9	pCi/L			A7500-RA		05/02/24 11:08 / dmf

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
 QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected at Minimum Detectable Concentration (MDC)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 45645
Lab ID: C24040681-002
Client Sample ID: 45645002, MW-2017-11

Report Date: 05/30/24
Collection Date: 04/15/24 10:15
Date Received: 04/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L		U		E903.0	05/01/24 12:55 / alb
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/01/24 12:55 / alb
Radium 226 MDC	0.2	pCi/L				E903.0	05/01/24 12:55 / alb
Radium 228	0.8	pCi/L		U		RA-05	04/26/24 14:47 / kdk
Radium 228 precision (±)	0.6	pCi/L				RA-05	04/26/24 14:47 / kdk
Radium 228 MDC	1	pCi/L				RA-05	04/26/24 14:47 / kdk
Radium 226 + Radium 228	0.6	pCi/L		U		A7500-RA	05/02/24 11:08 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L				A7500-RA	05/02/24 11:08 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	05/02/24 11:08 / dmf

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
 QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected at Minimum Detectable Concentration (MDC)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24040681

Report Date: 05/03/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11293										
Lab ID: LCS-RA226-11293	3	Laboratory Control Sample								
										Run: TENNELEC-3_240423A 05/01/24 10:47
Radium 226		12	pCi/L	117		70	130			
Radium 226 precision (±)		2.3	pCi/L							
Radium 226 MDC		0.15	pCi/L							
Lab ID: MB-RA226-11293	3	Method Blank								
										Run: TENNELEC-3_240423A 05/01/24 10:47
Radium 226		0.03	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C24040681-001ADUP	3	Sample Duplicate								
										Run: TENNELEC-3_240423A 05/01/24 12:55
Radium 226		0.25	pCi/L					18	30	
Radium 226 precision (±)		0.14	pCi/L							
Radium 226 MDC		0.19	pCi/L							
- The RER result is 0.24.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24040681

Report Date: 05/03/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7378										
Lab ID: LCS-228-RA226-11293	3	Laboratory Control Sample								
										Run: TENNELEC-4_240423C
Radium 228		6.0	pCi/L	95		70	130			04/26/24 14:47
Radium 228 precision (±)		1.3	pCi/L							
Radium 228 MDC		0.90	pCi/L							
Lab ID: MB-RA226-11293	3	Method Blank								
										Run: TENNELEC-4_240423C
Radium 228		0.2	pCi/L							04/26/24 14:47
Radium 228 precision (±)		0.5	pCi/L							U
Radium 228 MDC		0.8	pCi/L							
Lab ID: C24040681-001ADUP	3	Sample Duplicate								
										Run: TENNELEC-4_240423C
Radium 228		0.35	pCi/L					41	30	UR
Radium 228 precision (±)		0.54	pCi/L							
Radium 228 MDC		0.87	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.15.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24040681

Login completed by: Cristen C. Smith

Date Received: 4/22/2024

Reviewed by: Icadreau

Received by: CCS

Reviewed Date: 4/25/2024

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.3°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

None

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Client: Basin Electric Power Cooperative

Chain of Custody Record

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024104D G81

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Toll Free: (800) 279-6885

Work Order # 45645
Account #:
Phone #: 701-258-9720
Contact: Claudette
Name of Sampler:
Quote Number C15480 v5
Project Name/Number:
Date Submitted: 18-Apr-24
Purchase Order #: BL6866

Table with columns: Lab Number, MVTL Lab Number, Client Sample ID, Sample Type, Date Sampled, Time Sampled, Bottle Type, Analysis Required. Includes rows for MW-2017-10 and MW-2017-11.

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Summary table with columns: Transferred by, Date, Time, Sample Condition, Received by, Date, Temp. Includes entry for T. Olson on 18-Apr-24.

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Basin Electric Power Coop
WO: 45645

Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571	Account #	2040	Phone #	701-745-7238 701-557-5488
	Contact	Mark Dihle	Emails	mdihle@becp.com aknutson@becp.com
Billing Address (Indicate if different from above)	Name of Sampler	mls	jerney.hurshman@aecom.com jason.lach@aecom.com	
	Quote Number		Date Submitted 4/16/2024	
	Project Name/Number	LOS CCR PLANT PONDS	Purchase Order # 790708-04	

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
	001	MW - 2017 - 10	GW	4/15/2024	842	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
	002	MW - 2017 - 11	GW	4/15/2024	1015	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	4/16/2024			16Apr24	1559	5.4	(Y) N	TMA20
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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MW-2017-10
Well/Piezo ID:

Ground Water Sample Collection Record

Client: BEPC Date: 4/15/24
 Project No: _____ Time: Start 0750
 Site Location: LOS PONDS Finish 0900
 Weather Conds: Sunny, Breezy Collector(s) MK / MLS

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 52.1 c. Casing Material PVC e. Pump Settings 32psi 20/4
 b. Water Table Depth 34.34 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA
 a. Purge Method Dedicated Bladder Pump
 b. Field Testing Equipment Used: Make Model Serial Number
 YSI _____ 22C103901
 HACH _____ 20030C084551
 c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP	DO mg/L	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%		0.33 ft
0827	INITIAL 4.5L	10.1	7.53	995	-125.6	.34	.57	clear	34.41
0830	5 L	10.1	7.53	995	-126.3	.25	.72		34.39
0833	5.5 L	10.1	7.53	995	-126.9	.27	.66		34.44
0836	10 L	10.2	7.53	996	-127.2	.23	.57		34.40
0839	14.5 L	10.2	7.54	995	-126.9	.22	.55	↓	34.39
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1	HNO3	TDS	0842
	250ML	1		ANIONS	
	500 ML	1	HNO3	METALS	
	1gal	1	"	Radium	

Comments _____
 Signature Myles Schettler Date 4-15-24

Well/Piezo ID: MW-2017-11

Ground Water Sample Collection Record

Client:	<u>BEPC</u>	Date:	<u>4-15-24</u>
Project No:		Time: Start	<u>0940</u>
Site Location:	<u>LOS PONDS</u>	Finish	<u>1030</u>
Weather Conds:	<u>cloudy, Breezy, 50°</u> Collector(s) <u>MK, MIS</u>		

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer

a. Total Well Length 50.26 c. Casing Material PVC e. Pump Settings 40psi 25/5

b. Water Table Depth 40.07 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>		<u>22C103901</u>
<u>HACH</u>		<u>20030C084551</u>

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond	ORP	DO	Turbidity	Color	DTW
		+/- 0.2	+/- 0.1	(µs/cm)	+/- 10%	mg/L	(NTU)		
Stabilization									0.33 ft
<u>0956</u>	<u>INITIAL 3.5</u>	<u>10.4</u>	<u>7.51</u>	<u>925</u>	<u>-129.8</u>	<u>.32</u>	<u>1.91</u>	<u>clear</u>	<u>40.09</u>
<u>0959</u>	<u>4.5 L</u>	<u>10.4</u>	<u>7.50</u>	<u>925</u>	<u>-133.2</u>	<u>.23</u>	<u>1.73</u>		<u>40.09</u>
<u>1003</u>	<u>5.5 L</u>	<u>10.3</u>	<u>7.50</u>	<u>927</u>	<u>-133.2</u>	<u>.29</u>	<u>1.65</u>		<u>40.09</u>
<u>1007</u>	<u>6.5 L</u>	<u>10.4</u>	<u>7.50</u>	<u>928</u>	<u>-134.8</u>	<u>.23</u>	<u>0.98</u>		<u>40.08</u>
<u>1011</u>	<u>7.5 L</u>	<u>10.4</u>	<u>7.50</u>	<u>925</u>	<u>-136.4</u>	<u>.22</u>	<u>1.28</u>	↓	<u>40.08</u>
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>	<u>HNO3</u>	<u>TDS</u>	<u>1015</u>
	<u>250ML</u>	<u>1</u>		<u>ANIONS</u>	
	<u>500 ML</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	
	<u>1gal</u>	<u>1</u>		<u>Radium</u>	

Comments _____

Signature Myles Schettl Date 4-15-24



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1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
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
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 45645

Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571	Account #	2040	Phone #	701-745-7238 701-557-5488
	Contact	Mark Dihle	Emails	mdihle@becp.com aknutson@becp.com
Billing Address (Indicate if different from above)	Name of Sampler	mls	jerney.hurshman@aecom.com jason.lach@aecom.com	
	Quote Number		Date Submitted 4/16/2024	
	Project Name/Number	LOS CCR PLANT PONDS	Purchase Order # 790708-04	

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
	001	MW - 2017 - 10	GW	4/15/2024	842	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
	002	MW - 2017 - 11	GW	4/15/2024	1015	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	4/16/2024			16Apr24	1559	5.4	(Y) N	TMA20
2.							Y/N	

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

Form # 80-910005-1 See above for page number Effective Date: 26 Aug 2022

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS Multiunit CCR (48615) **PO:** 790708-04

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615001 **Date Collected:** 05/13/2024 13:20 **Matrix:** Groundwater
Sample ID: MW-2017-1 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	337	mg/L	25	5		05/22/2024 10:57	
Method: EPA 6010D							
Boron	0.50	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:50	
Calcium	226	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:25	
Method: SM4500-CI-E 2011							
Chloride	13.0	mg/L	2.0	1		05/21/2024 10:14	
Method: SM4500-F-C-2011							
Fluoride	0.39	mg/L	0.1	1		05/16/2024 12:34	
Method: USGS I-1750-85							
Total Dissolved Solids	1280	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615002 **Date Collected:** 05/13/2024 13:50 **Matrix:** Groundwater
Sample ID: MW-2017-2 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	274	mg/L	25	5		05/22/2024 10:58	
Method: EPA 6010D							
Boron	1.11	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:51	
Calcium	112	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:26	
Method: SM4500-CI-E 2011							
Chloride	10.5	mg/L	2.0	1		05/21/2024 10:15	
Method: SM4500-F-C-2011							
Fluoride	0.42	mg/L	0.1	1		05/16/2024 12:40	
Method: USGS I-1750-85							
Total Dissolved Solids	859	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615003 **Date Collected:** 05/13/2024 14:15 **Matrix:** Groundwater
Sample ID: MW-2017-3 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	123	mg/L	25	5		05/22/2024 10:48	
Method: EPA 6010D							
Boron	1.24	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:52	
Calcium	110	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:27	
Method: SM4500-CI-E 2011							
Chloride	9.9	mg/L	2.0	1		05/21/2024 10:16	
Method: SM4500-F-C-2011							
Fluoride	0.53	mg/L	0.1	1		05/16/2024 12:46	
Method: USGS I-1750-85							
Total Dissolved Solids	920	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615004 **Date Collected:** 05/13/2024 14:41 **Matrix:** Groundwater
Sample ID: MW-2017-7 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	267	mg/L	25	5		05/22/2024 10:49	
Method: EPA 6010D							
Boron	2.05	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:52	
Calcium	67.1	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:30	
Method: SM4500-Cl-E 2011							
Chloride	11.1	mg/L	2.0	1		05/21/2024 10:17	
Method: SM4500-F-C-2011							
Fluoride	1.32	mg/L	0.1	1		05/16/2024 12:52	
Method: USGS I-1750-85							
Total Dissolved Solids	704	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615005 **Date Collected:** 05/14/2024 08:40 **Matrix:** Groundwater
Sample ID: MW-2017-4 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	293	mg/L	25	5		05/22/2024 10:50	
Method: EPA 6010D							
Boron	1.18	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:53	
Calcium	147	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:33	
Method: SM4500-CI-E 2011							
Chloride	9.7	mg/L	2.0	1		05/21/2024 10:19	
Method: SM4500-F-C-2011							
Fluoride	0.82	mg/L	0.1	1		05/16/2024 12:58	
Method: USGS I-1750-85							
Total Dissolved Solids	855	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615006 **Date Collected:** 05/14/2024 11:30 **Matrix:** Groundwater
Sample ID: MW-2017-8 **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	1430	mg/L	50	10		05/22/2024 10:59	
Method: EPA 6010D							
Boron	<0.5	mg/L	0.5	5	05/15/2024 16:09	05/20/2024 12:54	
Calcium	134	mg/L	5	5	05/15/2024 16:09	05/16/2024 11:34	
Method: SM4500-CI-E 2011							
Chloride	24.7	mg/L	2.0	1		05/21/2024 10:20	
Method: SM4500-F-C-2011							
Fluoride	0.41	mg/L	0.1	1		05/16/2024 13:03	
Method: USGS I-1750-85							
Total Dissolved Solids	3680	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615007 **Date Collected:** 05/14/2024 10:30 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 05/15/2024 14:56 **Collector:** Client
Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	371	mg/L	25	5		05/22/2024 10:53	*
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	05/17/2024 09:25	05/17/2024 11:38	
Method: EPA 6010D							
Boron	0.65	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:55	
Calcium	8.54	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:35	
Lithium	0.0625	mg/L	0.02	1	05/15/2024 16:09	05/20/2024 10:24	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	05/15/2024 16:09	05/21/2024 15:39	
Arsenic	<0.002	mg/L	0.002	5	05/15/2024 16:09	05/21/2024 15:39	
Barium	0.0462	mg/L	0.002	5	05/15/2024 16:09	05/21/2024 15:39	
Beryllium	<0.0005	mg/L	0.0005	5	05/15/2024 16:09	05/22/2024 11:33	
Cadmium	<0.0005	mg/L	0.0005	5	05/15/2024 16:09	05/21/2024 15:39	
Chromium	<0.002	mg/L	0.002	5	05/15/2024 16:09	05/21/2024 15:39	
Cobalt	<0.002	mg/L	0.002	5	05/15/2024 16:09	05/21/2024 15:39	
Lead	<0.0005	mg/L	0.0005	5	05/15/2024 16:09	05/21/2024 15:39	
Molybdenum	<0.002	mg/L	0.002	5	05/15/2024 16:09	05/21/2024 15:39	
Selenium	<0.005	mg/L	0.005	5	05/15/2024 16:09	05/21/2024 15:39	
Thallium	<0.0005	mg/L	0.0005	5	05/15/2024 16:09	05/21/2024 15:39	
Method: SM4500-CI-E 2011							
Chloride	15.6	mg/L	2.0	1		05/21/2024 10:21	
Method: SM4500-F-C-2011							
Fluoride	0.63	mg/L	0.1	1		05/16/2024 13:10	
Method: USGS I-1750-85							
Total Dissolved Solids	1810	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Analysis Results Comments

Sulfate

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

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 48615008 **Date Collected:** 05/13/2024 13:20 **Matrix:** Groundwater
Sample ID: Duplicate **Date Received:** 05/15/2024 14:56 **Collector:** Client

Temp @ Receipt (C): 3.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	332	mg/L	25	5		05/22/2024 10:54	
Method: EPA 6010D							
Boron	0.48	mg/L	0.1	1	05/15/2024 16:09	05/20/2024 12:57	
Calcium	217	mg/L	1	1	05/15/2024 16:09	05/16/2024 11:36	
Method: SM4500-CI-E 2011							
Chloride	12.5	mg/L	2.0	1		05/21/2024 10:22	
Method: SM4500-F-C-2011							
Fluoride	0.39	mg/L	0.1	1		05/16/2024 13:16	
Method: USGS I-1750-85							
Total Dissolved Solids	1280	mg/L	10	1		05/15/2024 16:22	

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary										WO #:	48615
Sulfate			Units: mg/L								
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			100	102.0		85	115				
LFB			100	105.0		85	115				
LFB			100	106.0		85	115				
LFB			100	105.0		85	115				
LFB			100	106.0		85	115				
LFB			100	88.6		85	115				
LFB			100	89.3		85	115				
LFB			100	91.8		85	115				
LFB			100	98.7		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MS/MSD	48615007		500	60.8	60.7	85	115	0.1	20		
MS/MSD	48628004		500	87.2	90.4	85	115	3.3	20		
MS/MSD	48691003		2000	63.6	64.4	85	115	0.6	20		
MS/MSD	48695001		5000	95.3	92.2	85	115	1.7	20		
MS/MSD	48799013		100	102.1	101.5	85	115	0.0	20		
MS/MSD	48978001		500	93.3	111.0	85	115	11.1	20		
MS/MSD	48979003		4000	103.0	108.2	85	115	3.8	20		
MS/MSD	48979004		100	103.9	104.1	85	115	0.0	20		
Chloride			Units: mg/L								
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			30	96.1		90	110				

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Chloride			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			30	95.8		90	110		
LFB			30	94.9		90	110		
LFB			30	94.5		90	110		
LFB			30	94.1		90	110		
LFB			30	93.6		90	110		
LFB			30	93.5		90	110		
LFB			30	93.4		90	110		
LFB			30	94.1		90	110		
LFB			30	93.1		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	48326001		30	92.5	92.5	80	120	0.0	20
MS/MSD	48399012		30	95.2	93.5	80	120	1.8	20
MS/MSD	48529001		30	94.5	95.2	80	120	0.0	20
MS/MSD	48695001		30	96.2	94.4	80	120	0.6	20
MS/MSD	48806002		30	100.0	98.2	80	120	0.6	20
MS/MSD	48806003		30	100.7	100.7	80	120	0.0	20
Boron			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	103.0		85	115		
MB		<0.1							
MS/MSD	48615007		0.4	96.6	100.0	70	130	1.4	20

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Calcium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MI			100	106.0		85	115		
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MB		<1							
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PDS/PDS	48277003		100	108.0	109.0	75	125	0.2	20
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PDS/PDS	48384002		100	105.0	105.0	75	125	0.1	20
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PDS/PDS	48399012		100	110.0	111.0	75	125	0.8	20
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DUP	48477001							4.0	20
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PDS/PDS	48615004		100	106.0	106.0	75	125	0.1	20
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DUP	48615008							0.6	20
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Lithium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-OE			0.4	106.0		85	115		
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MB		<-0.04							
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MS/MSD	48615007		0.4	98.7	101.0	70	130	2.2	20
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Antimony			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	97.0		80	120		
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LFB-MS			0.1	94.4		80	120		
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MB		<-0.001							
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MB		<-0.001							
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MS/MSD	48615007		0.4	101.0	102.0	75	125	1.5	20
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MS/MSD	48615007		0.4	101.0	103.0	75	125	2.5	20
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SPK	48637009		0.1	97.8		75	125		
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SPK	48695001		0.1	101.0		75	125		
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Arsenic			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	90.0		80	120		
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LFB-MS			0.1	100.0		80	120		
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MB		<-0.002							
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MB		<-0.002							
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MS/MSD	48615007		0.4	98.0	96.7	75	125	1.3	20
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MS/MSD	48615007		0.4	105.0	106.0	75	125	1.0	20
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Arsenic									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

SPK	48637009		0.1	104.0		75	125		
SPK	48695001		0.1	107.0		75	125		
SPK	48695001		0.2	99.4		75	125		

Barium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	94.5		80	120		
LFB-MS			0.1	93.2		80	120		
MB		<-0.002							
MB		<-0.002							
MS/MSD	48615007		0.4	92.0	88.8	75	125	3.2	20
MS/MSD	48615007		0.4	96.0	98.1	75	125	2.1	20
SPK	48637009		0.1	78.4		75	125		
SPK	48695001		0.1	81.8		75	125		

Beryllium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	96.7		80	120		
LFB-MS			0.1	97.0		80	120		
MB		<-0.0005							
MB		<-0.0005							
MS/MSD	48615007		0.4	96.8	94.8	75	125	2.1	20
SPK	48695001		0.1	93.9		75	125		
SPK	48695001		0.2	87.8		75	125		

Cadmium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	101.0		80	120		
LFB-MS			0.1	93.7		80	120		
MB		<-0.0005							
MB		<-0.0005							
MS/MSD	48615007		0.4	99.6	96.2	75	125	3.1	20
MS/MSD	48615007		0.4	99.3	103.0	75	125	4.2	20
SPK	48637009		0.1	86.2		75	125		

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Cadmium		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	48695001		0.2	88.3		75	125		
SPK	48695001		0.1	85.4		75	125		

Chromium		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	109.0		80	120		
LFB-MS			0.1	100.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	48615007		0.4	105.0	111.0	75	125	5.1	20
MS/MSD	48615007		0.4	103.0	98.7	75	125	4.2	20
SPK	48637009		0.1	105.0		75	125		
SPK	48695001		0.1	110.0		75	125		
SPK	48695001		0.2	99.1		75	125		

Cobalt		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	97.8		80	120		
LFB-MS			0.1	103.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	48615007		0.4	100.0	95.3	75	125	4.4	20
MS/MSD	48615007		0.4	99.4	105.0	75	125	5.1	20
SPK	48637009		0.1	97.0		75	125		
SPK	48695001		0.2	96.3		75	125		
SPK	48695001		0.1	99.9		75	125		

Lead		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	96.8		80	120		
LFB-MS			0.1	98.9		80	120		
MB		<0.0005							
MB		<0.0005							
MS/MSD	48615007		0.4	96.9	98.2	75	125	1.3	20

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Lead									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD	48615007		0.4	95.5	92.7	75	125	2.9	20
SPK	48637009		0.1	98.0		75	125		
SPK	48695001		0.1	94.1		75	125		

Molybdenum									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	92.7		80	120		
LFB-MS			0.1	98.4		80	120		
MB		<-0.002							
MB		<-0.002							

MS/MSD	48615007		0.4	96.5	96.6	75	125	0.0	20
MS/MSD	48615007		0.4	101.0	108.0	75	125	6.7	20
SPK	48637009		0.1	95.7		75	125		
SPK	48695001		0.1	104.0		75	125		
SPK	48695001		0.2	99.8		75	125		

Selenium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	99.3		80	120		
LFB-MS			0.1	100.0		80	120		
MB		<-0.005							
MB		<-0.005							

MS/MSD	48615007		0.4	106.0	103.0	75	125	3.2	20
MS/MSD	48615007		0.4	99.9	104.0	75	125	3.9	20
SPK	48637009		0.1	101.0		75	125		
SPK	48695001		0.1	102.0		75	125		
SPK	48695001		0.2	101.0		75	125		

Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	96.8		80	120		
LFB-MS			0.1	101.0		80	120		
MB		<-0.0005							
MB		<-0.0005							

