



2023 Annual Groundwater Monitoring and Corrective Action Report LOS CCR Landfill

Leland Olds Station
Stanton, North Dakota

Basin Electric Power Cooperative

January 31, 2024
Project #60634996

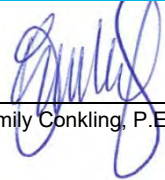
Basin Electric Power Cooperative
Bismarck, North Dakota

Quality information

Prepared by


Kara Hoppes, P.G.

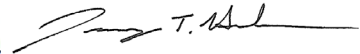
Checked by


Emily Conkling, P.E.

Verified by


Dennis P. Connair, C.P.G.

Approved by


Jeremy Hurshman, P.G.

Revision History

Revision	Revision date	Details	Authorized	Name	Position

Distribution List

# Hard Copies	PDF Required	Association / Company Name
Two	One	Mark Dihle, Basin Electric Power Cooperative

Prepared for:

Basin Electric Power Cooperative
Bismarck, North Dakota

Prepared by:

AECOM
1601 Prospect Parkway
Suite 120
Fort Collins, CO 80525
aecom.com

Copyright © 2024 by AECOM

All rights reserved. No part of this copyrighted work may be reproduced, distributed, or transmitted in any form or by any means without the prior written permission of AECOM.

Table of Contents

Executive Summary	ES-1
1.0 Introduction	1-1
1.1 Regulatory Background	1-1
1.2 Facility Location and Operational History	1-1
1.3 CCR Unit Description	1-1
1.4 Physical Setting	1-1
2.0 CCR Groundwater Monitoring Activity Prior to 2023	2-1
3.0 CCR Groundwater Monitoring and Corrective Action Activities in 2023	3-1
3.1 Detection Monitoring Activities	3-1
3.1.1 Monitoring System Evaluation	3-1
3.1.2 Groundwater Sampling and Analysis	3-2
3.2 Statistical Procedures and Analysis	3-2
4.0 General Information	4-1
4.1 Program Transitions 2023	4-1
4.2 Problems Encountered	4-1
4.3 Actions Planned for 2024	4-1
5.0 Summary and Conclusions	5-1
6.0 References	6-1

Figures

Figure 1	Site Vicinity Map
Figure 2	LOS CCR Monitoring Well Network
Figure 3	Boron Control Chart for October 2023

Tables

Table 1	Background Upper Prediction Limits (UPLs) or Control Limits, CCR Landfill
Table 2	Statistical Method Analytical Results, CCR Landfill

Attachments

Attachment A	Sampling and Analysis Report, 2023, CCR Monitoring Program
Attachment B	Data Input and Output Files for Calculation of Upper and Lower Prediction Limits

List of Acronyms

AECOM	AECOM Technical Services, Inc.
Basin	Basin Electric Power Cooperative
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
FGD	flue gas desulfurization
ft amsl	feet above mean sea level
GWPS	groundwater protection standard
LCL	lower control limit
LOS	Leland Olds Station
LPL	lower prediction limit
mg/L	milligrams per liter
RCRA	Resource Conservation and Recovery Act
RL	reporting limit
SSI	statistically significant increase
TDS	total dissolved solids
UCL	upper control limit
UPL	upper prediction limit
USEPA	United States Environmental Protection Agency

Executive Summary

This report summarizes groundwater monitoring and corrective action activities completed between January 1 and December 31, 2023, at the Coal Combustion Residuals (CCR) Landfill at Leland Olds Station (LOS), as required by 40 Code of Federal Regulations Section 257.90(e) of the United States Environmental Protection Agency (USEPA) CCR Rule.

Detection monitoring of the CCR Landfill was initiated in 2018. Detection monitoring through October 2023 identified no statistically significant increases (SSIs) of Appendix III constituents boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids in the downgradient monitoring wells MW-2016-2, MW-2016-9, MW-2016-10, and MW-2016-11. Accordingly, the unit remains in Detection monitoring into the next year.

Other activities and conditions for the 2023 annual reporting period include:

- Semiannual Detection monitoring events were conducted in June and September/October. Monitoring involved sampling of three background monitoring wells and four downgradient monitoring wells in June and September/October.
- Nine baseline monitoring events were conducted in 2023 for the new landfill expansion well MW-2016-12 and four events for MW-2016-13 as outlined below:
 - May (5/4/223): MW-2016-12 and MW-2016-13
 - June (6/7/2023 and 6/26/2023): MW-2016-12 and MW-2016-13
 - July (7/12/2023 and 7/26/2023): MW_2016-12
 - August (8/23/2023): MW-2016-12
 - September (9/14/2023): MW-2016-12 and MW-2016-13
 - October (10/11/2023 and 10/24/2023): MW-2016-12

No program transitions (Detection to Assessment or vice versa) were triggered.