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Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD	48615007		0.4	97.1	99.6	75	125	2.5	20
MS/MSD	48615007		0.4	94.6	91.9	75	125	2.9	20
SPK	48637009		0.1	101.0		75	125		
SPK	48695001		0.1	96.0		75	125		
Mercury									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			0.002	97.2		85	115		
LFB			0.002	95.0		85	115		
LFB			0.002	96.7		85	115		
LRB		<-0.0002							
MB		<-0.0002							
MB		<-0.0002							
MS/MSD	48399002		0.002	98.8	95.0	70	130	5.1	20
MS/MSD	48430001		0.002	96.8	96.6	70	130	0.0	20
MS/MSD	48637007		0.002	100.0	100.0	70	130	0.0	20
PDS/PDSD	48691009		0.01	99.9	97.4	70	130	3.0	
MS/MSD	48695001		0.002	94.0	97.3	70	130	0.0	20
Fluoride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-F			3.06	109.0		83.99	111.11		
LFB-F			0.5	110.0		90	110		
LFB-F			0.5	100.0		90	110		
LFB-F			0.5	110.0		90	110		
LFB-F			0.5	104.0		90	110		
LFB-F			0.5	110.0		90	110		
MB-F		<-0.1							
MB-F		<-0.1							
MB-F		<-0.1							
MB-F		<-0.1							
MB-F		<-0.1							
MS/MSD-F	48615005		0.5	100.0	98.0	80	120	0.8	20

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Fluoride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD-F	48626004		0.5	108.0	108.0	80	120	0.0	20
MS/MSD-F	48672003		0.5	102.0	102.0	80	120	0.0	20
MS/MSD-F	48695001		0.5	100.0	98.0	80	120	1.4	20

Total Dissolved Solids									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM			736	100.0		90.35	110.33		
MB		<10							
DUP	48401001							1.2	20

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Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Myles Shettler	Ksolie@barr.com
		Quote Number	Date Submitted 5/15/2024
		Project Name/Number LOS MultiUnit CCR	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
001	MW-2017-1	GW	5/13/2024	1320	2 N	B,Ca,Ci,F,SO4,TDS
002	MW-2017-2	GW	5/13/2024	1350	2 N	B,Ca,Ci,F,SO4,TDS
003	MW-2017-3	GW	5/13/2024	1415	2 N	B,Ca,Ci,F,SO4,TDS
004	MW-2017-7	GW	5/13/2024	1441	2 N	B,Ca,Ci,F,SO4,TDS
005	MW-2017-4	GW	5/14/2024	840	2 N	B,Ca,Ci,F,SO4,TDS
006	MW-2017-8	GW	5/14/2024	1130	2 N	B,Ca,Ci,F,SO4,TDS
007	MW-2017-8D	GW	5/14/2024	1030	3 N	B,Ca,Ci,F,SO4,TDS,Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li, Hg,Mo,Se,Ti,Ra226,Ra228
008	Duplicate	GW	5/13/2024	1320	2 N	B,Ca,Ci,F,SO4,TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. Millennium Express	5-15-24		H. Shettler	5/15/24	14:50	36°C	(Y) N	Tr-632
2.							Y / N	

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Tuesday, June 4, 2024 10:10:52 AM

Well/Piezo ID: MW-2017-01

Ground Water Sample Collection Record

Client: <u>BEPC</u>	Date: <u>5-13-24</u>
Project No: _____	Time: Start <u>1248</u>
Site Location: <u>LOS PONDS</u>	Finish <u>1325</u>
Weather Conds: <u>68 Sunny</u> Collector(s) <u>AK</u>	

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 26:4 @ 60 psi

b. Water Table Depth 25.7 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
<0.5 <5

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP	DO mg/L	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%		0.33 ft
1308 1300	INITIAL 4L	10.6	7.06	1864	-142.2	0.80	2.81	Clear	25.75
1305	6 L	10.9	7.04	1877	-139.9	0.48	2.16		25.70
1310	8 L	10.6	7.05	1875	-138.6	0.45	1.70		25.73
1315	10 L	10.9	7.05	1880	-138.2	0.42	2.19		25.71
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Have parameters stabilized	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-2017-01</u>	1L	1	HNO3	TDS	<u>1320</u>
	250ML	1		ANIONS	
	500 ML	1	HNO3	METALS	

Comments _____

Signature [Signature] Date 5-13-24

MW Well/Piezo ID:
-2017-02

Ground Water Sample Collection Record

Client:	BEPC	Date: <u>5-13-24</u> <u>1830</u>
Project No:		Time: Start <u>1330</u>
Site Location:	LOS PONDS	Finish <u>1352</u>
Weather Conds:	<u>68° Sunny</u>	Collector(s) <u>AK</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 2515 @ 60 psi
 b. Water Table Depth 22.97 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C) +/- 0.2	pH +/- 0.1	Spec. Cond (µs/cm) +/- 3%	ORP +/- 10%	DO mg/L +/- 10%	Turbidity (NTU) +/- 10%	Color	DTW 0.33 ft
1340	INITIAL 5	10.8	7.18	1316	-107.3	0.38	4.20	Clear	22.97
1343	7 L	10.8	7.25	1299	-113.2	0.26	3.46		23.0
1346	9 L	10.6	7.27	1271	-116.4	0.18	1.65		22.99
1349	11 L	10.6	7.27	1267	-117.0	0.17	1.39		23.03
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- e. Acceptance criteria pass/fail
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|-------------------------------------|-----------------------------------------|-----------------------------|------------------------------|
| Has required volume been removed | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Has required turbidity been reached | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-2017-2</u>	1L	1	HNO3	TDS	<u>1350</u>
	250ML	1		ANIONS	✓
	500 ML	1	HNO3	METALS	

Comments _____

Signature Date 5-13-24

Well/Piezo ID: MW-2017-3

Ground Water Sample Collection Record

Client:	<u>BEPC</u>	Date:	<u>5-13-24</u>
Project No:	_____	Time: Start	<u>1355</u>
Site Location:	<u>LOS PONDS</u>	Finish	<u>1414</u>
Weather Conds:	<u>68° Sun</u>	Collector(s)	<u>AK</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 26.4 @ 60 psi

b. Water Table Depth 24.27 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
<0.5 <5

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP	DO mg/L	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%		0.33 ft
<u>1405</u>	<u>INITIAL 4L</u>	<u>10.6</u>	<u>7.30</u>	<u>1449</u>	<u>-129.7</u>	<u>0.21</u>	<u>2.51</u>	<u>Clear</u>	<u>25.0</u>
<u>1408</u>	<u>5 L</u>	<u>10.6</u>	<u>7.32</u>	<u>1446</u>	<u>-132.4</u>	<u>0.20</u>	<u>2.21</u>		<u>25.0</u>
<u>1411</u>	<u>6 L</u>	<u>10.5</u>	<u>7.32</u>	<u>1440</u>	<u>-133.0</u>	<u>0.19</u>	<u>1.81</u>		<u>25.0</u>
<u>1414</u>	<u>7 L</u>	<u>10.5</u>	<u>7.32</u>	<u>1437</u>	<u>-133.0</u>	<u>0.19</u>	<u>1.70</u>		<u>24.96</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-2017-3</u>	<u>1L</u>	<u>1</u>	<u>HNO3</u>	<u>TDS</u>	<u>1415</u>
	<u>250ML</u>	<u>1</u>		<u>ANIONS</u>	
	<u>500 ML</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	

Comments _____

Signature [Signature] Date 5-13-24

Well/Piezo ID: MW 2017-7

Ground Water Sample Collection Record

Client:	<u>BEPC</u>	Date:	<u>5-13-24</u>
Project No:		Time: Start	<u>1420</u>
Site Location:	<u>LOS PONDS</u>	Finish	<u>1443</u>
Weather Conds:	<u>68° Sun</u>	Collector(s)	<u>A/C</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 26'4 @ 60psi

b. Water Table Depth 39.87 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>		<u>22C103901</u>
<u>HACH</u>		<u>20030C084551</u>

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP	DO mg/L	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%		0.33 ft
<u>1430</u>	<u>INITIAL 3</u>	<u>11.1</u>	<u>7.59</u>	<u>995</u>	<u>26.1</u>	<u>0.32</u>	<u>1.99</u>	<u>Brown</u>	<u>40.0</u>
<u>1433</u>	<u>4 L</u>	<u>11.0</u>	<u>7.57</u>	<u>1006</u>	<u>22.7</u>	<u>0.25</u>	<u>1.80</u>	<u>↓</u>	<u>39.91</u>
<u>1436</u>	<u>5 L</u>	<u>11.1</u>	<u>7.56</u>	<u>1008</u>	<u>21.9</u>	<u>0.20</u>	<u>1.68</u>	<u>↓</u>	<u>40.0</u>
<u>1439</u>	<u>6 L</u>	<u>11.0</u>	<u>7.57</u>	<u>1006</u>	<u>22.0</u>	<u>0.22</u>	<u>1.60</u>	<u>↓</u>	<u>40.01</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW 2017-7</u>	<u>1L</u>	<u>1</u>	<u>HNO3</u>	<u>TDS</u>	<u>1441</u>
	250ML	1		ANIONS	
	<u>500 ML</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	

Comments _____

Signature [Signature] Date 5-13-24

Well/Piezo ID: MW-2017-4

Ground Water Sample Collection Record

Client:	<u>BEPC</u>	Date:	<u>5-14-24</u>
Project No:		Time: Start	<u>0745</u>
Site Location:	<u>LOS PONDS</u>	Finish	<u>0855</u>
Weather Conds:	<u>calm 52°</u>	Collector(s)	<u>MS</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length	c. Casing Material	Well <input checked="" type="checkbox"/>	Piezometer <input type="checkbox"/>
b. Water Table Depth	d. Casing Diameter	e. Pump Settings	<u>26/4 @ 40 psi</u>
<u>25.94</u>		f. Calculated Well Volume (see back)	

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
<0.5 <5

Time	Volume Removed (gal)	T° (C) +/- 0.2	pH +/- 0.1	Spec. Cond (µs/cm) +/- 3%	ORP +/- 10%	DO mg/L +/- 10%	Turbidity (NTU) +/- 10%	Color	DTW 0.33 ft
0820	INITIAL 6.5	10.4	7.16	1221	-117.3	.29	11.7	Cloudy	26.01
0823	7 L	10.4	7.16	1221	-117.7	.28	10.6		25.98
0827	7.5 L	10.4	7.16	1224	-118.3	.28	7.85		26.0
0830	8 L	10.4	7.16	1224	-118.6	.28	8.05		25.97
0833	8.5 L	10.4	7.16	1224	-119.3	.29	8.82		26.0
0836	9 L	10.4	7.16	1225	-119.5	.31	8.72	↓	25.99
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-2017-4</u>	1L	1	HNO3	TDS	<u>0840</u>
	250ML	1		ANIONS	
	500 ML	1	HNO3	METALS	

Comments _____

Signature Myles Schettler

Date 5-14-24

Well/Piezo ID: MW-2017-80

Ground Water Sample Collection Record

Client:	BEPC	Date:	5-14-24
Project No:		Time: Start	0920
Site Location:	LOS PONDS	Finish	1040
Weather Conds:	calm 55°	Collector(s):	

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 25/5 @ 45 psi

b. Water Table Depth 38.16 d. Casing Diameter _____ f. Calculated Well Volume (see back) _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C) +/- 0.2	pH +/- 0.1	Spec. Cond (µs/cm) +/- 3%	ORP +/- 10%	DO mg/L +/- 10%	Turbidity (NTU) +/- 10%	Color	DTW 0.33 ft
1015	INITIAL 9 L	9.5	7.95	2840	-43.9	.23	5.86	Brown	38.21
1018	9.5 L	9.4	7.95	2827	-49.4	.22	6.40		38.21
1021	10 L	9.4	7.95	2840	-50.8	.23	6.77		38.20
1025	10.5 L	9.4	7.95	2830	-51.7	.22	7.39		38.21
1028	11 L	9.4	7.95	2829	-52.6	.21	6.91		38.21
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1	HNO3	TDS	1030
	250ML	1		ANIONS	
	500 ML	1	HNO3	METALS	
	1 GAL	1		Radium	

Comments _____

Signature Myles Schmitt Date 5-14-24

Well/Piezo ID: MW-2017-8

Ground Water Sample Collection Record

Client:	<u>BEPC</u>	Date:	<u>5-14-24</u>
Project No:	_____	Time: Start	<u>1045</u>
Site Location:	<u>LOS PONDS</u>	Finish	<u>1140</u>
Weather Conds:	<u>Calm 60°</u>	Collector(s)	<u>mb</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length _____	c. Casing Material <u>PVC</u>	Well <input checked="" type="checkbox"/> Piezometer <input type="checkbox"/>
b. Water Table Depth <u>28.66</u>	d. Casing Diameter _____	e. Pump Settings <u>26/4 @ 40 psi</u>
f. Calculated Well Volume (see back) _____		

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:	Make	Model	Serial Number
	<u>YSI</u>		<u>22C103901</u>
	<u>HACH</u>		<u>20030C084551</u>

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
<0.5 <5

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP	DO mg/L	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%		0.33 ft
<u>1115</u>	<u>INITIAL 6.5L</u>	<u>9.8</u>	<u>7.39</u>	<u>4712</u>	<u>-112</u>	<u>.33</u>	<u>9.38</u>	<u>Brown</u>	<u>28.63</u>
<u>1118</u>	<u>7 L</u>	<u>9.9</u>	<u>7.39</u>	<u>4712</u>	<u>-112.1</u>	<u>.37</u>	<u>9.17</u>	<u>↓</u>	<u>28.64</u>
<u>1121</u>	<u>7.5 L</u>	<u>9.9</u>	<u>7.39</u>	<u>4727</u>	<u>-112.4</u>	<u>.39</u>	<u>8.25</u>	<u>↓</u>	<u>28.66</u>
<u>1125</u>	<u>8 L</u>	<u>9.9</u>	<u>7.39</u>	<u>4720</u>	<u>-112.6</u>	<u>.40</u>	<u>8.28</u>	<u>↓</u>	<u>28.66</u>
<u>1128</u>	<u>8.5 L</u>	<u>9.8</u>	<u>7.39</u>	<u>4720</u>	<u>-112.8</u>	<u>.35</u>	<u>8.05</u>	<u>↓</u>	<u>28.67</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>	<u>HNO3</u>	<u>TDS</u>	<u>1130</u>
	<u>250ML</u>	<u>1</u>		<u>ANIONS</u>	
	<u>500 ML</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	

Comments _____

Signature Mykes S. [Signature] Date 5-14-24

Basin Electric North Dakota

Site Name: LOS PONDS

Event Date: 5-13-24

Weather Conditions: WARM & SUNNY

Field Technician: AK

River Elevation (if applicable)
1657.41

Well ID	Time	Depth to Water*	Well Condition	Comments
MW - 2017 - 01	730	25.70	GOOD	
MW - 2017 - 02		22.97		
MW - 2017 - 03		24.27		
MW - 2017 - 07		39.87		
MW - 2017 - 09		51.41		
MW - 2017 - 11		39.70		
MW - 2017 - 10		33.93		
MW - 2017 - 04		25.94		
MW - 2017 - 08D		38.16		
MW - 2017 - 08		28.66		

* Depth to water as measured from the top of PVC casing.



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



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 48615



Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Myles Shettler	Ksolie@barr.com
		Quote Number	Date Submitted 5/15/2024
		Project Name/Number LOS MultiUnit CCR	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
001	MW-2017-1	GW	5/13/2024	1320	2 N	B,Ca,Ci,F,SO4,TDS
002	MW-2017-2	GW	5/13/2024	1350	2 N	B,Ca,Ci,F,SO4,TDS
003	MW-2017-3	GW	5/13/2024	1415	2 N	B,Ca,Ci,F,SO4,TDS
004	MW-2017-7	GW	5/13/2024	1441	2 N	B,Ca,Ci,F,SO4,TDS
005	MW-2017-4	GW	5/14/2024	840	2 N	B,Ca,Ci,F,SO4,TDS
006	MW-2017-8	GW	5/14/2024	1130	2 N	B,Ca,Ci,F,SO4,TDS
007	MW-2017-8D	GW	5/14/2024	1030	3 N	B,Ca,Ci,F,SO4,TDS,Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li, Hg,Mo,Se,Ti,Ra226,Ra228
008	Duplicate	GW	5/13/2024	1320	2 N	B,Ca,Ci,F,SO4,TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. Millennium Express	5-15-24		H. Shettler	5/15/24	14:50	36°C	(Y) N	Tr-632
2.							Y / N	

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Report Date: Tuesday, June 4, 2024 10:10:52 AM



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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Plant Ponds (52994) **PO:** 790708-04 LOS

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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 SD SDWA

Subcontracted Analyses

Analyzed By	Company	Address	Phone	Certification
SUBv	Energy Labs Casper	2393 Salt Creek Highway, Casper. WY 82601	307-235-0515	CERT

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	52994001	Date Collected:	06/25/2024 10:35	Matrix:	Groundwater		
Sample ID:	MW-2017-10	Date Received:	06/26/2024 14:47	Collector:	Client		
Temp @ Receipt (C):	5.6	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		08/01/2024 10:52	
Radium 228	See Attached			1		08/01/2024 10:52	

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Report Date: Thursday, August 1, 2024 11:18:07 AM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	52994002	Date Collected:	06/25/2024 08:30	Matrix:	Groundwater		
Sample ID:	MW-2017-11	Date Received:	06/26/2024 14:47	Collector:	Client		
Temp @ Receipt (C):	5.6	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		08/01/2024 10:52	
Radium 228	See Attached			1		08/01/2024 10:52	

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Account #: 2040

Client: Basin Electric Power Cooperative



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ANALYTICAL SUMMARY REPORT

July 30, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24070019 Quote ID: C15480

Project Name: 52994

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 7/1/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24070019-001	52994001, MW-2017-10	06/25/24 10:35	07/01/24	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C24070019-002	52994002, MW-2017-11	06/25/24 8:30	07/01/24	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

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Report Date: Thursday, August 1, 2024 11:18:07 AM



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 52994
Lab ID: C24070019-001
Client Sample ID: 52994001, MW-2017-10

Report Date: 07/30/24
Collection Date: 06/25/24 10:35
Date Received: 07/01/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.4	pCi/L			E903.0		07/15/24 15:32 / haw
Radium 226 precision (±)	0.2	pCi/L			E903.0		07/15/24 15:32 / haw
Radium 226 MDC	0.2	pCi/L			E903.0		07/15/24 15:32 / haw
Radium 228	1.1	pCi/L	U		RA-05		07/10/24 12:16 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		07/10/24 12:16 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		07/10/24 12:16 / trs
Radium 226 + Radium 228	1.0	pCi/L	U		A7500-RA		07/17/24 10:21 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L			A7500-RA		07/17/24 10:21 / dmf
Radium 226 + Radium 228 MDC	1.3	pCi/L			A7500-RA		07/17/24 10:21 / dmf

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

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Report Date: Thursday, August 1, 2024 11:18:07 AM



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Account #: 2040

Client: Basin Electric Power Cooperative



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 52994
Lab ID: C24070019-002
Client Sample ID: 52994002, MW-2017-11

Report Date: 07/30/24
Collection Date: 06/25/24 08:30
Date Received: 07/01/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		07/15/24 15:32 / haw
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/15/24 15:32 / haw
Radium 226 MDC	0.1	pCi/L			E903.0		07/15/24 15:32 / haw
Radium 228	-0.2	pCi/L	U		RA-05		07/10/24 12:16 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/10/24 12:16 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/10/24 12:16 / trs
Radium 226 + Radium 228	0.7	pCi/L	U		A7500-RA		07/17/24 10:21 / dmf
Radium 226 + Radium 228 precision (±)	0.7	pCi/L			A7500-RA		07/17/24 10:21 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L			A7500-RA		07/17/24 10:21 / dmf

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected at Minimum Detectable Concentration (MDC)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24070019

Report Date: 07/17/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11364										
Lab ID: LCS-RA226-11364	3	Laboratory Control Sample								
		Run: TENNELEC-4_240702B								07/15/24 15:42
Radium 226		9.9	pCi/L	100		70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.17	pCi/L							
Lab ID: MB-RA226-11364	3	Method Blank								
		Run: TENNELEC-4_240702B								07/15/24 15:42
Radium 226		0.01	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C24060946-020EDUP	3	Sample Duplicate								
		Run: TENNELEC-4_240702B								07/15/24 15:42
Radium 226		2.1	pCi/L					9.0	30	
Radium 226 precision (±)		0.46	pCi/L							
Radium 226 MDC		0.16	pCi/L							
- The RER result is 0.29.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24070019

Report Date: 07/17/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7432										
Lab ID: LCS-228-RA226-11364	3	Laboratory Control Sample								
										Run: TENNELEC-4_240702A
Radium 228		9.8	pCi/L	95		70	130			07/10/24 12:16
Radium 228 precision (±)		2.0	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-11364	3	Method Blank								
										Run: TENNELEC-4_240702A
Radium 228		-0.06	pCi/L							07/10/24 12:16
Radium 228 precision (±)		0.7	pCi/L							U
Radium 228 MDC		1	pCi/L							
Lab ID: C24060946-020EDUP	3	Sample Duplicate								
										Run: TENNELEC-4_240702A
Radium 228		6.1	pCi/L					16	30	07/10/24 12:16
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.0	pCi/L							
- The RER result is 0.52.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24070019

Login completed by: Lisa X. Quezada

Date Received: 7/1/2024

Reviewed by: cindy

Received by: CCS

Reviewed Date: 7/11/2024

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	26.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

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Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record

Page 1 of 1



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501

Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Work Order # 52994 674070019

Company Name and Address: MVTL 2616 E Broadway Bismarck, ND 58501		Account #:	Phone #: 701-258-9720
Billing Address (indicate if different from above): PO Box 249 New Ulm, MN 56073		Contact: Claudette	Fax #: For faxed report check box <input type="checkbox"/>
		Name of Sampler:	E-mail: ccarroll@mvtl.com For e-mail report check box <input type="checkbox"/>
		Quote Number C15480 v5	Date Submitted: 27-Jun-24
		Project Name/Number:	Purchase Order #: BL6901

Sample Information						Bottle Type					Analysis	
Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Untreated	Gallon HNO3	VOC Vials	Unpreserved	Glass Jar	Other	Analysis Required
	52994001	MW-2017-10	GW	25-Jun-24	1035			1				Ra226 & Ra228
	52994002	MW-2017-11	GW	25-Jun-24	0830			1				Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	27-Jun-24	1700		<i>Auric Hunt</i>	7-1-24 10:00	

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Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501

Phone: (701) 258-9720

Toll Free: (800) 279-6885

Fax: (701) 258-9724

Basin Electric Power Cooperative
WO: 52994

Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> <u>Leland Olds Station</u> <u>3901 Highway 200A</u> <u>Stanton, ND 58571</u>		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@becp.com aknutson@becp.com Ksolie@barr.com
		Name of Sampler mk	
		Quote Number	Date Submitted 6/26/2024
		Project Name/Number LOS CCR PLANT PONDS	Purchase Order # 790708-04

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
	001	MW - 2017 - 10	GW	6/25/2024	1035	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
	002	MW - 2017 - 11	GW	6/25/2024	830	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
	—	DUP.	GW	6/25/2024	1035	2	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, & TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	6/26/2024		<i>Aljose</i>	6/26/2024	1447	5.6°C	Y/N	TM-620
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Plant Ponds (52997) **PO:** 790708-04

Mark Dihle
 Basin Electric Power Cooperative
 1717 E. Interstate Avenue
 Bismarck, ND 58503

Certificate of Analysis**Approval**

All data reported has been reviewed and approved by:

C. Carroll

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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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

Lab ID: 52997001 **Date Collected:** 06/25/2024 10:35 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 06/26/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 5.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	298	mg/L	25	5		07/02/2024 11:49	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	07/09/2024 10:30	07/10/2024 08:57	
Method: EPA 6010D							
Boron	0.87	mg/L	0.1	1	06/27/2024 16:39	07/02/2024 11:46	
Calcium	92.6	mg/L	1	1	06/27/2024 16:39	07/09/2024 10:00	
Lithium	<0.02	mg/L	0.02	1	06/27/2024 16:39	07/10/2024 10:30	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	06/27/2024 16:39	07/11/2024 11:47	
Arsenic	0.0032	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:47	
Barium	0.0784	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:47	
Beryllium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:47	
Cadmium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:47	
Chromium	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:47	
Cobalt	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:47	
Lead	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:47	
Molybdenum	0.0075	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:47	
Selenium	<0.005	mg/L	0.005	5	06/27/2024 16:39	07/11/2024 11:47	
Thallium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:47	
Method: SM4500-CI-E 2011							
Chloride	10.3	mg/L	2.0	1		07/02/2024 09:30	
Method: SM4500-F-C-2011							
Fluoride	0.82	mg/L	0.1	1		06/27/2024 15:36	
Method: USGS I-1750-85							
Total Dissolved Solids	676	mg/L	10	1		06/28/2024 14:55	

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

Lab ID: 52997002 **Date Collected:** 06/25/2024 08:30 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 06/26/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 5.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	179	mg/L	25	5		07/02/2024 11:50	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	07/09/2024 10:30	07/10/2024 08:57	
Method: EPA 6010D							
Boron	1.24	mg/L	0.1	1	06/27/2024 16:39	07/02/2024 11:47	
Calcium	63.2	mg/L	1	1	06/27/2024 16:39	07/09/2024 10:01	
Lithium	0.0322	mg/L	0.02	1	06/27/2024 16:39	07/10/2024 10:31	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	06/27/2024 16:39	07/11/2024 11:59	
Arsenic	0.0101	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:59	
Barium	0.0434	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:59	
Beryllium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:59	
Cadmium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:59	
Chromium	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:59	
Cobalt	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:59	
Lead	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:59	
Molybdenum	0.0100	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 11:59	
Selenium	<0.005	mg/L	0.005	5	06/27/2024 16:39	07/11/2024 11:59	
Thallium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 11:59	
Method: SM4500-CI-E 2011							
Chloride	10.6	mg/L	2.0	1		07/02/2024 09:40	
Method: SM4500-F-C-2011							
Fluoride	0.73	mg/L	0.1	1		06/27/2024 15:42	
Method: USGS I-1750-85							
Total Dissolved Solids	592	mg/L	10	1		06/28/2024 14:55	

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

Lab ID: 52997003 **Date Collected:** 06/25/2024 10:35 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/26/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 5.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	294	mg/L	25	5		07/02/2024 11:52	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	07/09/2024 10:30	07/10/2024 08:57	
Method: EPA 6010D							
Boron	0.88	mg/L	0.1	1	06/27/2024 16:39	07/02/2024 11:47	
Calcium	95.8	mg/L	1	1	06/27/2024 16:39	07/09/2024 10:01	
Lithium	<0.02	mg/L	0.02	1	06/27/2024 16:39	07/10/2024 10:31	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	06/27/2024 16:39	07/11/2024 12:08	
Arsenic	0.0034	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 12:08	
Barium	0.0780	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 12:08	
Beryllium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 12:08	
Cadmium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 12:08	
Chromium	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 12:08	
Cobalt	<0.002	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 12:08	
Lead	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 12:08	
Molybdenum	0.0076	mg/L	0.002	5	06/27/2024 16:39	07/11/2024 12:08	
Selenium	<0.005	mg/L	0.005	5	06/27/2024 16:39	07/11/2024 12:08	
Thallium	<0.0005	mg/L	0.0005	5	06/27/2024 16:39	07/11/2024 12:08	
Method: SM4500-CI-E 2011							
Chloride	10.3	mg/L	2.0	1		07/02/2024 09:41	
Method: SM4500-F-C-2011							
Fluoride	0.84	mg/L	0.1	1		06/27/2024 15:48	
Method: USGS I-1750-85							
Total Dissolved Solids	679	mg/L	10	1		06/28/2024 14:55	

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #: 52997			
Sulfate			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			100	102.0		85	115			
LFB			100	104.0		85	115			
LFB			100	104.0		85	115			
LFB			100	100.0		85	115			
LFB			100	106.0		85	115			
LFB			100	103.0		85	115			
LFB			100	105.0		85	115			
LFB			100	103.0		85	115			
LFB			100	102.0		85	115			
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MS/MSD	52271003		1000	75.7	77.8	85	115	1.0	20	
MS/MSD	52995002		500	87.6	85.6	85	115	1.2	20	
MS/MSD	53003005		100	99.7	97.9	85	115	1.8	20	
MS/MSD	53013004		100	97.3	98.7	85	115	1.3	20	
MS/MSD	53172005		500	70.1	68.1	85	115	1.0	20	
MS/MSD	53218006		2000	77.3	78.4	85	115	0.5	20	
MS/MSD	53218016		2000	70.6	70.3	85	115	0.3	20	
MS/MSD	53218018		1000	87.9	85.4	85	115	1.1	20	
Chloride			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			30	92.9		90	110			

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Account #: 2040

Client: Basin Electric Power Cooperative

Chloride			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			30	95.6		90	110		
LFB			30	94.8		90	110		
LFB			30	92.0		90	110		
LFB			30	95.9		90	110		
LFB			30	91.4		90	110		
LFB			30	94.3		90	110		
LFB			30	93.6		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	52995003		30	103.7	103.2	80	120	0.3	20
MS/MSD	53013002		30	94.5	93.9	80	120	0.6	20
MS/MSD	53289003		30	89.6	90.0	80	120	0.3	20
MS/MSD	53316001		30	100.3	101.1	80	120	0.0	20

Boron			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	104.0		85	115		
MB		<0.1							
MS/MSD	52997003		0.4	96.4	107.0	70	130	3.3	20

Calcium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	115.0		85	115		
MB		<1							
PDS/PDSD	52429002							2.9	20
PDS/PDSD	52614001		100	96.1	95.1	75	125	0.6	20
DUP	52929001							1.0	20

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Account #: 2040

Client: Basin Electric Power Cooperative

Calcium		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDS	53003004		100	102.0	102.0	75	125	0.4	20
PDS/PDS	53013001		100	101.0	101.0	75	125	0.1	20
PDS/PDS	53013003		100	99.8	102.0	75	125	1.4	20
PDS/PDS	53289005		100	96.1	92.0	75	125	2.3	20
PDS/PDS	53586002		100	83.0	88.7	75	125	2.0	20
PDS/PDS	53782010		100	95.7	95.8	75	125	0.2	20

Lithium		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	104.0		85	115		

MB		<-0.04							
MS/MSD	52997003		0.4	101.0	107.0	70	130	6.2	20

Antimony		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	104.0		85	115		

MB		<-0.001							
MS/MSD	52865005		0.4	107.0	110.0	70	130	3.0	20
SPK	52865005		0.1	106.0		75	125		
MS/MSD	52997003		0.4	106.0	110.0	75	125	3.5	20
SPK	53076001		0.1	104.0		75	125		

Arsenic		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	104.0		85	115		

MB		<-0.005							
MS/MSD	52865005		0.4	106.0	108.0	70	130	0.9	20
SPK	52865005		0.1	103.0		75	125		
MS/MSD	52997003		0.4	105.0	108.0	75	125	3.0	20
SPK	53076001		0.1	104.0		75	125		

Barium		Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		85	115		

MB		<-0.002							
MS/MSD	52865005		0.4	103.0	104.0	70	130	0.9	20

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Account #: 2040

Client: Basin Electric Power Cooperative

Barium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	52865005		0.1	99.6		75	125		

MS/MSD	52997003		0.4	100.0	103.0	75	125	2.3	20
SPK	53076001		0.1	96.1		75	125		

Beryllium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		85	115		

MB		<0.0005							
MS/MSD	52865005		0.4	112.0	115.0	70	130	2.4	20

SPK	52865005		0.1	105.0		75	125		
MS/MSD	52997003		0.4	114.0	118.0	75	125	3.9	20

SPK	53076001		0.1	110.0		75	125		
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Cadmium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		85	115		

MB		<0.0005							
MS/MSD	52865005		0.4	104.0	106.0	70	130	2.1	20

SPK	52865005		0.1	99.0		75	125		
MS/MSD	52997003		0.4	102.0	107.0	75	125	4.3	20

SPK	53076001		0.1	95.4		75	125		
-----	----------	--	-----	------	--	----	-----	--	--

Chromium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	107.0		85	115		

MB		<0.002							
MS/MSD	52865005		0.4	102.0	104.0	70	130	1.4	20

SPK	52865005		0.1	101.0		75	125		
MS/MSD	52997003		0.4	99.1	103.0	75	125	4.2	20

SPK	53076001		0.1	102.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

Cobalt									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	106.0		85	115		

MB		<0.002							
MS/MSD	52865005		0.4	102.0	104.0	70	130	1.5	20

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Report Date: Wednesday, July 24, 2024 4:12:14 PM



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



Account #: 2040

Client: Basin Electric Power Cooperative

Cobalt									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	52865005		0.1	102.0		75	125		
MS/MSD	52997003		0.4	99.3	102.0	75	125	3.2	20
SPK	53076001		0.1	102.0		75	125		
Lead									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		85	115		
MB		<0.0005							
MS/MSD	52865005		0.4	102.0	104.0	70	130	1.5	20
SPK	52865005		0.1	96.6		75	125		
MS/MSD	52997003		0.4	100.0	103.0	75	125	2.7	20
SPK	53076001		0.1	93.5		75	125		
Molybdenum									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	109.0		85	115		
MB		<0.002							
MS/MSD	52865005		0.4	102.0	104.0	70	130	2.8	20
SPK	52865005		0.1	107.0		75	125		
MS/MSD	52997003		0.4	99.7	104.0	75	125	4.1	20
SPK	53076001		0.1	105.0		75	125		
Selenium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		85	115		
MB		<0.01							
MS/MSD	52865005		0.4	107.0	112.0	70	130	4.3	20
SPK	52865005		0.1	100.0		75	125		
MS/MSD	52997003		0.4	106.0	112.0	75	125	4.8	20
SPK	53076001		0.1	102.0		75	125		
Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		85	115		
MB		<0.0005							
MS/MSD	52865005		0.4	101.0	102.0	70	130	1.5	20

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Account #: 2040

Client: Basin Electric Power Cooperative

Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	52865005		0.1	94.9		75	125		
MS/MSD	52997003		0.4	99.0	102.0	75	125	3.0	20
SPK	53076001		0.1	93.0		75	125		
Mercury									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			0.002	101.0		85	115		
LRB		<0.0002							
MS/MSD	52654001		0.002	102.0	99.8	70	130	0.0	20
MS/MSD	53076002		0.002	94.2	95.0	70	130	0.0	20
Fluoride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-F			3.06	99.7		83.99	111.11		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	98.0		90	110		
LFB-F			0.5	94.0		90	110		
LFB-F			0.5	96.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD	52997001		0.5	106.0	106.0	80	120	0.0	20
MS/MSD	53003002		0.5	102.0	104.0	80	120	1.6	20
MS/MSD	53009004		0.5	118.0	118.0	80	120	0.0	20
MS/MSD	53013005		0.5	102.0	102.0	80	120	0.0	20
Total Dissolved Solids									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM			736	101.0		90.35	110.33		
MB		<10							
DUP	52953001							4.9	20

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Account #: 2040

Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501

Phone: (701) 258-9720

Toll Free: (800) 279-6885

Fax: (701) 258-9724

Basin Electric Power Cooperative
WO: 52997



Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler mk	KSolie@barr.com
		Quote Number	Date Submitted 6/26/2024
		Project Name/Number LOS CCR PLANT PONDS	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW - 2017 - 10	GW	6/25/2024	1035	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW - 2017 - 11	GW	6/25/2024	830	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
003	DUP.	GW	6/25/2024	1035	2	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, & TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	6/26/2024		<i>Adorste</i>	6/26/2024	1447	56C	COIN	TM-60
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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Report Date: Wednesday, July 24, 2024 4:12:14 PM

Ground Water Sample Collection Record

Client:	BEPC	Date:	6/25/24
Project No:		Time:	0745
Site Location:	LOS PONDS	Finish:	0840
Weather Conds:	Sunny 108°	Collector(s):	MK

WATER LEVEL DATA: (measured from Top of Casing) Well

a. Total Well Length 50.26 c. Casing Material PVC e. Pump Settings 25/5 @ 40psi

b. Water Table Depth 39.27 d. Casing Diameter _____ 100ml

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	✓ DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
0810	INITIAL 3.5	11.6	.29	1023	7.56	-80.9	1.25	clear	39.30
0815	4.5 L	11.7	.25	1023	7.57	-84.7	1.39	↓	39.30
0820	5.5 L	11.8	.23	1022	7.57	-86.4	0.89	↓	39.30
0825	6.5 L	11.8	.21	1023	7.57	-87.0	0.88	↓	39.30
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	0830
	500 ML	1	HNO3	METALS	↓
	1gal	1	"	Radium	↓

Comments _____

Signature Manah K

Date 6/25/24

Ground Water Sample Collection Record

Client:	BEPC	Date:	6/25/24
Project No:		Time:	0945
Site Location:	LOS PONDS	Finish:	1090
Weather Conds:	Sunny 70° breezy		
Collector(s):	MK		

WATER LEVEL DATA: (measured from Top of Casing) Well

a. Total Well Length 52.1 c. Casing Material PVC e. Pump Settings 2 1/4 @ 35 psi
~100ml

b. Water Table Depth 33.03 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	✓ DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
1013	INITIAL 4L	13.0	.24	1095	7.56	-14.9	1.42	Clear	33.7
1018	6.25 L	13.1	.20	1097	7.57	-19.9	1.46	↓	33.65
1023	6 L	13.2	.19	1097	7.57	-21.7	0.99	↓	33.67
1028	7 L	13.1	.19	1099	7.57	-23.3	1.39	↓	33.69
1033	8 L	13.1	.18	1097	7.57	-23.6	1.02	↓	33.67
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

DUP

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	1035
	500 ML	1	HNO3	METALS	
	1gal	1	"	Radium	↓

Comments _____

Signature Manah K Date 6/25/24



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Account #: 2040

Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501

Phone: (701) 258-9720

Toll Free: (800) 279-6885

Fax: (701) 258-9724

Basin Electric Power Cooperative
WO: 52994



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Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> <u>Leland Olds Station</u> <u>3901 Highway 200A</u> <u>Stanton, ND 58571</u>		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@becp.com aknutson@becp.com Ksolie@barr.com
		Name of Sampler mk	
		Quote Number	Date Submitted 6/26/2024
		Project Name/Number LOS CCR PLANT PONDS	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW - 2017 - 10	GW	6/25/2024	1035	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW - 2017 - 11	GW	6/25/2024	830	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
—	DUP.	GW	6/25/2024	1035	2	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, & TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	6/26/2024		<i>Aljose</i>	6/26/2024	1447	5.6°C	Y/N	TM-620
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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Report Date: Thursday, August 1, 2024 11:18:07 AM



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

Toll Free: (800) 279-6885

Fax: (701) 258-9724

Basin Electric Power Cooperative
WO: 52997



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Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler mk	Project Name/Number LOS CCR PLANT PONDS
		Quote Number	Date Submitted 6/26/2024
		Purchase Order # 790708-04	

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW - 2017 - 10	GW	6/25/2024	1035	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW - 2017 - 11	GW	6/25/2024	830	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
003	DUP.	GW	6/25/2024	1035	2	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, & TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	6/26/2024		<i>Adorste</i>	6/26/2024	1447	56C	COIN	TM-60
2.							Y/N	

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Form # 80-910005-1

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Effective Date: 26 Aug 2022

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (59755) **PO:** 790708-04

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Report Date: Wednesday, September 4, 2024 3:24:55 PM

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

Lab ID: 59755001 **Date Collected:** 08/16/2024 08:45 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 08/16/2024 14:27 **Collector:** Client
Temp @ Receipt (C): 4.8 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	202	mg/L	25	5		08/21/2024 10:57	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	08/22/2024 09:35	08/22/2024 11:36	
Method: EPA 6010D							
Boron	1.26	mg/L	0.1	1	08/16/2024 16:20	08/27/2024 11:41	
Calcium	70.1	mg/L	1	1	08/16/2024 16:20	08/21/2024 16:28	
Lithium	0.0348	mg/L	0.02	1	08/16/2024 16:20	09/03/2024 15:33	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	08/16/2024 16:20	08/22/2024 14:24	
Arsenic	0.0100	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:24	
Barium	0.0392	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:24	
Beryllium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:24	
Cadmium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:24	
Chromium	<0.002	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:24	
Cobalt	<0.002	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:24	
Lead	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:24	
Molybdenum	0.0095	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:24	
Selenium	<0.005	mg/L	0.005	5	08/16/2024 16:20	08/22/2024 14:24	
Thallium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:24	
Method: SM4500-CI-E 2011							
Chloride	11.8	mg/L	2.0	1		08/20/2024 11:19	
Method: SM4500-F-C-2011							
Fluoride	0.76	mg/L	0.1	1		08/19/2024 15:27	
Method: USGS I-1750-85							
Total Dissolved Solids	573	mg/L	10	1		08/16/2024 14:45	

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

Lab ID: 59755002 **Date Collected:** 08/16/2024 09:50 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 08/16/2024 14:27 **Collector:** Client
Temp @ Receipt (C): 4.8 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	297	mg/L	25	5		08/21/2024 11:11	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	08/22/2024 09:35	08/22/2024 11:36	
Method: EPA 6010D							
Boron	0.84	mg/L	0.1	1	08/16/2024 16:20	08/27/2024 11:47	
Calcium	95.2	mg/L	1	1	08/16/2024 16:20	08/21/2024 16:29	
Lithium	<0.02	mg/L	0.02	1	08/16/2024 16:20	09/03/2024 15:39	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	08/16/2024 16:20	08/22/2024 14:42	
Arsenic	0.0031	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:42	
Barium	0.0694	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:42	
Beryllium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:42	
Cadmium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:42	
Chromium	<0.002	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:42	
Cobalt	<0.002	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:42	
Lead	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:42	
Molybdenum	0.0066	mg/L	0.002	5	08/16/2024 16:20	08/22/2024 14:42	
Selenium	<0.005	mg/L	0.005	5	08/16/2024 16:20	08/22/2024 14:42	
Thallium	<0.0005	mg/L	0.0005	5	08/16/2024 16:20	08/22/2024 14:42	
Method: SM4500-CI-E 2011							
Chloride	11.2	mg/L	2.0	1		08/20/2024 11:20	
Method: SM4500-F-C-2011							
Fluoride	0.88	mg/L	0.1	1		08/19/2024 15:33	
Method: USGS I-1750-85							
Total Dissolved Solids	672	mg/L	10	1		08/16/2024 14:45	

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #:	59755		
Sulfate			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			100	103.0		85	115			
LFB			100	106.0		85	115			
LFB			100	96.7		85	115			
LFB			100	104.0		85	115			
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MS/MSD	59086007		100	110.8	111.3	85	115	0.8	20	
MS/MSD	59753001		500	107.1	104.2	85	115	1.6	20	
MS/MSD	60122001		1000	111.5	111.9	85	115	0.6	20	
Chloride			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			30	104.0		90	110			
LFB			30	106.0		90	110			
LFB			30	104.0		90	110			
LFB			30	107.0		90	110			
LFB			30	106.0		90	110			
LFB			30	102.0		90	110			
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								
MS/MSD	59068006		30	102.6	99.7	80	120	2.1	20	
MS/MSD	59424001		30	108.2	106.6	80	120	0.0	20	
MS/MSD	59764005		30	95.4	103.0	80	120	2.8	20	

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Account #: 2040

Client: Basin Electric Power Cooperative

Boron			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	105.0		85	115		

MB		<0.1							
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MS/MSD	59755001		0.4	78.0	99.8	75	125	5.4	20
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MS/MSD	59755002		0.4	110.0	80.2	75	125	9.8	20
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Calcium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	110.0		85	115		

MB		<1							
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PDS/PDSD	58859003		100	103.0	103.0	75	125	0.6	20
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PDS/PDSD	59086005		100	101.0	106.0	75	125	1.6	20
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PDS/PDSD	59213001		500	106.0	102.0	75	125	2.2	20
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DUP	59622001							3.1	20
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PDS/PDSD	59753001		100	101.0	100.0	75	125	0.2	20
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PDS/PDSD	60060002		100	99.9	102.0	75	125	1.0	20
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Lithium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	110.0		85	115		

MB		<0.04							
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MS/MSD	59755001		0.4	98.9	108.0	75	125	8.0	20
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MS/MSD	59755002		0.4	112.0	101.0	75	125	9.8	20
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Antimony			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	94.9		85	115		

MB		<0.001							
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SPK	59618001		0.1	99.0		75	125		
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MS/MSD	59755001		0.4	93.6	97.2	75	125	3.9	20
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MS/MSD	59755002		0.4	99.9	91.2	75	125	9.2	20
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Arsenic			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	98.1		85	115		