- No programmatic problems were encountered, so no remedies were required.

Anticipated activities for the next annual reporting period include:

- Completion of two semiannual Detection monitoring events.
- Statistical evaluation of groundwater data for Appendix III constituents.
- Evaluation of baseline monitoring results for new landfill expansion wells (MW-2016-12 and MW-2016-13) which were installed downgradient of the proposed Landfill Expansion Area in October 2022.

1.0 Introduction

On behalf of Basin Electric Power Cooperative, (Basin), AECOM Technical Services, Inc. (AECOM) has prepared the 2023 annual report documenting groundwater monitoring and corrective action for the Glenharold Coal Combustion Residuals (CCR) Landfill at Basin's Leland Olds Station (LOS).

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

1.1 Regulatory Background

The CCR Rule, effective on October 19, 2015, established standards for the disposal of CCR in landfills and surface impoundments (CCR units). In particular, the rule set forth groundwater monitoring and corrective action requirements for CCR units. The Rule includes the requirement for an "annual groundwater monitoring and corrective action report" (annual report), submitted to the operating record annually on or before January 31 of the year following the monitoring period. The annual report is intended to document the status of the groundwater monitoring and corrective action program for each CCR unit, summarize key actions completed in the previous year, and project key activities for the upcoming year. This report is the seventh annual report, and includes activities performed in calendar year 2023.

1.2 Facility Location and Operational History

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

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

1.3 CCR Unit Description

CCR is disposed at LOS in the following CCR unit:

- CCR Landfill

The CCR Landfill is located approximately 3 miles southwest of the generating units and office complex, in an area of mine spoils (**Figure 1**). Basin reported that in 2023 the LOS CCR Landfill received 296,568 cubic yards of solid waste, including fly ash, FGD waste, and a minor contribution of solid debris.

1.4 Physical Setting

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

The topography of the surrounding areas consists of alluvial terraces and historic mine spoil deposits. Much of the surrounding mined areas have historically been developed such that precipitation outside of the landfill footprint is generally redirected as surface water runoff toward drainage ditches and culverts that drain to Alderin Creek and ultimately to the Missouri River. Groundwater is recharged primarily through regional infiltration of melt water in the spring.

The base of the LOS CCR Landfill is underlain by approximately 50 feet of clay-rich mine spoil that overlies the Lower Sentinel Butte Formation. At the site, the Sentinel Butte is comprised primarily of dense clay with a trace of very fine sand and sparse beds of lignite typically ranging from 6- to 9-feet thick.

The uppermost aquifer in which the CCR network wells are screened is found within a 6- to 9-foot unmined lignite bed within the bedrock, located at depths ranging from roughly 86 to 125 feet below ground surface. The elevation of the lignite bed varies across the site by approximately 32 feet, ranging from 1,811 feet above mean sea level (ft amsl) at MW-2016-4 to 1,843 ft amsl at MW-2016-1. The groundwater surface within the water-bearing zone generally slopes from the south-southwest to the north-northeast across the Landfill footprint. Aquifer testing completed at monitoring wells MW-2016-4, MW-2016-8, and MW-2016-10 in 2016 indicates an average hydraulic conductivity of 1.21×10^{-5} centimeters per second for the saturated materials.

2.0 CCR Groundwater Monitoring Activity Prior to 2023

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

The following paragraphs provide a brief summary of CCR groundwater monitoring activities performed prior to 2023. CCR groundwater monitoring activities performed between January and December 2023 are discussed in Section 3.

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

CCR unit	Background wells	Downgradient wells
Active Landfill	MW-2016-3*, MW-2016-4**, MW-2016-5**, MW-2016-6, MW-2016-8	MW-2016-2, MW-2016-9, MW-2016-10, MW-2016-11,

* = MW-2016-3 evaluated as background well in 2023. Will be evaluated as downgradient well 2024 due to landfill expansion and ash placement.

**= abandoned Fall 2022 in preparation of landfill expansion

Two monitoring wells have historically been excluded from the groundwater monitoring network due to deficiencies. Monitoring well MW-2016-1 was excluded due to insufficient water production. Monitoring well MW-2016-7 was excluded due to screen interval placement that is not representative of the uppermost aquifer monitored at the site. Monitoring wells MW-2016-1 and MW-2016-7 were abandoned in Fall of 2022 along with background wells MW-2016-4 and MW-2016-5, which were in the footprint of the landfill expansion.