MB		<0.005							
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SPK	59618001		0.1	98.2		75	125		
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Arsenic									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD	59755001		0.4	93.0	96.8	75	125	3.9	20
MS/MSD	59755002		0.4	98.7	90.9	75	125	8.1	20

Barium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	93.1		85	115		

MB		<0.002							
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SPK	59618001		0.1	88.8		75	125		
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MS/MSD	59755001		0.4	85.3	88.0	75	125	2.9	20
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MS/MSD	59755002		0.4	91.4	82.3	75	125	8.6	20
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Beryllium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	93.0		85	115		

MB		<0.0005							
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SPK	59618001		0.1	95.6		75	125		
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MS/MSD	59755001		0.4	92.6	97.2	75	125	5.0	20
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MS/MSD	59755002		0.4	100.0	92.0	75	125	8.3	20
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Cadmium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	91.3		85	115		

MB		<0.0005							
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SPK	59618001		0.1	88.7		75	125		
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MS/MSD	59755001		0.4	87.9	91.7	75	125	4.2	20
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MS/MSD	59755002		0.4	93.4	86.2	75	125	7.8	20
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Chromium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	96.0		85	115		

MB		<0.002							
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SPK	59618001		0.1	86.6		75	125		
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MS/MSD	59755001		0.4	85.9	89.8	75	125	4.3	20
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MS/MSD	59755002		0.4	91.8	83.8	75	125	9.1	20
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Cobalt									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	95.6		85	115		

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Cobalt									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.002							
SPK	59618001		0.1	93.4		75	125		
MS/MSD	59755001		0.4	86.2	89.3	75	125	3.4	20
MS/MSD	59755002		0.4	91.3	83.6	75	125	8.9	20

Lead									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	93.6		85	115		
MB		<0.0005							
SPK	59618001		0.1	88.0		75	125		
MS/MSD	59755001		0.4	88.2	90.2	75	125	2.2	20
MS/MSD	59755002		0.4	92.9	86.4	75	125	7.2	20

Molybdenum									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	97.4		85	115		
MB		<0.002							
SPK	59618001		0.1	97.9		75	125		
MS/MSD	59755001		0.4	84.5	88.8	75	125	4.8	20
MS/MSD	59755002		0.4	91.3	83.4	75	125	9.0	20

Selenium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	93.3		85	115		
MB		<0.01							
SPK	59618001		0.1	91.7		75	125		
MS/MSD	59755001		0.4	92.0	95.0	75	125	3.2	20
MS/MSD	59755002		0.4	100.0	88.6	75	125	12.2	20

Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	91.5		85	115		
MB		<0.0005							
SPK	59618001		0.1	85.1		75	125		
MS/MSD	59755001		0.4	83.5	83.8	75	125	0.3	20
MS/MSD	59755002		0.4	90.3	83.7	75	125	7.5	20

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Mercury			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB			0.002	101.0		85	115		
LFB		<-0.0002							
MS/MSD	59000002		0.002	103.0	104.0	70	130	0.0	20
MS/MSD	59213003		0.002	108.0	103.0	70	130	4.7	20
MS/MSD	60141001		0.002	102.0	102.0	70	130	0.0	20

Fluoride			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

CRM-F			3.06	108.0		83.99	111.11		
LFB-F			0.5	106.0		90	110		
LFB-F			0.5	104.0		90	110		
MB-F		<-0.1							
MB-F		<-0.1							
MS/MSD	59764005		0.5	98.0	100.0	80	120	1.5	20

Total Dissolved Solids			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

CRM			736	100.0		90.35	110.33		
MB		<-10							
DUP	59755001							1.9	20

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Basin Electric Power Cooperative

WO: 59755



Chain of Custody

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Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler mk	
		Quote Number	Date Submitted 8/16/2024
		Project Name/Number LOS CCR WELLS	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW-2017-11	GW	8/16/2024	845	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW-2017-10	GW	8/16/2024	950	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
Millennium Express	8/16/2024	NOON	<i>[Signature]</i>	8/16/2024	4:27	4.8°C	Y/N	T1805
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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Report Date: Wednesday, September 4, 2024 3:24:55 PM



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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (59756) **PO:** 790708-04 LOS

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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 SD SDWA

Subcontracted Analyses

Analyzed By	Company	Address	Phone	Certification
SUBv	Energy Labs Casper	2393 Salt Creek Highway, Casper. WY 82601	307-235-0515	CERT

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 59756001 **Date Collected:** 08/16/2024 08:45 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 08/16/2024 14:27 **Collector:** Client
Temp @ Receipt (C): 4.8 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
-----------	---------	-------	-----	----	----------	----------	------

Method: Contracted Result

Radium 226	See Attached			1		09/17/2024 10:03	
Radium 228	See Attached			1		09/17/2024 10:03	

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Report Date: Tuesday, September 17, 2024 5:02:10 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	59756002	Date Collected:	08/16/2024 09:50	Matrix:	Groundwater		
Sample ID:	MW-2017-10	Date Received:	08/16/2024 14:27	Collector:	Client		
Temp @ Receipt (C):	4.8	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		09/17/2024 10:03	
Radium 228	See Attached			1		09/17/2024 10:03	

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Account #: 2040

Client: Basin Electric Power Cooperative



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ANALYTICAL SUMMARY REPORT

September 16, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24080958 Quote ID: C15480

Project Name: 59756

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 8/22/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24080958-001	59756001, MW-2017-11	08/16/24 8:45	08/22/24	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C24080958-002	59756002, MW-2017-10	08/16/24 9:50	08/22/24	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 59756
Lab ID: C24080958-001
Client Sample ID: 59756001, MW-2017-11

Report Date: 09/16/24
Collection Date: 08/16/24 08:45
Date Received: 08/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		09/04/24 13:41 / apt
Radium 226 precision (±)	0.2	pCi/L			E903.0		09/04/24 13:41 / apt
Radium 226 MDC	0.3	pCi/L			E903.0		09/04/24 13:41 / apt
Radium 228	1.9	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 228 precision (±)	0.9	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 226 + Radium 228	2.0	pCi/L			A7500-RA		09/05/24 10:36 / dmf
Radium 226 + Radium 228 precision (±)	0.9	pCi/L			A7500-RA		09/05/24 10:36 / dmf
Radium 226 + Radium 228 MDC	1.4	pCi/L			A7500-RA		09/05/24 10:36 / dmf

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected at Minimum Detectable Concentration (MDC)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 59756
Lab ID: C24080958-002
Client Sample ID: 59756002, MW-2017-10

Report Date: 09/16/24
Collection Date: 08/16/24 09:50
Date Received: 08/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		09/04/24 13:41 / apt
Radium 226 precision (±)	0.2	pCi/L			E903.0		09/04/24 13:41 / apt
Radium 226 MDC	0.2	pCi/L			E903.0		09/04/24 13:41 / apt
Radium 228	2.2	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 228 precision (±)	0.9	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		08/29/24 14:58 / trs
Radium 226 + Radium 228	2.3	pCi/L			A7500-RA		09/05/24 10:36 / dmf
Radium 226 + Radium 228 precision (±)	0.9	pCi/L			A7500-RA		09/05/24 10:36 / dmf
Radium 226 + Radium 228 MDC	1.3	pCi/L			A7500-RA		09/05/24 10:36 / dmf

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
 QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected at Minimum Detectable Concentration (MDC)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24080958

Report Date: 09/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11413										
Lab ID: LCS-RA226-11413	3	Laboratory Control Sample								
										Run: TENNELEC-4_240823D 09/04/24 13:41
Radium 226		10	pCi/L	104		70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.14	pCi/L							
Lab ID: MB-RA226-11413	3	Method Blank								
										Run: TENNELEC-4_240823D 09/04/24 13:41
Radium 226		0.03	pCi/L							U
Radium 226 precision (±)		0.08	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Lab ID: C24081010-006EDUP	3	Sample Duplicate								
										Run: TENNELEC-4_240823D 09/04/24 14:42
Radium 226		0.042	pCi/L					10	30	U
Radium 226 precision (±)		0.093	pCi/L							
Radium 226 MDC		0.15	pCi/L							
- The RER result is 0.03.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C24080958

Report Date: 09/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7462										
Lab ID: LCS-228-RA226-11413	3	Laboratory Control Sample								
										Run: TENNELEC-4_240823B 08/29/24 14:58
Radium 228		9.5	pCi/L		93	70	130			
Radium 228 precision (±)		1.9	pCi/L							
Radium 228 MDC		1.0	pCi/L							
Lab ID: MB-RA226-11413	3	Method Blank								
										Run: TENNELEC-4_240823B 08/29/24 14:58
Radium 228		1	pCi/L							
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C24081010-006EDUP	3	Sample Duplicate								
										Run: TENNELEC-4_240823B 08/29/24 14:58
Radium 228		1.7	pCi/L					41	30	R
Radium 228 precision (±)		0.80	pCi/L							
Radium 228 MDC		1.2	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.73.

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24080958

Login completed by: Lisa X. Quezada

Date Received: 8/22/2024

Reviewed by: lcadreau

Received by: SLR

Reviewed Date: 8/29/2024

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	24.6°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

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Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record

Page 1 of 1



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501

Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Work Order # **59756** *124030958*

Company Name and Address: MVTL 2616 E Broadway Bismarck, ND 58501		Account #:	Phone #: 701-258-9720
Billing Address (indicate if different from above): PO Box 249 New Ulm, MN 56073		Contact: Claudette	Fax #: For faxed report check box <input type="checkbox"/>
		Name of Sampler:	E-mail: ccarroll@mvtl.com For e-mail report check box <input type="checkbox"/>
		Quote Number C15480 v5	Date Submitted: 20-Aug-24
		Project Name/Number:	Purchase Order #: BL6923

Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Bottle Type						Analysis Required
						Untreated	Gallon HN03	VOC Vials	Unpreserved	Glass Jar	Other	
	59756001	MW-2017-11	GW	16-Aug-24	0845	1						Ra226 & Ra228
	59756002	MW-2017-10	GW	16-Aug-24	0950	1						Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	20-Aug-24	1700		<i>Shelby Richlas</i>	<i>8/22/24 1025</i>	

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Account #: 2040

Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 59756



Chain of Custody

Page ____ of ____

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571	Account #	2040	Phone #	701-745-7238 701-557-5488
	Contact	Mark Dihle	Emails	mdihle@bepc.com aknutson@bepc.com
Billing Address (indicate if different from above)	Name of Sampler	mk	Quote Number	Date Submitted
	Project Name/Number	LOS CCR WELLS	Purchase Order #	8/16/2024
				790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW-2017-11	GW	8/16/2024	845	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW-2017-10	GW	8/16/2024	950	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
Millennium Express	8/16/2024	NOON	<i>[Signature]</i>	8/16/2024	4:10	4.8°C	Y/N	TM805
2.							Y/N	

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

Form # 80-910005-1 See above for page number Effective Date: 26 Aug 2022

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Ground Water Sample Collection Record

Client:	BEPC	Date:	8-16-24
Project No:		Time:	0804
Site Location:	LOS PONDS	Finish:	0845 0855
Weather Conds:	cloudy w/	Collector(s):	MK

WATER LEVEL DATA: (measured from Top of Casing) Well

a. Total Well Length 50.20 c. Casing Material PVC e. Pump Settings 25/5 @ 40psi
 b. Water Table Depth 39.31 d. Casing Diameter _____ ~100ml

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
0825	INITIAL 4L	11.9	0.36	899	7.55	-75.7	0.51	clear	39.35
0830	5.0 L	12.0	0.23	900	7.57	-85.5	0.76	↓	39.36
0835	6.0 L	11.9	0.24	899	7.57	-86.9	0.60	↓	39.35
0840	7.0 L	12.0	0.23	899	7.57	-89.4	0.56	↓	39.35
0845	8.0 L	11.9	0.22	901	7.58	-89.9	0.43	↓	39.35
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	0845
	500 ML	1	HNO3	METALS	
	1gal	1	HNO3	Radium	↓

Comments _____

Signature Manah Knutson Date 8-16-24

Ground Water Sample Collection Record

Client:	BEPC	Date:	8-16-24
Project No:		Time:	0900
Site Location:	LOS PONDS	Finish:	1000
Weather Conds:	Collector(s)		

WATER LEVEL DATA: (measured from Top of Casing) Well

a. Total Well Length 52.1 c. Casing Material PVC e. Pump Settings _____

b. Water Table Depth 33.01 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
0925	INITIAL 5L	12.1	2.5	968	7.59	36.0	1.07	clear	33.7
0930	10 L	12.1	.20	967	7.59	8.2	.99	↓	33.73
0935	7 L	12.0	.18	968	7.58	-10.9	.94	↓	33.7
0940	8 L	12.1	.17	968	7.59	-19.7	.92	↓	33.71
0945	9 L	12.2	.18	968	7.59	-21.4	1.10	↓	33.72
0950	10 L	12.2	.18	968	7.59	-23	1.14	↓	33.7
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	0950
	500 ML	1	HNO3	METALS	
	1gal	1	HNO3	Radium	

Comments _____

Signature Manan Knutson Date 8-16-24



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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



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Cooperative

WO: 59755



Chain of Custody

Page ____ of ____

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler mk	
		Quote Number	Date Submitted 8/16/2024
		Project Name/Number LOS CCR WELLS	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW-2017-11	GW	8/16/2024	845	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW-2017-10	GW	8/16/2024	950	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
Millennium Express	8/16/2024	NOON	<i>[Signature]</i>	8/16/2024	4:12P	4.8°C	Y/N	T1805
2.							Y/N	

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

Form # 80-910005-1

See above for page number

Effective Date: 26 Aug 2022

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Report Date: Wednesday, September 4, 2024 3:24:55 PM



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



Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record

Page 1 of 1



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501

Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Work Order # 59756 124030958

Company Name and Address: MVTL 2616 E Broadway Bismarck, ND 58501		Account #:	Phone #: 701-258-9720
Billing Address (indicate if different from above): PO Box 249 New Ulm, MN 56073		Contact: Claudette	Fax #: For faxed report check box <input type="checkbox"/>
		Name of Sampler:	E-mail: ccarroll@mvtl.com For e-mail report check box <input type="checkbox"/>
		Quote Number C15480 v5	Date Submitted: 20-Aug-24
		Project Name/Number:	Purchase Order #: BL6923

Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Bottle Type						Analysis Required
						Untreated	Gallon HN03	VOC Vials	Unpreserved	Glass Jar	Other	
	59756001	MW-2017-11	GW	16-Aug-24	0845	1						Ra226 & Ra228
	59756002	MW-2017-10	GW	16-Aug-24	0950	1						Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	20-Aug-24	1700		Shelby Richlas	8/22/24 1025	

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 Report Date: Tuesday, September 17, 2024 5:02:10 PM
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Account #: 2040

Client: Basin Electric Power Cooperative



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2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 59756



Chain of Custody

Page ____ of ____

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above)		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler mk	
		Quote Number	Date Submitted 8/16/2024
		Project Name/Number LOS CCR WELLS	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	MW-2017-11	GW	8/16/2024	845	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002	MW-2017-10	GW	8/16/2024	950	3	N	B, Ca, Cl, F, SO4, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
Millennium Express	8/16/2024	NOON	<i>[Signature]</i>	8/16/2024	4:10	4.8°C	Y/N	TM805
2.							Y/N	

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

Form # 80-910005-1 See above for page number Effective Date: 26 Aug 2022

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (64527) **PO:** 790708-04

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527001 **Date Collected:** 09/17/2024 08:22 **Matrix:** Groundwater
Sample ID: MW-2017-1 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	337	mg/L	25	5		09/20/2024 15:23	
Method: EPA 6010D							
Boron	0.45	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 10:56	
Calcium	248	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:09	
Method: SM4500-CI-E 2011							
Chloride	14.3	mg/L	2.0	1		09/19/2024 14:45	
Method: SM4500-F-C-2011							
Fluoride	0.34	mg/L	0.1	1		09/19/2024 00:35	
Method: USGS I-1750-85							
Total Dissolved Solids	1290	mg/L	10	1		09/19/2024 13:55	

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Report Date: Wednesday, October 16, 2024 12:16:18 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527002 **Date Collected:** 09/17/2024 08:59 **Matrix:** Groundwater
Sample ID: MW-2017-2 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	250	mg/L	25	5		09/20/2024 15:35	
Method: EPA 6010D							
Boron	1.30	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 10:58	
Calcium	83.8	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:10	
Method: SM4500-CI-E 2011							
Chloride	11.4	mg/L	2.0	1		09/19/2024 14:47	
Method: SM4500-F-C-2011							
Fluoride	0.44	mg/L	0.1	1		09/19/2024 00:41	
Method: USGS I-1750-85							
Total Dissolved Solids	696	mg/L	10	1		09/19/2024 13:55	

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Report Date: Wednesday, October 16, 2024 12:16:18 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527003	Date Collected: 09/17/2024 08:59	Matrix: Groundwater
Sample ID: DUP	Date Received: 09/18/2024 15:17	Collector: Client
Temp @ Receipt (C): 5.3	Received on Ice: Yes	

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	261	mg/L	25	5		09/20/2024 15:25	
Method: EPA 6010D							
Boron	1.34	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 10:59	
Calcium	82.7	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:11	
Method: SM4500-CI-E 2011							
Chloride	11.6	mg/L	2.0	1		09/19/2024 14:48	
Method: SM4500-F-C-2011							
Fluoride	0.44	mg/L	0.1	1		09/19/2024 00:47	
Method: USGS I-1750-85							
Total Dissolved Solids	716	mg/L	10	1		09/19/2024 13:55	

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Report Date: Wednesday, October 16, 2024 12:16:18 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527004 **Date Collected:** 09/17/2024 09:32 **Matrix:** Groundwater
Sample ID: MW-2017-3 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	128	mg/L	25	5		09/20/2024 15:26	
Method: EPA 6010D							
Boron	1.38	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:00	
Calcium	114	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:12	
Method: SM4500-CI-E 2011							
Chloride	11.6	mg/L	2.0	1		09/19/2024 14:49	
Method: SM4500-F-C-2011							
Fluoride	0.44	mg/L	0.1	1		09/19/2024 00:53	
Method: USGS I-1750-85							
Total Dissolved Solids	882	mg/L	10	1		09/19/2024 13:55	

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Report Date: Wednesday, October 16, 2024 12:16:18 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527005 **Date Collected:** 09/17/2024 10:14 **Matrix:** Groundwater
Sample ID: MW-2017-7 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	264	mg/L	25	5		09/20/2024 15:27	
Method: EPA 6010D							
Boron	2.27	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:03	
Calcium	75.5	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:16	
Method: SM4500-CI-E 2011							
Chloride	11.5	mg/L	2.0	1		09/19/2024 14:50	
Method: SM4500-F-C-2011							
Fluoride	1.16	mg/L	0.1	1		09/19/2024 00:58	
Method: USGS I-1750-85							
Total Dissolved Solids	692	mg/L	10	1		09/19/2024 13:55	

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Report Date: Wednesday, October 16, 2024 12:16:18 PM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527006 **Date Collected:** 09/17/2024 10:57 **Matrix:** Groundwater
Sample ID: MW-2017-4 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	256	mg/L	25	5		09/20/2024 15:28	
Method: EPA 6010D							
Boron	1.16	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:04	
Calcium	153	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:17	
Method: SM4500-CI-E 2011							
Chloride	10.2	mg/L	2.0	1		09/19/2024 14:51	
Method: SM4500-F-C-2011							
Fluoride	0.76	mg/L	0.1	1		09/19/2024 01:04	
Method: USGS I-1750-85							
Total Dissolved Solids	862	mg/L	10	1		09/19/2024 13:55	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527007 **Date Collected:** 09/17/2024 11:39 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	280	mg/L	25	5		09/20/2024 15:36	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	10/01/2024 08:00	10/01/2024 10:32	
Method: EPA 6010D							
Boron	0.87	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:05	
Calcium	95.9	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:20	
Lithium	<0.02	mg/L	0.02	1	09/18/2024 16:33	10/10/2024 09:37	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	09/18/2024 16:33	09/20/2024 14:17	
Arsenic	0.0035	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:17	
Barium	0.0761	mg/L	0.002	5	09/18/2024 16:33	09/23/2024 15:10	
Beryllium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:17	
Cadmium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:17	
Chromium	<0.002	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:17	
Cobalt	<0.002	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:17	
Lead	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:17	
Molybdenum	0.0074	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:17	
Selenium	<0.005	mg/L	0.005	5	09/18/2024 16:33	09/20/2024 14:17	
Thallium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:17	
Method: SM4500-CI-E 2011							
Chloride	10.6	mg/L	2.0	1		09/19/2024 14:53	
Method: SM4500-F-C-2011							
Fluoride	0.84	mg/L	0.1	1		09/19/2024 01:10	
Method: USGS I-1750-85							
Total Dissolved Solids	672	mg/L	10	1		09/19/2024 13:55	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527008 **Date Collected:** 09/17/2024 12:23 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	241	mg/L	25	5		09/20/2024 15:31	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	10/01/2024 08:00	10/01/2024 10:32	
Method: EPA 6010D							
Boron	0.77	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:07	
Calcium	90.4	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:21	
Lithium	0.0226	mg/L	0.02	1	09/18/2024 16:33	10/10/2024 09:39	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	09/18/2024 16:33	09/20/2024 14:12	
Arsenic	0.0022	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:12	
Barium	0.0724	mg/L	0.002	5	09/18/2024 16:33	09/23/2024 15:06	
Beryllium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:12	
Cadmium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:12	
Chromium	<0.002	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:12	
Cobalt	<0.002	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:12	
Lead	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:12	
Molybdenum	0.0171	mg/L	0.002	5	09/18/2024 16:33	09/20/2024 14:12	
Selenium	<0.005	mg/L	0.005	5	09/18/2024 16:33	09/20/2024 14:12	
Thallium	<0.0005	mg/L	0.0005	5	09/18/2024 16:33	09/20/2024 14:12	
Method: SM4500-CI-E 2011							
Chloride	11.2	mg/L	2.0	1		09/19/2024 14:54	
Method: SM4500-F-C-2011							
Fluoride	0.92	mg/L	0.1	1		09/19/2024 01:16	*
Method: USGS I-1750-85							
Total Dissolved Solids	643	mg/L	10	1		09/19/2024 13:55	

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Client: Basin Electric Power Cooperative

Analytical Results

Analysis Results Comments

Fluoride

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

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527009 **Date Collected:** 09/17/2024 13:28 **Matrix:** Groundwater
Sample ID: MW-2017-8 **Date Received:** 09/18/2024 15:17 **Collector:** Client

Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	1810	mg/L	100	20		09/20/2024 15:38	
Method: EPA 6010D							
Boron	0.43	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:08	
Calcium	135	mg/L	5	5	09/18/2024 16:33	09/19/2024 13:21	
Method: SM4500-CI-E 2011							
Chloride	26.6	mg/L	2.0	1		09/19/2024 14:55	
Method: SM4500-F-C-2011							
Fluoride	0.37	mg/L	0.1	1		09/19/2024 01:22	
Method: USGS I-1750-85							
Total Dissolved Solids	3620	mg/L	10	1		09/19/2024 13:55	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 64527010 **Date Collected:** 09/17/2024 14:17 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 09/18/2024 15:17 **Collector:** Client
Temp @ Receipt (C): 5.3 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	341	mg/L	25	5		09/20/2024 15:47	
Method: EPA 6010D							
Boron	0.69	mg/L	0.1	1	09/18/2024 16:33	09/24/2024 11:08	
Calcium	9.08	mg/L	1	1	09/18/2024 16:33	09/19/2024 14:34	
Method: SM4500-CI-E 2011							
Chloride	17.3	mg/L	2.0	1		09/19/2024 14:56	
Method: SM4500-F-C-2011							
Fluoride	0.54	mg/L	0.1	1		09/19/2024 01:28	
Method: USGS I-1750-85							
Total Dissolved Solids	1960	mg/L	10	1		09/19/2024 13:55	

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary										WO #:	64527
Sulfate										Units: mg/L	
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			100	93.4		85	115				
LFB			100	94.0		85	115				
LFB			100	98.0		85	115				
LFB			100	98.7		85	115				
LFB			100	99.1		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MS/MSD	64376004		500	92.5	87.5	85	115	3.2	20		
MS/MSD	64527009		2000	86.5	87.4	85	115	0.6	20		
MS/MSD	64554001		100	75.3	82.8	85	115	4.5	20		
Chloride										Units: mg/L	
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			30	94.8		90	110				
LFB			30	99.2		90	110				
LFB			30	97.7		90	110				
LFB			30	97.2		90	110				
LFB			30	98.8		90	110				
LFB			30	98.9		90	110				
LFB			30	95.7		90	110				
MB		<2.0									
MB		<2.0									
MB		<2.0									
MB		<2.0									
MB		<2.0									
MB		<2.0									
MB		<2.0									
MB		<2.0									

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Account #: 2040

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Chloride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD	64216012		30	92.3	114.1	80	120	7.1	20
MS/MSD	64477002		30	106.2	102.4	80	120	2.4	20
MS/MSD	64527010		30	96.6	96.3	80	120	0.2	20

Boron									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	99.2		85	115		
LFB-OE			0.4	96.6		85	115		
MB		<0.1							
MB		<0.1							
MS/MSD	64527001		0.4	101.0	98.6	70	130	0.7	20
MS/MSD	64527007		0.4	97.1	105.0	70	130	1.4	20

Calcium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	108.0		85	115		
LFB-MI			100	112.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	64155004		100	93.3	93.1	75	125	0.1	20
PDS/PDSD	64216004		100	83.8	81.0	75	125	0.6	20
PDS/PDSD	64340001		100	96.0	96.8	75	125	0.6	20
PDS/PDSD	64340003		100	95.8	98.7	75	125	2.2	20
PDS/PDSD	64477010		100	91.6	94.8	75	125	1.5	20
DUP	64477012							2.2	20
DUP	64527009							1.5	20
PDS/PDSD	64527010		200	93.2	94.2	75	125	1.0	20

Lithium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	108.0		85	115		
MB		<0.04							
MS/MSD	64527007		0.4	101.0	102.0	70	130	1.7	20

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Antimony			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		80	120		
LFB-MS			0.1	96.6		80	120		
MB		<0.001							
MB		<0.001							
SPK	64341001		0.1	102.0		75	125		
SPK	64373001		0.1	104.0		75	125		
MS/MSD	64527007		0.4	104.0	106.0	75	125	1.4	20
MS/MSD	64527007		0.4	94.6	102.0	75	125	8.1	20

Arsenic			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		80	120		
LFB-MS			0.1	100.0		80	120		
MB		<0.002							
MB		<0.002							
SPK	64341001		0.1	103.0		75	125		
SPK	64373001		0.1	103.0		75	125		
MS/MSD	64527007		0.4	97.0	106.0	75	125	8.3	20
MS/MSD	64527007		0.4	104.0	107.0	75	125	3.1	20

Barium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	101.0		80	120		
LFB-MS			0.1	104.0		80	120		
MB		<0.002							
MB		<0.005							
MS/MSD	64527007		0.4	94.2	100.0	75	125	5.2	20
MS/MSD	64527007		0.4	100.0	101.0	75	125	1.0	20

Beryllium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	100.0		80	120		
LFB-MS			0.1	86.6		80	120		
MB		<0.0005							

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Beryllium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.0005							
SPK	64341001		0.1	98.4		75	125		
SPK	64373001		0.1	102.0		75	125		
MS/MSD	64527007		0.4	104.0	108.0	75	125	3.8	20
MS/MSD	64527007		0.4	90.9	97.6	75	125	6.9	20

Cadmium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	92.8		80	120		
LFB-MS			0.1	99.6		80	120		
MB		<0.0005							
MB		<0.0005							
SPK	64341001		0.1	94.1		75	125		
SPK	64373001		0.1	93.3		75	125		
MS/MSD	64527007		0.4	89.2	96.6	75	125	7.8	20
MS/MSD	64527007		0.4	98.9	101.0	75	125	2.3	20

Chromium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	107.0		80	120		
LFB-MS			0.1	97.4		80	120		
MB		<0.002							
MB		<0.002							
SPK	64373001		0.1	107.0		75	125		
MS/MSD	64527007		0.4	101.0	104.0	75	125	2.7	20
MS/MSD	64527007		0.4	90.8	98.6	75	125	8.2	20

Cobalt			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	105.0		80	120		
LFB-MS			0.1	98.3		80	120		
MB		<0.002							
MB		<0.002							
SPK	64341001		0.1	101.0		75	125		

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Account #: 2040

Client: Basin Electric Power Cooperative

Cobalt									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	64373001		0.1	105.0		75	125		
MS/MSD	64527007		0.4	100.0	104.0	75	125	3.2	20

MS/MSD	64527007		0.4	91.5	99.2	75	125	8.1	20
--------	----------	--	-----	------	------	----	-----	-----	----

Lead									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	100.0		80	120		

LFB-MS			0.1	106.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

MB		<0.0005							
----	--	---------	--	--	--	--	--	--	--

MB		<0.0005							
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SPK	64341001		0.1	99.4		75	125		
-----	----------	--	-----	------	--	----	-----	--	--

SPK	64373001		0.1	101.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

MS/MSD	64527007		0.4	95.0	100.0	75	125	5.6	20
--------	----------	--	-----	------	-------	----	-----	-----	----

MS/MSD	64527007		0.4	103.0	104.0	75	125	1.2	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

Molybdenum									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	108.0		80	120		

LFB-MS			0.1	99.6		80	120		
--------	--	--	-----	------	--	----	-----	--	--

MB		<0.002							
----	--	--------	--	--	--	--	--	--	--

MB		<0.002							
----	--	--------	--	--	--	--	--	--	--

SPK	64341001		0.1	103.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

SPK	64373001		0.1	110.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

MS/MSD	64527007		0.4	99.5	102.0	75	125	2.9	20
--------	----------	--	-----	------	-------	----	-----	-----	----

MS/MSD	64527007		0.4	89.3	97.9	75	125	9.2	20
--------	----------	--	-----	------	------	----	-----	-----	----

Selenium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	104.0		80	120		

LFB-MS			0.1	90.4		80	120		
--------	--	--	-----	------	--	----	-----	--	--

MB		<0.005							
----	--	--------	--	--	--	--	--	--	--

MB		<0.005							
----	--	--------	--	--	--	--	--	--	--

SPK	64341001		0.1	102.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

SPK	64373001		0.1	100.0		75	125		
-----	----------	--	-----	-------	--	----	-----	--	--

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

Selenium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MSD	64527007		0.4	90.5	98.0	75	125	8.0	20
MS/MSD	64527007		0.4	103.0	110.0	75	125	6.1	20
Thallium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	107.0		80	120		
LFB-MS			0.1	102.0		80	120		
MB		<0.0005							
MB		<0.0005							
SPK	64341001		0.1	99.4		75	125		
SPK	64373001		0.1	101.0		75	125		
MS/MSD	64527007		0.4	94.1	101.0	75	125	7.4	20
MS/MSD	64527007		0.4	103.0	104.0	75	125	0.7	20
Mercury									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			0.002	90.8		85	115		
LRB		<0.0002							
MS/MSD	65214007		0.002	71.6	73.2	70	130	6.9	20
MS/MSD	65452004		0.002	85.6	79.9	70	130	6.1	20
MS/MSD	65916001		0.002	87.4	81.8	70	130	6.1	20
Fluoride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-F			3.06	101.0		83.99	111.11		
LFB-F			0.5	102.0		90	110		
LFB-F			0.5	104.0		90	110		
LFB-F			0.5	104.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD-F	64340001		0.5	102.0	98.0	80	120	3.0	20
MS/MSD-F	64527008		0.5	72.0	92.0	80	120	7.5	20

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Total Dissolved Solids			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM			736	101.0		90.35	110.33		
MB		<10							
DUP	64527010							1.0	20
DUP	64550001							1.6	20

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Minnesota Valley Testing Laboratories, Inc.
 2616 East Broadway Avenue
 Bismarck, ND 58501
 Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
 WO: 64527



in of Custody

Page 1 of 2

Lab Use Only

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepec.com aknutson@bepec.com
		Name of Sampler Mariah Knutson	Date Submitted 9/18/2024
		Quote Number	Purchase Order # 790708-04
		Project Name/Number LOS CCR Wells	

Lab Use Only Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	°C	Filtered	Analysis Required
001	MW-2017-1	GW	9/17/2024	822	2	N	TDS, B, Ca, Cl, F, SO ₄
002	MW-2017-2	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
003	DUP	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
004	MW-2017-3	GW	9/17/2024	932	2	N	TDS, B, Ca, Cl, F, SO ₄
005	MW-2017-7	GW	9/17/2024	1014	2	N	TDS, B, Ca, Cl, F, SO ₄
006	MW-2017-4	GW	9/17/2024	1057	2	N	TDS, B, Ca, Cl, F, SO ₄
007	MW-2017-10	GW	9/17/2024	1139	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
008	MW-2017-11	GW	9/17/2024	1223	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
009	MW-2017-8	GW	9/17/2024	1328	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	9/18/2024	NOON	<i>[Signature]</i>	18 Sep 24	1517	2.3 C	Y/N	TM959
2.							Y/N	

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

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Lab Use Only

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Page 2 of 2

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 9/18/2024
		Project Name/Number ND0025232	Purchase Order # 790708-04

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
	010	MW-2017-8D	GW	9/17/2024	1417	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENNIUM EXPRESS	9/18/2024	NOON	<i>[Signature]</i>	9/18/24	1517	5.3°C	Ø/N	TM959
2.							Y/N	

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (64529) **PO:** 790708-04 LOS

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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 SD SDWA

Subcontracted Analyses

Analyzed By	Company	Address	Phone	Certification
SUBv	Energy Labs Casper	2393 Salt Creek Highway, Casper. WY 82601	307-235-0515	CERT

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	64529001	Date Collected:	09/17/2024 11:39	Matrix:	Groundwater		
Sample ID:	MW-2017-10	Date Received:	09/18/2024 15:17	Collector:	Client		
Temp @ Receipt (C):	5.3	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		10/25/2024 09:05	
Radium 228	See Attached			1		10/25/2024 09:05	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	64529002	Date Collected:	09/17/2024 12:23	Matrix:	Groundwater		
Sample ID:	MW-2017-11	Date Received:	09/18/2024 15:17	Collector:	Client		
Temp @ Receipt (C):	5.3	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		10/25/2024 09:05	
Radium 228	See Attached			1		10/25/2024 09:05	

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Account #: 2040

Client: Basin Electric Power Cooperative



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ANALYTICAL SUMMARY REPORT

October 23, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24090966 Quote ID: C15480

Project Name: 64529

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 9/26/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24090966-001	64529001, MW-2017-10	09/17/24 11:39	09/26/24	Aqueous	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C24090966-002	64529002, MW-2017-11	09/17/24 12:23	09/26/24	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 64529
Lab ID: C24090966-001
Client Sample ID: 64529001, MW-2017-10

Report Date: 10/23/24
Collection Date: 09/17/24 11:39
Date Received: 09/26/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		10/15/24 15:18 / apt
Radium 226 precision (±)	0.1	pCi/L			E903.0		10/15/24 15:18 / apt
Radium 226 MDC	0.2	pCi/L			E903.0		10/15/24 15:18 / apt
Radium 228	0.7	pCi/L	U		RA-05		10/10/24 16:38 / trs
Radium 228 precision (±)	0.6	pCi/L			RA-05		10/10/24 16:38 / trs
Radium 228 MDC	1	pCi/L			RA-05		10/10/24 16:38 / trs
Radium 226 + Radium 228	0.6	pCi/L	U		A7500-RA		10/17/24 09:57 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L			A7500-RA		10/17/24 09:57 / dmf
Radium 226 + Radium 228 MDC	1.0	pCi/L			A7500-RA		10/17/24 09:57 / dmf

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit
U - Not detected

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 64529
Lab ID: C24090966-002
Client Sample ID: 64529002, MW-2017-11

Report Date: 10/23/24
Collection Date: 09/17/24 12:23
Date Received: 09/26/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.3	pCi/L			E903.0		10/15/24 15:18 / apt
Radium 226 precision (±)	0.2	pCi/L			E903.0		10/15/24 15:18 / apt
Radium 226 MDC	0.2	pCi/L			E903.0		10/15/24 15:18 / apt
Radium 228	0.9	pCi/L	U		RA-05		10/10/24 16:38 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		10/10/24 16:38 / trs
Radium 228 MDC	1.1	pCi/L			RA-05		10/10/24 16:38 / trs
Radium 226 + Radium 228	0.9	pCi/L	U		A7500-RA		10/17/24 09:57 / dmf
Radium 226 + Radium 228 precision (±)	0.7	pCi/L			A7500-RA		10/17/24 09:57 / dmf
Radium 226 + Radium 228 MDC	1.1	pCi/L			A7500-RA		10/17/24 09:57 / dmf

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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Report Date: Friday, October 25, 2024 4:31:50 PM



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Account #: 2040

Client: Basin Electric Power Cooperative



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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24090966

Report Date: 10/17/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11466										
Lab ID: LCS-RA226-11466	3	Laboratory Control Sample								
		Run: TENNELEC-4_241004D								10/15/24 15:18
Radium 226		10	pCi/L	102		70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.19	pCi/L							
Lab ID: MB-RA226-11466	3	Method Blank								
		Run: TENNELEC-4_241004D								10/15/24 15:18
Radium 226		-0.02	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C24090986-005EDUP	3	Sample Duplicate								
		Run: TENNELEC-4_241004D								10/15/24 17:33
Radium 226		9.1	pCi/L					9.3	30	
Radium 226 precision (±)		1.8	pCi/L							
Radium 226 MDC		0.16	pCi/L							
- The RER result is 0.33.										

Qualifiers:

RL - Analyte Reporting Limit
U - Not detected

ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24090966

Report Date: 10/17/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7500										
Lab ID: LCS-228-RA226-11466	3	Laboratory Control Sample								
										Run: TENNELEC-4_241004A 10/10/24 16:38
Radium 228		9.1	pCi/L	91		70	130			
Radium 228 precision (±)		1.9	pCi/L							
Radium 228 MDC		1.2	pCi/L							
Lab ID: MB-RA226-11466	3	Method Blank								
										Run: TENNELEC-4_241004A 10/10/24 16:38
Radium 228		0.7	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C24090986-005EDUP	3	Sample Duplicate								
										Run: TENNELEC-4_241004A 10/10/24 16:38
Radium 228		1.3	pCi/L					17	30	
Radium 228 precision (±)		0.72	pCi/L							
Radium 228 MDC		1.0	pCi/L							
- The RER result is 0.20.										

Qualifiers:

RL - Analyte Reporting Limit
U - Not detected

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24090966

Login completed by: Aaron J. Smith

Date Received: 9/26/2024

Reviewed by: lcadreau

Received by: SLR

Reviewed Date: 10/2/2024

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	24.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

The temperature of the sample(s) in shipping container 1 was 24.6°C and shipping container 2 was 24.8°C. AJS 09/26/24

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Laboratory Certifications and Accreditations

Current certificates are available at www.energylab.com website:

	Agency	Number
Billings, MT  	Alaska	17-023
	California	3087
	Colorado	MT00005
	Department of Defense (DoD)/ISO17025	ADE-2588
	Florida (Primary NELAP)	E87668
	Idaho	MT00005
	Louisiana	05079
	Montana	CERT0044
	Nebraska	NE-OS-13-04
	Nevada	NV-C24-00250
	North Dakota	R-007
	National Radon Proficiency	109383-RMP
	Oregon	4184
	South Dakota	ARSD 74:04:07
	Texas	TX-C24-00302
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00170
Washington	C1039	
Casper, WY 	Alaska	20-006
	California	3021
	Colorado	WY00002
	Florida (Primary NELAP)	E87641
	Idaho	WY00002
	Louisiana	05083
	Montana	CERT0002
	Nebraska	NE-OS-08-04
	Nevada	NV-C24-00245
	North Dakota	R-125
	Oregon	WY200001
	South Dakota	WY00002
	Texas	T104704181-23-21
	US EPA Region VIII	WY00002
USNRC License	49-26846-01	
Washington	C1012	
Gillette, WY	US EPA Region VIII	WY00006
	Colorado	MT00945
Helena, MT	Montana	CERT0079
	Nevada	NV-C24-00119
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00090

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Chain of Custody Record

Page 1 of 1



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501

Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Work Order # **64529**

Company Name and Address: MVTL 2616 E Broadway Bismarck, ND 58501		Account #:	Phone #: 701-258-9720
Billing Address (indicate if different from above): PO Box 249 New Ulm, MN 56073		Contact: Claudette	Fax #: For faxed report check box <input type="checkbox"/>
		Name of Sampler: Claudette	E-mail: ccarroll@mvtl.com
		Quote Number C15480 v5	Date Submitted: 24-Sep-24
		Project Name/Number:	Purchase Order #: BL6938

Sample Information						Bottle Type						Analysis	
Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Untreated	Gallon	HN03	VOC Vials	Unpreserved	Glass Jar	Other	Analysis Required
C7490966	64529001	MW-2017-10	GW	17-Sep-24	1139				1				Ra226 & Ra228
	64529002	MW-2017-11	GW	17-Sep-24	1223				1				Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	24-Sep-24	1700		Shelby Richins	09/26/24	1020

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Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.