Baseline monitoring, initiated in August 2016, involved sampling groundwater for Appendix III and Appendix IV constituents over eight Baseline Detection monitoring events. Baseline Detection monitoring events were performed in general accordance with procedures established in the site-specific Sampling and Analysis Plan (AECOM 2018a), which is included in the facility's Operating Record. The Sampling and Analysis Plan describes the procedures for equipment calibration, monitoring well water level measurement, monitoring well purging and sampling, sample custody, sample shipping, laboratory analysis, and documentation requirements for each groundwater sample submitted. The results of the baseline monitoring and 2018 Detection monitoring at the LOS CCR Landfill were presented and discussed in the First and Second Annual Groundwater Monitoring and Corrective Action Reports (AECOM 2018b, 2019). The LOS CCR Landfill was placed in Detection monitoring in the winter of 2018 with the first Detection monitoring groundwater sampling event completed in April 2018, then twice annually thereafter. The results of Detection monitoring at the LOS CCR Landfill in 2018, 2019, 2020, 2021, and 2022 were presented and discussed in the Second, Third, Fourth, Fifth, and Sixth Annual Groundwater Monitoring and Corrective Action Reports issued on January 31, 2019 (AECOM 2019); January 31, 2020 (AECOM 2020); January 31, 2021 (AECOM 2021); January 31, 2022 (AECOM 2022a); and January 31, 2023 (AECOM 2023), respectively.

In October 2022, two additional monitoring wells (MW-2016-12 and MW-2016-13) were installed for future monitoring purposes. These two wells were placed in advance of westward landfill expansion and are planned to be used to monitor groundwater in the downgradient direction of the expansion. Boring logs were presented in 2022 Annual Groundwater Monitoring and Corrective Actions report (AECOM 2023). Baseline data collection began after installation

of the wells. CCR waste will be placed in completed cells to the west, adjacent to the existing landfill footprint. As future expansion is needed, additional cells will be constructed in the expansion area moving in a westerly direction. CCR Waste will not be placed in the entire expansion area footprint at one time.

3.0 CCR Groundwater Monitoring and Corrective Action Activities in 2023

This section summarizes the groundwater monitoring and corrective action conducted at the LOS CCR Landfill in 2023 to comply with the groundwater requirements of the CCR rule:

- Groundwater Detection monitoring activities:
 - monitoring system evaluation completed in June and September/October 2023
 - groundwater sampling completed in June and September/October 2023
 - laboratory analysis of groundwater samples in June and September/October 2023
 - statistical analysis of the monitoring results of the groundwater samples in June and September/October 2023
- Groundwater Corrective Action – Not applicable
- Baseline monitoring of the two expansion monitoring wells (MW-2016-12 and MW-2016-13) installed in October 2022. Nine baseline sampling events were completed for MW-2016-12 expansion well between May and October 2023 and four events were completed for MW-2016-13 during this reporting period as outlined below. Results of this monitoring will be evaluated in 2024 prior to inclusion of the wells in the expanded monitoring well network.
 - May (5/4/2023): MW-2016-12 and MW-2016-13
 - June (6/7/2023 and 6/26/2023): MW-2016-12 and MW-2016-13
 - July (7/12/2023 and 7/26/2023): MW_2016-12
 - August (8/23/2023): MW-2016-12
 - September (9/14/2023): MW-2016-12 and MW-2016-13
 - October (10/11/2023 and 10/24/2023): MW-2016-12

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

3.1 Detection Monitoring Activities

3.1.1 Monitoring System Evaluation

As described in the CCR Groundwater Monitoring System Report (AECOM 2017), monitoring wells were installed around the CCR unit at LOS with appropriate total depth and placement of the well screen to: (1) facilitate collection of representative groundwater samples from the uppermost aquifer; and (2) accurately measure water table elevations to support evaluation of groundwater gradient and flow direction. All monitoring wells comprising the LOS CCR Landfill monitoring system were found to be in good condition during the Detection monitoring events conducted in 2023.

Potentiometric surface maps constructed using the depth-to-groundwater measurements obtained at the beginning of each Detection monitoring event are presented in **Attachment A**. The direction of groundwater flow observed in June and September/October 2023 was generally north-northeast, which is consistent with the direction observed in previous years. The flow direction supports the designation of the wells noted in Section 2 above to represent background groundwater quality and the quality of groundwater downgradient of the unit. Prior to landfill expansion, MW-2016-3 was designated as a background well for the landfill. Expansion of the Landfill footprint and additional fluid level data collected during the 2023 reporting period from MW-2016-12 and MW-2016-13 (provided in **Attachment A**) suggest that MW-2016-3 may no longer qualify as a background well upon receipt of CCR material at the expansion area. In 2024 moving forward, MW-2016-3 will be evaluated to be changed from a background well to a downgradient well.

Data collected in 2023 and prior will still be used as a background data set, but data collected in 2024 moving forward will then be compared to calculated UPLs for the site.

3.1.2 Groundwater Sampling and Analysis

The Detection monitoring events completed in 2023 included analysis of collected groundwater samples for the constituents listed in Part 257 Appendix III. The tabulated laboratory analytical results are presented in Attachment A along with potentiometric surface maps for the uppermost aquifer, inferred groundwater flow direction and estimated velocities, and a tabulated summary of field measurements.