2616 East Broadway Avenue
Bismarck, ND 58501

Phone: (701) 258-9720

Toll Free: (800) 279-6885

Fax: (701) 258-9724

Basin Electric Power Coop
WO: 64529



in of Custody

Page 1 of 2

Lab Use Only

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 9/18/2024
		Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Q#	Filtered	Analysis Required
—		MW-2017-1	GW	9/17/2024	822	2	N	TDS, B, Ca, Cl, F, SO ₄
—		MW-2017-2	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
—		DUP	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
—		MW-2017-3	GW	9/17/2024	932	2	N	TDS, B, Ca, Cl, F, SO ₄
—		MW-2017-7	GW	9/17/2024	1014	2	N	TDS, B, Ca, Cl, F, SO ₄
—		MW-2017-4	GW	9/17/2024	1057	2	N	TDS, B, Ca, Cl, F, SO ₄
001		MW-2017-10	GW	9/17/2024	1139	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
002		MW-2017-11	GW	9/17/2024	1223	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
—		MW-2017-8	GW	9/17/2024	1328	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENNIUM EXPRESS	9/18/2024	NOON	<i>J. Knutson</i>	18 Sep 24	1517	2.3 C	(Y)N	TM959
2.							Y/N	

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

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Account #: 2040

Client: Basin Electric Power Cooperative



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Bismarck, ND 58501
Phone: (701) 258-9720
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Lab Use Only

Chain of Custody

Page 2 of 2

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 9/18/2024
		Project Name/Number ND0025232	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
Lab	MW-2017-8D	GW	9/17/2024	1417	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENNIUM EXPRESS	9/18/2024	NOON	<i>[Signature]</i>	9/18/24	1517	5.3°C	Y/N	74959
2.							Y/N	

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Report Date: Friday, October 25, 2024 4:31:50 PM

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 0745
 Site Location: LOS LANDFILL Finish: 0827
 Weather Conds: Calm 57° Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 2 1/4 @ 100psi
 b. Water Table Depth 25.15 d. Casing Diameter _____ 27/3

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make _____ Model _____ Serial Number _____
 YSI _____ 22C103901
 HACH _____ 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
<.5 <.5 <.5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>0809</u>	<u>INITIAL 4L</u>	<u>10.4</u>	<u>0.36</u>	<u>1904</u>	<u>7.05</u>	<u>-59.1</u>	<u>1.83</u>	<u>clear</u>	<u>25.2</u>
<u>0813</u>	<u>5 L</u>	<u>10.4</u>	<u>0.36</u>	<u>1912</u>	<u>7.05</u>	<u>-60.7</u>	<u>1.97</u>	<u>↓</u>	<u>25.3</u>
<u>0817</u>	<u>6 L</u>	<u>10.3</u>	<u>0.61</u>	<u>1920</u>	<u>7.05</u>	<u>-61.9</u>	<u>2.60</u>	<u>↓</u>	<u>25.2</u>
<u>0821</u>	<u>7 L</u>	<u>10.3</u>	<u>0.51</u>	<u>1923</u>	<u>7.05</u>	<u>-63.1</u>	<u>2.30</u>	<u>↓</u>	<u>25.27</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>0822</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	<u>↓</u>

Comments _____

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 0831
 Site Location: LOS LANDFILL Finish: 0906
 Weather Conds: calm 57° Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 2 1/4 c wopsi
 b. Water Table Depth 22.00 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make Model Serial Number
YSI _____ 22C103901
HACH _____ 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>0846</u>	<u>INITIAL</u>	<u>10.4</u>	<u>0.25</u>	<u>1066</u>	<u>7.34</u>	<u>-37.4</u>	<u>2.25</u>	<u>clear</u>	<u>22.62</u>
<u>0850</u>	<u>8 L</u>	<u>10.4</u>	<u>0.22</u>	<u>1066</u>	<u>7.35</u>	<u>-44.2</u>	<u>2.67</u>		<u>22.60</u>
<u>0854</u>	<u>10 L</u>	<u>10.4</u>	<u>0.20</u>	<u>1066</u>	<u>7.35</u>	<u>-48.5</u>	<u>1.79</u>		<u>22.60</u>
<u>0858</u>	<u>12 L</u>	<u>10.4</u>	<u>0.18</u>	<u>1067</u>	<u>7.35</u>	<u>-5</u>	<u>2.17</u>	<u>↓</u>	<u>22.61</u>
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	L								
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e. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>0859</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	<u>↓</u>

Comments DUP

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 0910
 Site Location: LOS LANDFILL Finish: 0929
 Weather Conds: calm sunny w/0' Collector(s) _____

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 27/3 c w/psi
 b. Water Table Depth 24.0 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make Model Serial Number
YSI _____ 22C103901
HACH _____ 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>0919</u>	<u>INITIAL 4L</u>	<u>10.4</u>	<u>.27</u>	<u>1404</u>	<u>7.32</u>	<u>-57.1</u>	<u>12.3</u>	<u>clear</u>	<u>24.2</u>
<u>0923</u>	<u>5 L</u>	<u>10.4</u>	<u>.27</u>	<u>1399</u>	<u>7.33</u>	<u>-62.7</u>	<u>12.7</u>	<u>↓</u>	<u>24.3</u>
<u>0927</u>	<u>6 L</u>	<u>10.4</u>	<u>.21</u>	<u>1403</u>	<u>7.33</u>	<u>-68.9</u>	<u>11.5</u>	<u>↓</u>	<u>24.4</u>
<u>0931</u>	<u>7 L</u>	<u>10.4</u>	<u>.21</u>	<u>1406</u>	<u>7.34</u>	<u>-69.4</u>	<u>10.9</u>	<u>↓</u>	<u>24.4</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>0932</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	<u>↓</u>

Comments _____

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 0947
 Site Location: LOS LANDFILL Finish: 1017
 Weather Conds: SUNNY, CALM, 45° Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 2 1/4 @ 60PSI
 b. Water Table Depth 39.0 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make _____ Model _____ Serial Number _____
YSI 22C103901
HACH 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>1000</u>	<u>INITIAL 3L</u>	<u>11.3</u>	<u>.26</u>	<u>1021</u>	<u>7.60</u>	<u>87.6</u>	<u>2.13</u>	<u>yellow/</u>	<u>39.6</u>
<u>1004</u>	<u>4.5 L</u>	<u>11.4</u>	<u>.22</u>	<u>1022</u>	<u>7.60</u>	<u>83.8</u>	<u>2.86</u>	<u>Brown</u>	<u>39.7</u>
<u>1008</u>	<u>6 L</u>	<u>11.3</u>	<u>.21</u>	<u>1024</u>	<u>7.60</u>	<u>80.7</u>	<u>2.65</u>	<u>↓</u>	<u>39.6</u>
<u>1012</u>	<u>7.5 L</u>	<u>11.4</u>	<u>.18</u>	<u>1022</u>	<u>7.60</u>	<u>76.0</u>	<u>2.88</u>	<u>↓</u>	<u>39.55</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>1014</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	<u>↓</u>

Comments _____

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 1022
 Site Location: LOS LANDFILL Finish: 1100
 Weather Conds: SUNNY 70° Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer
 e. Pump Settings 26/4 e 40psi

a. Total Well Length _____ c. Casing Material PVC
 b. Water Table Depth 25.90 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make _____ Model _____ Serial Number _____
 YSI _____ 22C103901
 HACH _____ 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>1044</u>	<u>INITIAL</u>	<u>11.6</u>	<u>0.29</u>	<u>1284</u>	<u>7.16</u>	<u>-42.5</u>	<u>9.64</u>	<u>clear</u>	<u>25.86</u>
<u>1048</u>	<u>6.5 L</u>	<u>11.5</u>	<u>0.28</u>	<u>1282</u>	<u>7.17</u>	<u>-44.6</u>	<u>9.78</u>		<u>25.90</u>
<u>1052</u>	<u>7 L</u>	<u>11.5</u>	<u>0.24</u>	<u>1273</u>	<u>7.18</u>	<u>-46.5</u>	<u>8.91</u>		<u>25.90</u>
<u>1056</u>	<u>7.5 L</u>	<u>11.4</u>	<u>0.22</u>	<u>1275</u>	<u>7.18</u>	<u>-47.3</u>	<u>8.07</u>		<u>25.90</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>1057</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	<u>↓</u>

Comments _____

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client:	BEPC	Date:	9/17/24
Project No:		Time:	1107
Site Location:	LOS LANDFILL	Finish:	1149
Weather Conds:	Sunny 77° calm Collector(s) MK		

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____	c. Casing Material <u>PVC</u>	e. Pump Settings <u>26/4 @ 50psi</u>
b. Water Table Depth <u>33.77</u>	d. Casing Diameter _____	

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
1125	INITIAL 4L	12.6	0.14	989	7.58	-25.3	0.94	clear	33.80
1129	5 L	12.5	0.11	987	7.57	-27.3	1.05		33.85
1133	6 L	12.5	0.10	987	7.56	-27.4	1.01		33.91
1137	7 L	12.6	0.10	986	7.56	-26.9	1.02		33.80
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Have parameters stabilized	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	1139
	500mL	1	HNO3	Metals	
	1gal	1	HNO3	Radium	↓

Comments _____

Signature [Signature] Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 1152
 Site Location: LOS LANDFILL Finish: 1243
 Weather Conds: Sunny Hot calm Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 25/5 @ 40 PSI
 b. Water Table Depth 33.25 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		22C103901
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>1200</u>	<u>INITIAL 4.5</u>	<u>11.5</u>	<u>1.89</u>	<u>941</u>	<u>7.56</u>	<u>23.9</u>	<u>1.73</u>	<u>clear</u>	<u>33.45</u>
<u>1210</u>	<u>5.5 L</u>	<u>11.7</u>	<u>2.06</u>	<u>942</u>	<u>7.56</u>	<u>26.6</u>	<u>2.05</u>		<u>33.40</u>
<u>1214</u>	<u>6.5 L</u>	<u>11.6</u>	<u>2.43</u>	<u>940</u>	<u>7.56</u>	<u>30.7</u>	<u>2.11</u>		<u>33.40</u>
<u>1218</u>	<u>7.5 L</u>	<u>11.6</u>	<u>2.61</u>	<u>938</u>	<u>7.56</u>	<u>33.4</u>	<u>2.17</u>		<u>33.43</u>
<u>1222</u>	<u>8.5 L</u>	<u>11.6</u>	<u>2.65</u>	<u>939</u>	<u>7.55</u>	<u>36.4</u>	<u>2.21</u>		<u>33.43</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>1223</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	
	<u>1 gal</u>	<u>1</u>	<u>HNO3</u>	<u>Radium</u>	<u>↓</u>

Comments _____

Signature Mann Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 1255
 Site Location: LOS LANDFILL Finish: ~~1331~~ 1331
 Weather Conds: Hot, sunny, breezy Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings 2 1/4 @ 40PSI
 b. Water Table Depth 28.45 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make Model Serial Number
 YSI _____ 22C103901
 HACH _____ 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>1315</u>	INITIAL <u>5L</u>	<u>10.9</u>	<u>0.19</u>	<u>4761</u>	<u>7.47</u>	<u>-47.5</u>	<u>9.79</u>	<u>Clear</u>	<u>28.40</u>
<u>1319</u>	<u>6 L</u>	<u>10.8</u>	<u>0.18</u>	<u>4760</u>	<u>7.46</u>	<u>-49.4</u>	<u>10.4</u>	↓	<u>28.41</u>
<u>1320</u>	<u>7 L</u>	<u>10.6</u>	<u>0.18</u>	<u>4773</u>	<u>7.47</u>	<u>-50.9</u>	<u>10.4</u>	↓	<u>28.45</u>
<u>1327</u>	<u>8 L</u>	<u>10.7</u>	<u>0.18</u>	<u>4793</u>	<u>7.47</u>	<u>-51.9</u>	<u>9.51</u>	↓	<u>28.44</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>1328</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	↓

Comments _____

Signature MK Date 9/17/24

Ground Water Sample Collection Record

Client: BEPC Date: 9/17/24
 Project No: _____ Time: 1335
 Site Location: LOS LANDFILL Finish: 1420
 Weather Conds: HOT SUNNY breezy Collector(s) MK

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length _____ c. Casing Material PVC e. Pump Settings _____
 b. Water Table Depth 38.29 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump

b. Field Testing Equipment Used: Make _____ Model _____ Serial Number _____
 YSI 22C103901
 HACH 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>1403</u>	INITIAL 9L	<u>10.10</u>	<u>0.39</u>	<u>2897</u>	<u>8.07</u>	<u>-14.4</u>	<u>10.9</u>	<u>Brown</u>	<u>38.38</u>
<u>1407</u>	10 L	<u>10.6</u>	<u>0.34</u>	<u>2910</u>	<u>8.01</u>	<u>-18.3</u>	<u>11.6</u>	↓	<u>38.4</u>
<u>1411</u>	11 L	<u>10.8</u>	<u>0.31</u>	<u>2901</u>	<u>8.05</u>	<u>-20.0</u>	<u>11.0</u>	↓	<u>38.4</u>
<u>1415</u>	12 L	<u>10.7</u>	<u>0.27</u>	<u>2901</u>	<u>8.07</u>	<u>-20.9</u>	<u>10.8</u>	↓	<u>38.4</u>
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e. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	<u>1417</u>
	500mL	1	HNO3	Metals	↓

Comments _____

Signature [Signature] Date 9/17/24

Basin Electric North Dakota

Site Name: LOS Plant CCR
Event Date: 9/16/2024
Weather Conditions: sunny, hot & breezy
Field Technician: Mariah Knutson

River Elevation (if applicable)
1658.28

Well ID	Time	Depth to Water*	Well Condition	Comments
MW-2017-1	745	25.15	Good	
MW-2017-2		22.6		
MW-2017-3		24		
MW-2017-7		39		
MW-2017-4		25.9		
MW-2017-10		33.77		
MW-2017-11		33.25		
MW-2017-8		28.45		
MW-2017-8D		38.29		

* Depth to water as measured from the top of PVC casing.



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



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 64527



in of Custody

Page 1 of 2

Lab Use Only

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepec.com aknutson@bepec.com
		Name of Sampler Mariah Knutson	Date Submitted 9/18/2024
		Quote Number	Purchase Order # 790708-04
		Project Name/Number LOS CCR Wells	

Lab Use Only Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	°C	Filtered	Analysis Required
001	MW-2017-1	GW	9/17/2024	822	2	N	TDS, B, Ca, Cl, F, SO ₄
002	MW-2017-2	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
003	DUP	GW	9/17/2024	859	2	N	TDS, B, Ca, Cl, F, SO ₄
004	MW-2017-3	GW	9/17/2024	932	2	N	TDS, B, Ca, Cl, F, SO ₄
005	MW-2017-7	GW	9/17/2024	1014	2	N	TDS, B, Ca, Cl, F, SO ₄
006	MW-2017-4	GW	9/17/2024	1057	2	N	TDS, B, Ca, Cl, F, SO ₄
007	MW-2017-10	GW	9/17/2024	1139	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
008	MW-2017-11	GW	9/17/2024	1223	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
009	MW-2017-8	GW	9/17/2024	1328	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	9/18/2024	NOON	<i>[Signature]</i>	18 Sep 24	1517	2.3 C	Y/N	TM959
2.							Y/N	

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

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Wednesday, October 16, 2024 12:16:18 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

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1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
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
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Lab Use Only

Chain of Custody
Page 2 of 2

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 9/18/2024
		Project Name/Number ND0025232	Purchase Order # 790708-04

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
	010	MW-2017-8D	GW	9/17/2024	1417	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENNIUM EXPRESS	9/18/2024	NOON	<i>[Signature]</i>	9/18/24	1517	5.3°C	Y/N	TM959
2.								

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Report Date: Wednesday, October 16, 2024 12:16:18 PM

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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (67999) **PO:** 790708-04

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 67999001 **Date Collected:** 10/15/2024 08:40 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 10/16/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 5.1 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	315	mg/L	25	5		10/23/2024 09:58	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	10/21/2024 09:00	10/22/2024 07:39	
Method: EPA 6010D							
Boron	0.90	mg/L	0.1	1	10/16/2024 16:06	10/24/2024 11:12	
Calcium	93.6	mg/L	1	1	10/16/2024 16:06	10/17/2024 12:28	
Lithium	<0.02	mg/L	0.02	1	10/16/2024 16:06	10/31/2024 15:58	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	10/16/2024 16:06	10/23/2024 12:13	
Arsenic	0.0023	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:13	
Barium	0.0774	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:13	
Beryllium	<0.0005	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:13	
Cadmium	<0.0005	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:13	
Chromium	<0.002	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:13	
Cobalt	<0.002	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:13	
Lead	<0.0005	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:13	
Molybdenum	0.0075	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:13	
Selenium	<0.005	mg/L	0.005	5	10/16/2024 16:06	10/23/2024 12:13	
Thallium	<0.0005	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:13	
Method: SM4500-CI-E 2011							
Chloride	10.9	mg/L	2.0	1		10/22/2024 09:55	
Method: SM4500-F-C-2011							
Fluoride	0.85	mg/L	0.1	1		10/16/2024 16:46	
Method: USGS I-1750-85							
Total Dissolved Solids	677	mg/L	10	1		10/17/2024 15:24	

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

Lab ID: 67999002 **Date Collected:** 10/15/2024 10:40 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 10/16/2024 14:47 **Collector:** Client

Temp @ Receipt (C): 5.1 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	168	mg/L	25	5		10/23/2024 09:59	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	10/21/2024 09:00	10/22/2024 07:39	
Method: EPA 6010D							
Boron	1.36	mg/L	0.1	1	10/16/2024 16:06	10/24/2024 11:15	
Calcium	61.9	mg/L	1	1	10/16/2024 16:06	10/17/2024 12:29	
Lithium	0.0334	mg/L	0.02	1	10/16/2024 16:06	10/31/2024 16:03	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	10/16/2024 16:06	10/23/2024 12:31	
Arsenic	0.0100	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:31	
Barium	0.0442	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:31	
Beryllium	0.0009	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:31	
Cadmium	<0.0005	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:31	
Chromium	<0.002	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:31	
Cobalt	<0.002	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:31	
Lead	0.0008	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:31	
Molybdenum	0.0102	mg/L	0.002	5	10/16/2024 16:06	10/23/2024 12:31	
Selenium	<0.005	mg/L	0.005	5	10/16/2024 16:06	10/23/2024 12:31	
Thallium	0.0007	mg/L	0.0005	5	10/16/2024 16:06	10/23/2024 12:31	
Method: SM4500-CI-E 2011							
Chloride	11.2	mg/L	2.0	1		10/22/2024 09:56	
Method: SM4500-F-C-2011							
Fluoride	0.75	mg/L	0.1	1		10/16/2024 16:52	
Method: USGS I-1750-85							
Total Dissolved Solids	590	mg/L	10	1		10/17/2024 15:24	

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #: 67999			
Sulfate			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			100	106.0		85	115			
LFB			100	109.0		85	115			
LFB			100	104.0		85	115			
LFB			100	103.0		85	115			
LFB			100	101.0		85	115			
LFB			100	99.8		85	115			
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MS/MSD	68010001		1000	110.7	109.5	85	115	0.6	20	
MS/MSD	68208003		500	75.9	71.7	85	115	2.0	20	
MS/MSD	68338013		4000	97.6	103.9	85	115	2.9	20	
MS/MSD	68338014		1000	83.4	84.8	85	115	0.4	20	
Chloride			Units: mg/L							
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	
LFB			30	96.1		90	110			
LFB			30	96.5		90	110			
LFB			30	96.6		90	110			
LFB			30	97.3		90	110			
LFB			30	96.9		90	110			
LFB			30	96.8		90	110			
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								

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

Chloride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<2.0							
MS/MSD	68070001		30	99.8	92.6	80	120	1.8	20
MS/MSD	68338014		30	97.1	91.8	80	120	4.0	20
MS/MSD	68338015		30	105.8	98.1	80	120	7.5	20

Boron									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	102.0		85	115		

MB		<0.1							
MS/MSD	67999001		0.4	106.0	110.0	70	130	1.1	20

Calcium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	105.0		85	115		

MB		<1							
PDS/PDSD	65433006		100	96.1	96.0	75	125	0.0	20
PDS/PDSD	65702016		100	91.8	92.8	75	125	0.6	20
PDS/PDSD	65827002		100	101.0	101.0	75	125	0.0	20
PDS/PDSD	67289003		100	96.9	100.0	75	125	1.1	20
PDS/PDSD	67441001		100	102.0	104.0	75	125	1.7	20
PDS/PDSD	67441009		500	103.0	95.4	75	125	3.5	20
PDS/PDSD	67447003		100	101.0	102.0	75	125	0.4	20
PDS/PDSD	67467010		100	99.6	100.0	75	125	0.5	20
PDS/PDSD	67601001		100	98.3	101.0	75	125	1.7	20
DUP	67845001							2.2	20

Lithium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	103.0		85	115		

MB		<0.04							
MS/MSD	67999001		0.4	109.0	110.0	70	130	0.6	20

Antimony									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	104.0		80	120		

MB		<0.001							
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Antimony									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK/SPKD	67658003		0.8	117.0	116.0	75	125	1.3	20
SPK/SPKD	67658003		0.8	114.0	117.0	75	125	2.5	20
MS/MSD	67999001		0.4	109.0	100.0	75	125	8.8	20

Arsenic									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	105.0		80	120		
MB		<0.002							
SPK/SPKD	67658003		0.8	123.0	120.0	75	125	2.3	20
SPK/SPKD	67658003		0.8	120.0	118.0	75	125	1.4	20
MS/MSD	67999001		0.4	109.0	101.0	75	125	7.8	20

Barium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		80	120		
MB		<0.002							
SPK/SPKD	67658003		0.8	115.0	117.0	75	125	0.9	20
SPK/SPKD	67658003		0.8	115.0	120.0	75	125	2.0	20
MS/MSD	67999001		0.4	105.0	102.0	75	125	2.7	20

Beryllium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	106.0		80	120		
MB		<0.0005							
SPK/SPKD	67658003		0.8	124.0	124.0	75	125	0.0	20
MS/MSD	67999001		0.4	115.0	110.0	75	125	5.3	20

Cadmium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	103.0		80	120		
MB		<0.0005							
SPK/SPKD	67658003		0.8	111.0	113.0	75	125	1.7	20
SPK/SPKD	67658003		0.8	114.0	113.0	75	125	1.1	20
MS/MSD	67999001		0.4	105.0	97.8	75	125	6.7	20

Chromium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	108.0		80	120		

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Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.002							
SPK/SPKD	67658003		0.8	113.0	115.0	75	125	1.4	20
SPK/SPKD	67658003		0.8	117.0	114.0	75	125	1.7	20
MS/MSD	67999001		0.4	110.0	99.9	75	125	9.6	20

Cobalt									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	106.0		80	120		
MB		<0.002							
SPK/SPKD	67658003		0.8	116.0	112.0	75	125	3.4	20
SPK/SPKD	67658003		0.8	115.0	116.0	75	125	1.6	20
MS/MSD	67999001		0.4	104.0	97.4	75	125	6.9	20

Lead									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		80	120		
MB		<0.0005							
SPK/SPKD	67658003		0.8	114.0	113.0	75	125	0.7	20
SPK/SPKD	67658003		0.8	113.0	115.0	75	125	1.6	20
MS/MSD	67999001		0.4	106.0	102.0	75	125	3.9	20

Molybdenum									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	105.0		80	120		
MB		<0.002							
SPK/SPKD	67658003		0.8	109.0	114.0	75	125	4.0	20
SPK/SPKD	67658003		0.8	105.0	105.0	75	125	0.3	20
MS/MSD	67999001		0.4	104.0	95.1	75	125	8.9	20

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	101.0		80	120		
MB		<0.005							
SPK/SPKD	67658003		0.8	121.0	117.0	75	125	3.2	20
SPK/SPKD	67658003		0.8	119.0	119.0	75	125	0.4	20
MS/MSD	67999001		0.4	107.0	101.0	75	125	6.3	20

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Account #: 2040

Client: Basin Electric Power Cooperative

Thallium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	99.8		80	120		
MB		<0.0005							
SPK/SPKD	67658003		0.8	111.0	112.0	75	125	0.7	20
SPK/SPKD	67658003		0.8	112.0	113.0	75	125	0.5	20
MS/MSD	67999001		0.4	105.0	101.0	75	125	3.9	20

Mercury			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB			0.002	103.0		85	115		
LRB		<0.0002							
MS/MSD	66839001		0.002	89.5	89.0	70	130	0.0	20
MS/MSD	67353001		0.002	94.6	95.8	70	130	0.0	20
MS/MSD	67999002		0.002	103.0	100.0	70	130	4.9	20

Fluoride			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

CRM-F			3.06	108.0		83.99	111.11		
LFB-F			0.5	104.0		90	110		
LFB-F			0.5	98.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MS/MSD	67999002		0.5	96.0	88.0	80	120	3.3	20

Total Dissolved Solids			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

CRM			736	98.0		90.35	110.33		
MB		<10							
DUP	67999001							0.9	20

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Report Date: Friday, November 1, 2024 3:24:32 PM



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Account #: 2040

Client: Basin Electric Power Cooperative



Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Cooperative
WO: 67999



Chain of Custody
Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address <u>Basin Electric Power Coop.</u> Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepec.com aknutson@bepec.com
		Name of Sampler Mariah Knutson	Quote Number
		Date Submitted 10/16/2024	
		Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
001	MW-2017-10	GW	10/15/2024	840	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
002	MW-2017-11	GW	10/15/2024	1040	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	10/16/2024	NOON	<i>[Signature]</i>	10/16/2024	11:52	51	Y/N	11/15/24
2.							Y/N	

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

11/17
10/16/24

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Client: Basin Electric Power Cooperative

Analytical Results

Lab ID:	68002001	Date Collected:	10/15/2024 08:40	Matrix:	Groundwater		
Sample ID:	MW-2017-10	Date Received:	10/16/2024 14:47	Collector:	Client		
Temp @ Receipt (C):	5.1	Received on Ice:	Yes				
Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual

Method: Contracted Result

Radium 226	See Attached			1		11/13/2024 15:35	
Radium 228	See Attached			1		11/13/2024 15:35	

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 68002002 **Date Collected:** 10/15/2024 10:40 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 10/16/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 5.1 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
-----------	---------	-------	-----	----	----------	----------	------

Method: Contracted Result

Radium 226	See Attached			1		11/13/2024 15:35	
Radium 228	See Attached			1		11/13/2024 15:35	

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ANALYTICAL SUMMARY REPORT

November 13, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24100677 Quote ID: C15480

Project Name: 68002

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 10/22/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24100677-001	68002001, MW-2017-10	10/15/24 8:40	10/22/24	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C24100677-002	68002002, MW-2017-11	10/15/24 10:40	10/22/24	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 68002
Lab ID: C24100677-001
Client Sample ID: 68002001, MW-2017-10

Report Date: 11/13/24
Collection Date: 10/15/24 08:40
Date Received: 10/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		11/04/24 12:43 / apt
Radium 226 precision (±)	0.1	pCi/L			E903.0		11/04/24 12:43 / apt
Radium 226 MDC	0.2	pCi/L			E903.0		11/04/24 12:43 / apt
Radium 228	2.3	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 228 precision (±)	0.9	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 226 + Radium 228	2.4	pCi/L			A7500-RA		11/05/24 16:08 / dmf
Radium 226 + Radium 228 precision (±)	1	pCi/L			A7500-RA		11/05/24 16:08 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L			A7500-RA		11/05/24 16:08 / dmf

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
 U - Not detected

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 68002
Lab ID: C24100677-002
Client Sample ID: 68002002, MW-2017-11

Report Date: 11/13/24
Collection Date: 10/15/24 10:40
Date Received: 10/22/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		11/04/24 14:55 / apt
Radium 226 precision (±)	0.1	pCi/L			E903.0		11/04/24 14:55 / apt
Radium 226 MDC	0.2	pCi/L			E903.0		11/04/24 14:55 / apt
Radium 228	1.9	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 228 precision (±)	0.9	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 228 MDC	1.1	pCi/L			RA-05		10/29/24 12:12 / trs
Radium 226 + Radium 228	2.0	pCi/L			A7500-RA		11/05/24 16:08 / dmf
Radium 226 + Radium 228 precision (±)	0.9	pCi/L			A7500-RA		11/05/24 16:08 / dmf
Radium 226 + Radium 228 MDC	1.1	pCi/L			A7500-RA		11/05/24 16:08 / dmf

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
U - Not detected

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QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24100677

Report Date: 11/08/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11488										
Lab ID: LCS-RA226-11488	3	Laboratory Control Sample								
		Run: TENNELEC-3_241023A								11/04/24 10:39
Radium 226		11	pCi/L	115		70	130			
Radium 226 precision (±)		2.2	pCi/L							
Radium 226 MDC		0.19	pCi/L							
Lab ID: MB-RA226-11488	3	Method Blank								
		Run: TENNELEC-3_241023A								11/04/24 10:39
Radium 226		0.02	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C24100293-003ADUP	3	Sample Duplicate								
		Run: TENNELEC-3_241023A								11/04/24 14:39
Radium 226		11	pCi/L					1.7	30	
Radium 226 precision (±)		2.4	pCi/L							
Radium 226 MDC		1.2	pCi/L							
- The RER result is 0.06.										

Qualifiers:

RL - Analyte Reporting Limit
U - Not detected

ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24100677

Report Date: 11/08/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7512										
Lab ID: LCS-228-RA226-11488	3	Laboratory Control Sample								
Radium 228		8.4	pCi/L	84		70	130			Run: TENNELEC-4_241023A 10/29/24 11:32
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		1.0	pCi/L							
Lab ID: MB-RA226-11488	3	Method Blank								
Radium 228		1	pCi/L							Run: TENNELEC-4_241023A 10/29/24 11:32
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C24100293-003ADUP	3	Sample Duplicate								
Radium 228		15	pCi/L					18	30	Run: TENNELEC-4_241023A 10/29/24 13:02
Radium 228 precision (±)		6.1	pCi/L							
Radium 228 MDC		7.9	pCi/L							
- The RER result is 0.28.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24100677

Login completed by: Dakota R. Sawyer

Date Received: 10/22/2024

Reviewed by: Iquezada

Received by: AJS

Reviewed Date: 10/23/2024

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.3°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

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	California	3087
	Colorado	MT00005
	Department of Defense (DoD)/ISO17025	ADE-2588
	Florida (Primary NELAP)	E87668
	Idaho	MT00005
	Louisiana	05079
	Montana	CERT0044
	Nebraska	NE-OS-13-04
	Nevada	NV-C24-00250
	North Dakota	R-007
	National Radon Proficiency	109383-RMP
	Oregon	4184
	South Dakota	ARSD 74:04:07
	Texas	TX-C24-00302
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00170
Washington	C1039	
Casper, WY 	Alaska	20-006
	California	3021
	Colorado	WY00002
	Florida (Primary NELAP)	E87641
	Idaho	WY00002
	Louisiana	05083
	Montana	CERT0002
	Nebraska	NE-OS-08-04
	Nevada	NV-C24-00245
	North Dakota	R-125
	Oregon	WY200001
	South Dakota	WY00002
	Texas	T104704181-23-21
	US EPA Region VIII	WY00002
USNRC License	49-26846-01	
Washington	C1012	
Gillette, WY	US EPA Region VIII	WY00006
	Colorado	MT00945
Helena, MT	Montana	CERT0079
	Nevada	NV-C24-00119
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00090

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Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record

Page 1 of 1
 C24100677



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501
 Phone: (701) 258-9720
 Toll Free: (800) 279-6885 Fax: (701) 258-9724

Work Order # 68002

Account #:	Phone #:
Contact: Claudette	701-258-9720
Name of Sampler:	Fax #:
Quote Number: C15480 v5	For faxed report check box <input type="checkbox"/>
Project Name/Number:	E-mail: ccarroll@mvtl.com
	For e-mail report check box <input type="checkbox"/>
	Date Submitted: 18-Oct-24
	Purchase Order #: BL6965

Company Name and Address:

MVTL
 2616 E Broadway
 Bismarck, ND 58501

Billing Address (indicate if different from above):

PO Box 249
 New Ulm, MN 56073

Sample Information						Bottle Type						Analysis
Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Untreated	Gallon HNO3	VOC Vials	Unpreserved	Glass Jar	Other	Analysis Required
	68002001	MW-2017-10	GW	15-Oct-24	0840	1						Ra226 & Ra228
	68002002	MW-2017-11	GW	15-Oct-24	1040	1						Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	18-Oct-24	1700		Aaron Smith	10/22/24 11:10	

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Basin Electric Power Cooperative
 WO: 68002



Chain of Custody
 Page 1 of 1

Work Order #
 Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 10/16/2024
		Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
001	MW-2017-10	GW	10/15/2024	840	3 N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
002	MW-2017-11	GW	10/15/2024	1040	3 N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	10/16/2024	NOON	<i>[Signature]</i>	16 Oct 2024	11:52	51	Y/N	111950
2.							Y/N	

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

1447
16 Oct 24

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Report Date: Wednesday, November 13, 2024 5:00:16 PM

Ground Water Sample Collection Record

Client: BEPC Date: 10/15/24
 Project No: _____ Time: 0756
 Site Location: AVS LWS Finish: _____
 Weather Conds: Cold, Breezy Collector(s): MR

WATER LEVEL DATA: (measured from Top of Casing) Well
 a. Total Well Length _____ c. Casing Material PVC Pump Settings 27/30 50psi

b. Water Table Depth 34.97 d. Casing Diameter _____

WELL PURGING DATA
 a. Purge Method Dedicated Bladder Pump
 b. Field Testing Equipment Used:

Make	Model	Serial Number
YSI		5320084101
HACH		20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>0830</u>	<u>INITIAL 5L</u>	<u>7.0</u>	<u>0.40</u>	<u>987</u>	<u>7.58</u>	<u>-36.3</u>	<u>0.37</u>	<u>Clear</u>	<u>35.06</u>
<u>0835</u>	<u>5.5L</u>	<u>8.9</u>	<u>0.36</u>	<u>985</u>	<u>7.57</u>	<u>-38.5</u>	<u>0.40</u>	↓	<u>35.05</u>
<u>0836</u>	<u>6L</u>	<u>8.8</u>	<u>0.33</u>	<u>985</u>	<u>7.58</u>	<u>-39.1</u>	<u>0.44</u>	↓	<u>35.04</u>
<u>0839</u>	<u>6.5L</u>	<u>8.9</u>	<u>0.32</u>	<u>985</u>	<u>7.57</u>	<u>-39.6</u>	<u>0.49</u>	↓	<u>35.04</u>
	L								
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e. Acceptance criteria pass/fail

Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>

 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>0840</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	
	<u>1gal</u>	<u>1</u>	<u>HNO3</u>	<u>Radium</u>	

Comments: _____
 Signature: [Signature]

Date: 10/15/24



Ground Water Sample Collection Record

Client: BEPC Date: 10/19/24
 Project No: _____ Time: _____
 Site Location: AWS Finish: _____
 Weather Conds: cold, breezy Collector(s): MK

WATER LEVEL DATA: (measured from Top of Casing) Well
 a. Total Well Length _____ c. Casing Material PVC Pump Settings 24/4 e60psi

b. Water Table Depth 40.70 d. Casing Diameter _____

WELL PURGING DATA

a. Purge Method Dedicated Bladder Pump
 b. Field Testing Equipment Used: Make Model Serial Number
YSI 5320084101
HACH 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
10:30	INITIAL 3.5L	10.2	0.42	911	7.51	-79.1	0.49	clear	40.70
10:33	4 L	10.2	0.50	911	7.51	-81.2	0.84	↓	40.70
10:36	4.5L	10.2	0.24	911	7.52	-82.3	0.29	↓	40.71
10:39	5 L	10.2	0.23	911	7.53	-83.0	0.55	↓	40.71
	L								
	L								
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	L								

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Typ	No. of Containers	Preservation	Analysis	Time
	1L	1		TDS/Anions	10:40
	500mL	1	HNO3	Metals	↓
	1gal	1	HNO3	Radium	↓

Comments _____

Signature [Signature] Date 10/19/24



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Account #: 2040

Client: Basin Electric Power Cooperative



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Basin Electric Power Cooperative
WO: 67999



Chain of Custody
Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepec.com aknutson@bepec.com
		Name of Sampler Mariah Knutson	Quote Number
		Project Name/Number LOS CCR Wells	Date Submitted 10/16/2024
			Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
001	MW-2017-10	GW	10/15/2024	840	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
002	MW-2017-11	GW	10/15/2024	1040	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	10/16/2024	NOON	<i>[Signature]</i>	10/16/2024	11:52	51	Y/N	11/15/24
2.							Y/N	

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

11/17
11/16/2024

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Friday, November 1, 2024 3:24:32 PM



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Account #: 2040

Client: Basin Electric Power Cooperative



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Basin Electric Power Cooperative
WO: 68002



Chain of Custody
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Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 10/16/2024
		Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
001	MW-2017-10	GW	10/15/2024	840	3 N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
002	MW-2017-11	GW	10/15/2024	1040	3 N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	10/16/2024	NOON	<i>[Signature]</i>	16 Oct 2024	11:52	51	Y/N	111950
2.							Y/N	

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

1447
0072
16 Oct 24

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Report Date: Wednesday, November 13, 2024 5:00:16 PM



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Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (70864) **PO:** 790708-04

Mark Dihle
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

C. Carroll

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

Workorder Comments

All analytes with dilution factors greater than 1 (displayed in DF column) required dilution due to matrix or high concentration of target analyte unless otherwise noted and reporting limits (RDL column) have been adjusted accordingly.

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

Lab ID: 70864001 **Date Collected:** 11/13/2024 09:13 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 11/13/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 4.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	168	mg/L	5	1		11/20/2024 10:53	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	11/20/2024 07:55	11/20/2024 11:36	
Method: EPA 6010D							
Boron	1.23	mg/L	0.5	5	11/13/2024 18:15	11/20/2024 11:03	
Calcium	67.6	mg/L	5	5	11/13/2024 18:15	11/15/2024 15:03	
Lithium	0.0321	mg/L	0.02	1	11/13/2024 18:15	11/15/2024 10:52	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	11/13/2024 18:15	11/25/2024 14:30	
Arsenic	0.0108	mg/L	0.002	5	11/13/2024 18:15	11/25/2024 14:30	
Barium	0.0428	mg/L	0.002	5	11/13/2024 18:15	11/25/2024 14:30	
Beryllium	<0.0005	mg/L	0.0005	5	11/13/2024 18:15	11/25/2024 14:30	
Cadmium	<0.0005	mg/L	0.0005	5	11/13/2024 18:15	11/25/2024 14:30	
Chromium	<0.002	mg/L	0.002	5	11/13/2024 18:15	11/25/2024 14:30	
Cobalt	<0.002	mg/L	0.002	5	11/13/2024 18:15	11/25/2024 14:30	
Lead	<0.0005	mg/L	0.0005	5	11/13/2024 18:15	11/25/2024 14:30	
Molybdenum	0.0105	mg/L	0.002	5	11/13/2024 18:15	11/25/2024 14:30	
Selenium	<0.005	mg/L	0.005	5	11/13/2024 18:15	11/25/2024 14:30	
Thallium	<0.0005	mg/L	0.0005	5	11/13/2024 18:15	11/25/2024 14:30	
Method: SM4500-CI-E 2011							
Chloride	11.0	mg/L	2.0	1		11/19/2024 09:32	
Method: SM4500-F-C-2011							
Fluoride	0.44	mg/L	0.1	1		11/14/2024 13:49	*
Method: USGS I-1750-85							
Total Dissolved Solids	593	mg/L	10	1		11/15/2024 15:04	

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Report Date: Thursday, December 5, 2024 9:19:11 AM



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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Analysis Results Comments

Fluoride

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

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Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary										WO #:	70864
Sulfate			Units: mg/L								
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			100	99.7		85	115				
LFB			100	105.0		85	115				
LFB			100	106.0		85	115				
LFB			100	95.7		85	115				
LFB			100	104.0		85	115				
LFB			100	96.4		85	115				
LFB			100	109.0		85	115				
LFB			100	102.0		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MS/MSD	70896004		1000	100.4	95.9	85	115	1.6	20		
MS/MSD	71087001		2000	99.0	97.8	85	115	0.7	20		
MS/MSD	71089005		500	93.5	91.7	85	115	1.0	20		
MS/MSD	71089015		1000	103.2	99.7	85	115	1.2	20		
MS/MSD	71089025		100	92.8	97.4	85	115	4.8	20		
MS/MSD	71292003		500	94.8	95.5	85	115	0.5	20		
MS/MSD	71294007		100	109.1	103.1	85	115	5.7	20		
Chloride			Units: mg/L								
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)		
LFB			30	96.5		90	110				
LFB			30	95.9		90	110				
LFB			30	95.6		90	110				
LFB			30	96.1		90	110				

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Report Date: Thursday, December 5, 2024 9:19:11 AM



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Account #: 2040

Client: Basin Electric Power Cooperative

Chloride									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			30	95.6		90	110		
LFB			30	95.9		90	110		
LFB			30	95.9		90	110		
LFB			30	96.1		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	70896004		30	98.2	97.8	80	120	0.2	20
MS/MSD	71089004		30	99.0	98.6	80	120	0.3	20
MS/MSD	71089024		30	101.9	101.4	80	120	0.3	20
MS/MSD	71089026		30	100.1	99.6	80	120	0.3	20
Boron									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	96.7		85	115		
MB		<0.1							
PDS/PDSD	70864001		2	98.4	94.6	75	125	2.4	20
Calcium									
Units: mg/L									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	108.0		85	115		
MB		<1							
DUP	70707001							1.3	20
PDS/PDSD	70896003		100	84.0	90.0	75	125	2.0	20
PDS/PDSD	71020008		100	99.0	96.6	75	125	1.5	20
PDS/PDSD	71089002		100	95.2	98.3	75	125	1.4	20
PDS/PDSD	71089013		100	97.4	95.5	75	125	0.8	20
PDS/PDSD	71089016		100	101.0	103.0	75	125	1.3	20

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Account #: 2040

Client: Basin Electric Power Cooperative

Lithium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	109.0		85	115		

MB		<0.04							
MS/MSD	70864001		0.4	105.0	103.0	75	125	1.4	20

Antimony			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		80	120		

LFB-MS			0.1	104.0		85	115		
LFB-MS			0.1	104.0		85	115		

MB		<0.001							
MB		<0.001							

MB		<0.001							
MS/MSD	70864001		0.4	107.0	102.0	75	125	4.6	20

SPK	70864001		0.1	102.0		75	125		
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Arsenic			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	99.4		80	120		

LFB-MS			0.1	102.0		85	115		
LFB-MS			0.1	106.0		85	115		

MB		<0.002							
MB		<0.001							

MB		<0.005							
MS/MSD	70864001		0.4	105.0	101.0	75	125	3.5	20

SPK	70864001		0.1	97.8		75	125		
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Barium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	107.0		85	115		

LFB-MS			0.1	99.0		80	120		
LFB-MS			0.1	102.0		85	115		

MB		<0.002							
MB		<0.0004							

MB		<0.002							
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Client: Basin Electric Power Cooperative

Barium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

MS/MSD	70864001		0.4	103.0	102.0	75	125	0.7	20
SPK	70864001		0.1	99.8		75	125		

Beryllium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	106.0		85	115		
LFB-MS			0.1	103.0		85	115		
LFB-MS			0.1	98.5		80	120		

MB		<0.0005							
MB		<0.0001							

MB		0.000540							
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MS/MSD	70864001		0.4	106.0	104.0	75	125	2.1	20
SPK	70864001		0.1	97.6		75	125		

Cadmium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	103.0		85	115		
LFB-MS			0.1	102.0		85	115		
LFB-MS			0.1	101.0		80	120		

MB		<0.0005							
MB		<0.0005							
MB		<0.0005							

MS/MSD	70864001		0.4	104.0	99.5	75	125	4.2	20
SPK	70864001		0.1	95.4		75	125		

Chromium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)

LFB-MS			0.1	99.5		80	120		
LFB-MS			0.1	102.0		85	115		
LFB-MS			0.1	107.0		85	115		

MB		<0.0004							
MB		<0.002							
MB		<0.002							

MS/MSD	70864001		0.4	101.0	98.4	75	125	2.3	20
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Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	70864001		0.1	97.3		75	125		
Cobalt									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		85	115		
LFB-MS			0.1	109.0		85	115		
LFB-MS			0.1	100.0		80	120		
MB		<0.002							
MB		<0.0004							
MB		<0.002							
MS/MSD	70864001		0.4	102.0	99.0	75	125	2.7	20
SPK	70864001		0.1	98.5		75	125		
Lead									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	100.0		85	115		
LFB-MS			0.1	108.0		85	115		
LFB-MS			0.1	98.6		80	120		
MB		<0.0005							
MB		<0.0005							
MB		<0.0001							
MS/MSD	70864001		0.4	104.0	98.4	75	125	5.7	20
SPK	70864001		0.1	95.6		75	125		
Molybdenum									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		80	120		
LFB-MS			0.1	111.0		85	115		
LFB-MS			0.1	104.0		85	115		
MB		<0.0004							
MB		<0.002							
MB		<0.002							
MS/MSD	70864001		0.4	106.0	101.0	75	125	4.7	20
SPK	70864001		0.1	104.0		75	125		

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Selenium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	104.0		85	115		
LFB-MS			0.1	101.0		85	115		
LFB-MS			0.1	100.0		80	120		
MB		<0.01							
MB		<0.01							
MB		<0.005							
MS/MSD	70864001		0.4	106.0	103.0	75	125	3.1	20
SPK	70864001		0.1	94.2		75	125		
Thallium			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	99.9		80	120		
LFB-MS			0.1	109.0		85	115		
LFB-MS			0.1	101.0		85	115		
MB		<0.0001							
MB		<0.0005							
MB		<0.0005							
MS/MSD	70864001		0.4	99.7	96.7	75	125	3.1	20
SPK	70864001		0.1	93.5		75	125		
Mercury			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			0.002	105.0		85	115		
LFB			0.002	103.0		85	115		
LFB			0.002	100.0		85	115		
LRB		<0.0002							
MB		<0.0002							
MB		<0.0002							
MS/MSD	71020004		0.002	97.0	97.5	70	130	5.1	20
MS/MSD	71089009		0.002	101.0	102.0	70	130	0.0	20
MS/MSD	71089019		0.002	104.0	104.0	70	130	0.0	20
MS/MSD	71292003		0.002	102.0	102.0	70	130	0.0	20

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Client: Basin Electric Power Cooperative

Fluoride			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-F			3.06	96.4		83.99	111.11		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	94.0		90	110		
LFB-F			0.5	90.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD	70864001		1	75.0	71.0	80	120	3.4	20
MS/MSD	71020003		0.5	86.0	82.0	80	120	3.1	20
MS/MSD	71020007		0.5	84.0	86.0	80	120	1.3	20
Total Dissolved Solids			Units: mg/L						
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM			736	99.0		90.35	110.33		
MB		<10							
DUP	70864001							0.3	20

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Minnesota Valley Testing Laboratories, Inc.
2616 East Broadway Avenue
Bismarck, ND 58501
Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop Chain of Custody
WO: 70864 Page 1 of 2



Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities	Contact Mark Dihle Emails mdihle@bepc.com aknutson@bepc.com	Quote Number
	Name of Sampler Mariah Knutson	Date Submitted 11/13/2024
	Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
	MW-2017-11	GW	11/13/2024	913	3	N B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	11/13/2024	NOON	<i>[Signature]</i>	13 Nov 2024	1447	4.6°C	Y/N	TM959
2.							Y/N	

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

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Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 70865001 **Date Collected:** 11/13/2024 09:13 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 11/13/2024 14:47 **Collector:** Client
Temp @ Receipt (C): 4.6 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
-----------	---------	-------	-----	----	----------	----------	------

Method: Contracted Result

Radium 226	See Attached			1		12/30/2024 13:03	
Radium 228	See Attached			1		12/30/2024 13:04	

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Client: Basin Electric Power Cooperative



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ANALYTICAL SUMMARY REPORT

December 19, 2024

Minnesota Valley Testing Laboratories
1126 N Front St
New Ulm, MN 56073-1176

Work Order: C24110737 Quote ID: C15480

Project Name: 70865

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 11/20/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C24110737-001	70865001, MW-2017-11	11/13/24 9:13	11/20/24	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 70865
Lab ID: C24110737-001
Client Sample ID: 70865001, MW-2017-11

Report Date: 12/19/24
Collection Date: 11/13/24 09:13
Date Received: 11/20/24
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.06	pCi/L	U		E903.0		12/09/24 10:15 / haw
Radium 226 precision (±)	0.1	pCi/L			E903.0		12/09/24 10:15 / haw
Radium 226 MDC	0.2	pCi/L			E903.0		12/09/24 10:15 / haw
Radium 228	0.2	pCi/L	U		RA-05		12/03/24 19:10 / trs
Radium 228 precision (±)	0.5	pCi/L			RA-05		12/03/24 19:10 / trs
Radium 228 MDC	0.8	pCi/L			RA-05		12/03/24 19:10 / trs
Radium 226 + Radium 228	0.5	pCi/L	U		A7500-RA		12/10/24 11:41 / dmf
Radium 226 + Radium 228 precision (±)	0.5	pCi/L			A7500-RA		12/10/24 11:41 / dmf
Radium 226 + Radium 228 MDC	0.8	pCi/L			A7500-RA		12/10/24 11:41 / dmf

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level
Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)
U - Not detected

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QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24110737

Report Date: 12/10/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11525										
Lab ID: LCS-RA226-11525	3	Laboratory Control Sample								
										Run: TENNELEC-4_241125E 12/09/24 10:15
Radium 226		11	pCi/L	109		70	130			
Radium 226 precision (±)		1.7	pCi/L							
Radium 226 MDC		0.14	pCi/L							
Lab ID: MB-RA226-11525	3	Method Blank								
										Run: TENNELEC-4_241125E 12/09/24 10:15
Radium 226		-0.02	pCi/L							U
Radium 226 precision (±)		0.08	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Lab ID: C24110744-001ADUP	3	Sample Duplicate								
										Run: TENNELEC-4_241125E 12/09/24 10:15
Radium 226		0.37	pCi/L					41	30	R
Radium 226 precision (±)		0.14	pCi/L							
Radium 226 MDC		0.17	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.65.										
Lab ID: C24110380-001EDUP	3	Sample Duplicate								
										Run: TENNELEC-4_241125E 12/09/24 13:29
Radium 226		3.0	pCi/L					29	30	
Radium 226 precision (±)		0.69	pCi/L							
Radium 226 MDC		0.35	pCi/L							
- The RER result is 0.89.										

Qualifiers:

RL - Analyte Reporting Limit
R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)
U - Not detected

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Report Date: Monday, December 30, 2024 1:36:09 PM



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QA/QC Summary Report

Prepared by Casper, WY Branch

Work Order: C24110737

Report Date: 12/10/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7536										
Lab ID: LCS-228-RA226-11525	3	Laboratory Control Sample								
						Run: TENNELEC-4_241125D				12/03/24 19:10
Radium 228		9.9	pCi/L	100		70	130			
Radium 228 precision (±)		1.9	pCi/L							
Radium 228 MDC		0.73	pCi/L							
Lab ID: MB-RA226-11525	3	Method Blank								
						Run: TENNELEC-4_241125D				12/03/24 19:10
Radium 228		0.2	pCi/L							U
Radium 228 precision (±)		0.4	pCi/L							
Radium 228 MDC		0.7	pCi/L							
Lab ID: C24110744-001ADUP	3	Sample Duplicate								
						Run: TENNELEC-4_241125D				12/03/24 19:10
Radium 228		0.47	pCi/L					60	30	UR
Radium 228 precision (±)		0.45	pCi/L							
Radium 228 MDC		0.72	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.64.										
Lab ID: C24110380-001EDUP	3	Sample Duplicate								
						Run: TENNELEC-4_241125D				12/03/24 19:10
Radium 228		1.4	pCi/L					35	30	UR
Radium 228 precision (±)		1.3	pCi/L							
Radium 228 MDC		2.0	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.27.										

Qualifiers:

RL - Analyte Reporting Limit
R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)
U - Not detected

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Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C24110737

Login completed by: Lisa X. Quezada

Date Received: 11/20/2024

Reviewed by: csmith

Received by: DRS

Reviewed Date: 11/20/2024

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	8.3°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

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Laboratory Certifications and Accreditations

Current certificates are available at www.energylab.com website:

	Agency	Number
Billings, MT  	Alaska	17-023
	California	3087
	Colorado	MT00005
	Department of Defense (DoD)/ISO17025	ADE-2588
	Florida (Primary NELAP)	E87668
	Idaho	MT00005
	Louisiana	05079
	Montana	CERT0044
	Nebraska	NE-OS-13-04
	Nevada	NV-C24-00250
	North Dakota	R-007
	National Radon Proficiency	109383-RMP
	Oregon	4184
	South Dakota	ARSD 74:04:07
	Texas	TX-C24-00302
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00170
Washington	C1039	
Casper, WY 	Alaska	20-006
	California	3021
	Colorado	WY00002
	Florida (Primary NELAP)	E87641
	Idaho	WY00002
	Louisiana	05083
	Montana	CERT0002
	Nebraska	NE-OS-08-04
	Nevada	NV-C24-00245
	North Dakota	R-125
	Oregon	WY200001
	South Dakota	WY00002
	Texas	T104704181-23-21
	US EPA Region VIII	WY00002
	USNRC License	49-26846-01
Washington	C1012	
Gillette, WY	US EPA Region VIII	WY00006
	Colorado	MT00945
Helena, MT	Montana	CERT0079
	Nevada	NV-C24-00119
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00090

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Chain of Custody Record

Page 1 of 1



LABORATORIES, Inc.
 2616 E Broadway Ave
 Bismarck, ND 58501

Phone: (701) 258-9720

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

Work Order # 70865 024110737

Company Name and Address: MVTL 2616 E Broadway Bismarck, ND 58501		Account #:	Phone #: 701-258-9720
Billing Address (indicate if different from above): PO Box 249 New Ulm, MN 56073		Contact: Claudette	Fax #: For faxed report check box <input type="checkbox"/>
		Name of Sampler:	E-mail: ccarroll@mvtl.com For e-mail report check box <input type="checkbox"/>
		Quote Number C15480 v5	Date Submitted: 18-Nov-24
		Project Name/Number:	Purchase Order #: BL6974

Sample Information						Bottle Type						Analysis
Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	Untreated	Gallon HNO3	VOC Vials	Unpreserved	Glass Jar	Other	Analysis Required
	70865001	MW-2017-11	GW	13-Nov-24	0913		1					Ra226 & Ra228

Comments: Individual results as well as combined Ra226 & Ra228 must be reported for all samples.

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Temp:
T. Olson	18-Nov-24	1700		Dakota P	11/20/24	10:10

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Bismarck, ND 58501

Phone: (701) 258-9720
Toll Free: (800) 279-6885 Fax: (701) 258-9724

Basin Electric Power Coop
WO: 70865



Chain of Custody

Page 1 of 1

Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Account # 2040	Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle	Emails mdihle@bepc.com aknutson@bepc.com
		Name of Sampler Mariah Knutson	
		Quote Number	Date Submitted 11/13/2024
		Project Name/Number LOS CCR Wells	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of	Filtered	Analysis Required
Lab							
	MW-2017-11	GW	11/13/2024	913	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	11/13/2024	NOON	<i>[Signature]</i>	11/13/24	1447	4.6°C	Y/N	TM959
2.							Y/N	

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

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Report Date: Monday, December 30, 2024 1:36:09 PM

Ground Water Sample Collection Record

Client: BEPC Date: 11/13/24
 Project No: _____ Time: 0830
 Site Location: AVS Finish: _____
 Weather Conds: Sunny cold Collector(s): MLK

WATER LEVEL DATA: (measured from Top of Casing) Well
 a. Total Well Length _____ c. Casing Material PVC Pump Settings: 20/4 @ 50psi
 b. Water Table Depth 40.85 d. Casing Diameter _____

WELL PURGING DATA
 a. Purge Method Dedicated Bladder Pump
 b. Field Testing Equipment Used: Make Model Serial Number
YSI 5320084101
HACH 20030C084551

c. Field Testing Equipment Calibration Documentation Found in Field Notebook # 1 Page # 1
 <0.5 <5

Time	Volume Removed (gal)	T° (C)	DO mg/L	Spec. Cond (µs/cm)	pH	ORP	Turbidity (NTU)	Color	DTW
Stabilization		+/- 0.2	+/- 10%	+/- 3%	+/- 0.1	+/- 10%	+/- 10%		0.33 ft
<u>0903</u>	<u>INITIAL</u>	<u>9.2</u>	<u>.68</u>	<u>909</u>	<u>7.58</u>	<u>-77.0</u>	<u>0.24</u>	<u>clear</u>	<u>40.90</u>
<u>0908</u>	<u>6.5 L</u>	<u>9.2</u>	<u>.68</u>	<u>909</u>	<u>7.57</u>	<u>-78.4</u>	<u>0.34</u>	↓	<u>40.90</u>
<u>0909</u>	<u>7 L</u>	<u>9.2</u>	<u>.62</u>	<u>908</u>	<u>7.58</u>	<u>-79</u>	<u>0.29</u>	↓	<u>40.89</u>
<u>0912</u>	<u>7.5 L</u>	<u>9.2</u>	<u>.64</u>	<u>909</u>	<u>7.58</u>	<u>-81.4</u>	<u>0.41</u>	↓	<u>40.91</u>
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								
	L								

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bladder Pump

Sample ID	Container Typ	No. of Containers	Preservation	Analysis	Time
	<u>1L</u>	<u>1</u>		<u>TDS/Anions</u>	<u>0913</u>
	<u>500mL</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	↓
	<u>1gal</u>	<u>1</u>	<u>HNO3</u>	<u>Radium</u>	↓

Comments _____

Signature [Signature] Date 11/13/24



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Basin Electric Power Coop Chain of Custody
WO: 70864 Page 1 of 1



Work Order #
Lab Use Only

Company Name and Address Basin Electric Power Coop. Leland Olds Station 3901 Highway 200A Stanton, ND 58571		Phone # 701-745-7238 701-557-5488
Billing Address (indicate if different from above) Attn: Liabilities		Contact Mark Dihle Emails mdihle@bepc.com aknutson@bepc.com
Quote Number		Date Submitted 11/13/2024
Project Name/Number LOS CCR Wells		Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	# of Filtered	Analysis Required
Lab						
	MW-2017-11	GW	11/13/2024	913	3	N B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1. MILLENIUM EXPRESS	11/13/2024	NOON	<i>[Signature]</i>	13 Nov 2024	1447	4.6°C	Y/N	TM959
2.							Y/N	

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

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Report Date: Thursday, December 5, 2024 9:19:11 AM



Appendix B

Groundwater Flow Rate

Appendix C
Groundwater Flow Rate
2024 Annual Monitoring Report
LOS Multiunit CCR Groundwater Compliance

LOS - Multiunit Groundwater Velocity Calculation

Sampling Date	5/13/2024
----------------------	-----------

Upgradient: MW-2017-07

Top of Casing Elevation	1698.25	ft amsl
Depth to Water	39.87	ft below TOC
Water Level Elevation	1658.38	ft amsl

Downgradient: MW-2017-02

Top of Casing Elevation	1681.03	ft amsl
Depth to Water	22.97	ft below TOC
Water Level Elevation	1658.06	ft amsl

horizontal hydraulic conductivity (Kh)	4.09E-03	cm/s	2023 AGMCAR (AECOM, 2024)
	11.6	ft/day	
porosity (n)	0.33		2023 AGMCAR (AECOM, 2024)
horizontal distance	1584	ft	
WL elevation difference	0.32	ft	
gradient (i)	2.020E-04	ft/ft	
linear velocity (V)	7.09E-03	ft/day	
V	2.6	ft/yr	

Appendix C
Groundwater Flow Rate
2024 Annual Monitoring Report
LOS Multiunit CCR Groundwater Compliance

LOS - Multiunit Groundwater Velocity Calculation

Sampling Date	9/17/2024
----------------------	-----------

Upgradient: MW-2017-07

Top of Casing Elevation	1698.25	ft amsl
Depth to Water	39.00	ft below TOC
Water Level Elevation	1659.25	ft amsl

Downgradient: MW-2017-04

Top of Casing Elevation	1684.13	ft amsl
Depth to Water	25.90	ft below TOC
Water Level Elevation	1658.23	ft amsl

horizontal hydraulic conductivity (Kh)	4.09E-03	cm/s	2023 AGMCAR (AECOM, 2024)
	11.6	ft/day	
porosity (n)	0.33		2023 AGMCAR (AECOM, 2024)
horizontal distance	15884	ft	
WL elevation difference	1.02	ft	
gradient (i)	6.422E-05	ft/ft	
linear velocity (V)	2.26E-03	ft/day	
V	0.8	ft/yr	



Appendix C

Baseline Sample Results

Appendix C
Baseline Sample Results
2024 Annual Monitoring Report
BEPC-LOS Multiunit

Location			MW-2017-10	MW-2017-10		MW-2017-10	MW-2017-10	MW-2017-10	MW-2017-10		MW-2017-10	MW-2017-10	MW-2017-10
Date			5/03/2023	6/06/2023		6/26/2023	9/12/2023	4/15/2024	6/25/2024		8/16/2024	9/17/2024	10/15/2024
Sample Type			N	N	FD	N	N	N	N	FD	N	N	N
Status			SSource	SSource	SSource	SSource	SSource	No QC	No QC	No QC	No QC	No QC	No QC
Parameter	Analysis Location	Units											
General Parameters													
Chloride	Lab	mg/l	12.0	12.2	12.3	11.7	11.6	--	10.3	10.3	11.2	10.6	10.9
Fluoride	Lab	mg/l	0.76	0.80	0.79	0.77	0.81	--	0.82	0.84	0.88	0.84	0.85
Solids, total dissolved	Lab	mg/l	640	670	655	682	667	--	676	679	672	672	677
Sulfate, as SO4	Lab	mg/l	269	265	353	328	298	--	298	294	297	280	315
Dissolved oxygen	Field	mg/l	--	--	--	--	--	0.22	0.18	--	0.18	0.10	0.32
pH	Field	pH units	7.25	7.50	7.50	7.47	7.47	7.54	7.57	--	7.59	7.56	7.57
Redox (oxidation potential)	Field	mV	--	--	--	--	--	-126.9	-23.6	--	-23	-26.9	-39.6
Specific conductance @ 25 deg C	Field	umhos/cm	--	--	--	--	--	995	1097	--	968	986	985
Temperature	Field	deg C	--	--	--	--	--	10.2	13.1	--	12.2	12.6	8.9
Turbidity	Field	NTU	--	--	--	--	--	0.55	1.02	--	1.14	1.02	0.49
Total Metals													
Antimony	Lab	mg/l	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	--	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Arsenic	Lab	mg/l	0.0025	0.0029	0.0031	0.0032	0.0032	--	0.0032	0.0034	0.0031	0.0035	0.0023
Barium	Lab	mg/l	0.0806	0.0796	0.0795	0.0837	0.0737	--	0.0784	0.0780	0.0694	0.0761	0.0774
Beryllium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Boron	Lab	mg/l	1.02	0.95	0.97	0.97	0.93	--	0.87	0.88	0.84	0.87	0.90
Cadmium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Calcium	Lab	mg/l	86.2	86.1	88.7	90.8	90.3	--	92.6	95.8	95.2	95.9	93.6
Chromium	Lab	mg/l	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	--	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Cobalt	Lab	mg/l	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	--	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Lead	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Lithium	Lab	mg/l	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
Mercury	Lab	mg/l	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	--	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	Lab	mg/l	0.0082	0.0079	0.0083	0.0085	0.0080	--	0.0075	0.0076	0.0066	0.0074	0.0075
Selenium	Lab	mg/l	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	--	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
Thallium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Radiochemical Parameters													
Radium 226	Lab	pCi/l	--	--	--	--	--	0.3 +/- 0.2 ND	0.4 +/- 0.2 ND	--	0.2 +/- 0.2 ND	0.1 +/- 0.1 ND	0.1 +/- 0.1 ND
Radium 228	Lab	pCi/l	--	--	--	--	--	0.2 +/- 0.5 ND	1.1 +/- 0.8 ND	--	2.2 +/- 0.9	0.7 +/- 0.6 ND	2.3 +/- 0.9
Radium, combined (226+228)	Lab	pCi/l	0.75	0.75	0.80	0.75	0.60	--	--	--	--	--	--
Radium, combined (226+228)	Barr Calculation	pCi/l	--	--	--	--	--	0.5 +/- 0.5 q	1.5 +/- 0.8 q	--	2.4 +/- 0.9 q	0.8 +/- 0.6	2.4 +/- 0.9 q

Appendix C
Baseline Sample Results
2024 Annual Monitoring Report
BEPC-LOS Multiunit

Location			MW-2017-11		MW-2017-11	MW-2017-11		MW-2017-11		MW-2017-11	MW-2017-11	MW-2017-11	MW-2017-11	MW-2017-11	MW-2017-11
Date			5/03/2023		6/06/2023	6/26/2023		9/12/2023		4/15/2024	6/25/2024	8/16/2024	9/17/2024	10/15/2024	11/13/2024
Sample Type			N	FD	N	N	FD	N	FD	N	N	N	N	N	N
Status			SSource	SSource	SSource	SSource	SSource	SSource	SSource	No QC	No QC	No QC	No QC	No QC	No QC
Parameter	Analysis Location	Units													
General Parameters															
Chloride	Lab	mg/l	12.2	12.1	12.4	11.7	11.9	11.7	11.8	--	10.6	11.8	11.2	11.2	11.0
Fluoride	Lab	mg/l	0.75	0.75	0.77	0.70	0.71	0.73	0.72	--	0.73	0.76	0.92	0.75	0.44
Solids, total dissolved	Lab	mg/l	577	581	504	571	583	592	581	--	592	573	643	590	593
Sulfate, as SO4	Lab	mg/l	189	184	175	219	223	199	202	--	179	202	241	168	168
Dissolved oxygen	Field	mg/l	--	--	--	--	--	--	--	0.22	0.21	0.22	2.65	0.23	0.64
pH	Field	pH units	7.28	7.28	7.57	7.50	7.50	7.49	7.49	7.50	7.57	7.58	7.55	7.53	7.58
Redox (oxidation potential)	Field	mV	--	--	--	--	--	--	--	-136.4	-87.0	-89.9	36.4	-83.0	-81.4
Specific conductance @ 25 deg C	Field	umhos/cm	--	--	--	--	--	--	--	925	1023	901	939	911	909
Temperature	Field	deg C	--	--	--	--	--	--	--	10.4	11.8	11.9	11.6	10.2	9.2
Turbidity	Field	NTU	--	--	--	--	--	--	--	1.28	0.88	0.63	2.21	0.55	0.41
Total Metals															
Antimony	Lab	mg/l	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	--	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Arsenic	Lab	mg/l	0.0084	0.0083	0.0088	0.0100	0.0100	0.0084	0.0089	--	0.0101	0.0100	0.0022	0.0100	0.0108
Barium	Lab	mg/l	0.0485	0.0445	0.0458	0.0493	0.0490	0.0392	0.0399	--	0.0434	0.0392	0.0724	0.0442	0.0428
Beryllium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	0.0009	< 0.0005 U
Boron	Lab	mg/l	1.29	1.23	1.23	1.30	1.31	1.17	1.20	--	1.24	1.26	0.77	1.36	1.23
Cadmium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U
Calcium	Lab	mg/l	65.4	63.2	63.1	68.3	68.8	63.7	65.6	--	63.2	70.1	90.4	61.9	67.6
Chromium	Lab	mg/l	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	--	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Cobalt	Lab	mg/l	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	--	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Lead	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	0.0008	< 0.0005 U
Lithium	Lab	mg/l	0.0321	0.0308	0.0319	0.0323	0.0324	0.0294	0.0302	--	0.0322	0.0348	0.0226	0.0334	0.0321
Mercury	Lab	mg/l	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	--	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U
Molybdenum	Lab	mg/l	0.0095	0.0093	0.0097	0.0100	0.0108	0.0090	0.0090	--	0.0100	0.0095	0.0171	0.0102	0.0105
Selenium	Lab	mg/l	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	--	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
Thallium	Lab	mg/l	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	< 0.0005 U	--	< 0.0005 U	< 0.0005 U	< 0.0005 U	0.0007	< 0.0005 U
Radiochemical Parameters															
Radium 226	Lab	pCi/l	--	--	--	--	--	--	--	0.2 +/- 0.1 ND	0.1 +/- 0.1 ND	0.2 +/- 0.2 ND	0.3 +/- 0.2	0.1 +/- 0.1 ND	0.06 +/- 0.1 ND
Radium 228	Lab	pCi/l	--	--	--	--	--	--	--	0.8 +/- 0.6 ND	-0.2 +/- 0.7 ND	1.9 +/- 0.9	0.9 +/- 0.7 ND	1.9 +/- 0.9	0.2 +/- 0.5 ND
Radium, combined (226+228)	Lab	pCi/l	0.75	0.75	0.75	0.70	0.75	0.70	0.65	--	--	--	--	--	--
Radium, combined (226+228)	Barr Calculation	pCi/l	--	--	--	--	--	--	--	1.0 +/- 0.6 q	0.1 +/- 0.1 q	2.1 +/- 0.9 q	1.2 +/- 0.7 q	2.0 +/- 0.9 q	0.3 +/- 0.5 ND

Barr Standard Footnotes and Qualifiers

--	Not analyzed/Not available.
N	Sample Type: Normal
FD	Sample Type: Field Duplicate
ND	Not detected.
No QC	Laboratory data has been excluded from Barr QA/QC procedures.
SSource	Laboratory and/or field data obtained from a secondary source external to Barr. Second source QA/QC evaluation procedures may or may not have been performed beyond the original data generator.
q	The combined radium result includes both detected and not detected values.
U	The analyte was analyzed for, but was not detected.