Sampling and analysis activities in 2023 were performed in general accordance with procedures established in the Sampling and Analysis Plan, Revision 1 (AECOM 2022b).

Two monitoring wells (MW-2016-12 and MW-2016-13) were installed between October 2 and 6, 2022 to evaluate the uppermost aquifer northwest of the existing landfill in preparation for a planned expansion of the landfill into this area. Baseline groundwater monitoring events with analysis for the constituents listed in Part 257 Appendix III and Appendix IV occurred in May, June (two events), July (two events), August, September, and October (two events) 2023. Results will be presented in the 2024 Annual Groundwater Monitoring and Corrective Action Report after analysis of the data.

3.2 Statistical Procedures and Analysis

The cumulative groundwater data collected for Appendix III indicator parameters at the LOS CCR Landfill were evaluated in accordance with the statistical procedures certified on October 17, 2017 (AECOM 2017). The Appendix III groundwater quality data were evaluated to determine whether any constituents showed a statistically significant increase (SSI) over background using an interwell approach that statistically compared constituent concentrations at downgradient monitoring wells to those present at the background monitoring wells. ProUCL Version 5.1 was selected for the development of site-specific background upper prediction limits (UPLs) with a 95-percent confidence for each Appendix III constituent utilizing monitoring well data from background monitoring wells collected between September 2016 and October 2020. The input file and output file used for development of the UPLs is provided as **Attachment B**. A lower prediction limit (LPL) was also developed for pH which is a two-sided parameter. The concentrations of detected Appendix III constituents were entered as reported by the laboratory [non-detections set to Reporting Limit (RL)] and evaluated using ProUCL to determine if the population exhibited a normal, lognormal, or nonparametric distribution.

Data from the downgradient monitoring wells during the 2023 reporting period were compared to the UPL or LPL to identify statistically significant increases (SSIs) over background. Statistical analysis for the current reporting period compares compliance well data to UPLs, where non-detect values are represented as one-half the method detection limit. The results of the analyses, including the UPLs and LPL for pH, are provided in **Table 1**. The statistical analysis results presented in **Table 2** indicate that calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS) do not currently exhibit SSIs over background. Additionally, pH does not exhibit an SSI below background.

Boron was evaluated using a control chart and upper and lower control limits were developed using the mean \pm 4.5 standard deviations. Starks (1988); USEPA (2009), and ASTM (2017) suggest using 4.5 standard deviations to develop control limits for groundwater Detection monitoring. **Figure 3** presents the control chart that shows the background mean (0.256 milligrams per liter [mg/L]), upper and lower control limits (UCL and LCL), 0.341 and 0.171 mg/L, respectively, and the baseline and Detection monitoring results for downgradient compliance wells through October 2023. The results indicate that boron does not exceed the UCL at monitoring wells for any sampling event and does not currently exhibit an SSI over background at any of the downgradient compliance wells.

Based on these results, no SSIs were identified at the LOS Landfill and Assessment monitoring is not required. Detection monitoring should continue at the LOS Landfill in 2024.

4.0 General Information

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

4.1 Program Transitions 2023

There were no groundwater monitoring program transitions for the LOS CCR Landfill monitoring system during the January to December 2023 reporting period.

4.2 Problems Encountered

No problems were encountered during the January to December 2023 monitoring period.

4.3 Actions Planned for 2024

Basin plans to continue the Detection monitoring program for the LOS Landfill in 2024. The Detection monitoring program will include semi-annual groundwater sampling events and the required statistical evaluations.

Basin plans to evaluate the Baseline monitoring results of new landfill expansion wells MW-2016-12 and MW-2016-13. This evaluation will include statistical evaluations of each sampling event to obtain information about background water quality prior to acceptance of CCR material into the landfill expansion area.

Basin also plans to re-evaluate the designation of MW-2016-3 as a background well versus compliance well for the 2024 Detection monitoring events. Prior to landfill expansion, MW-2016-3 was designated as a background well. Expansion of the Landfill footprint and additional fluid level data collected during the 2023 reporting period (provided in **Attachment A**) suggest that MW-2016-3 may no longer qualify as a background well upon receipt of CCR material at the expansion area.

5.0 Summary and Conclusions

Basin conducted two rounds of CCR groundwater Detection monitoring at the LOS CCR Landfill between January and December 2023. The results were used to establish background groundwater quality for Appendix III constituents in the uppermost aquifer, identify appropriate UPLs and LPLs, and determine whether any Appendix III constituents experienced SSIs downgradient of the CCR unit.

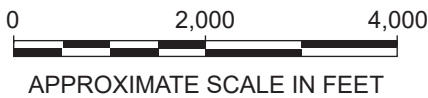
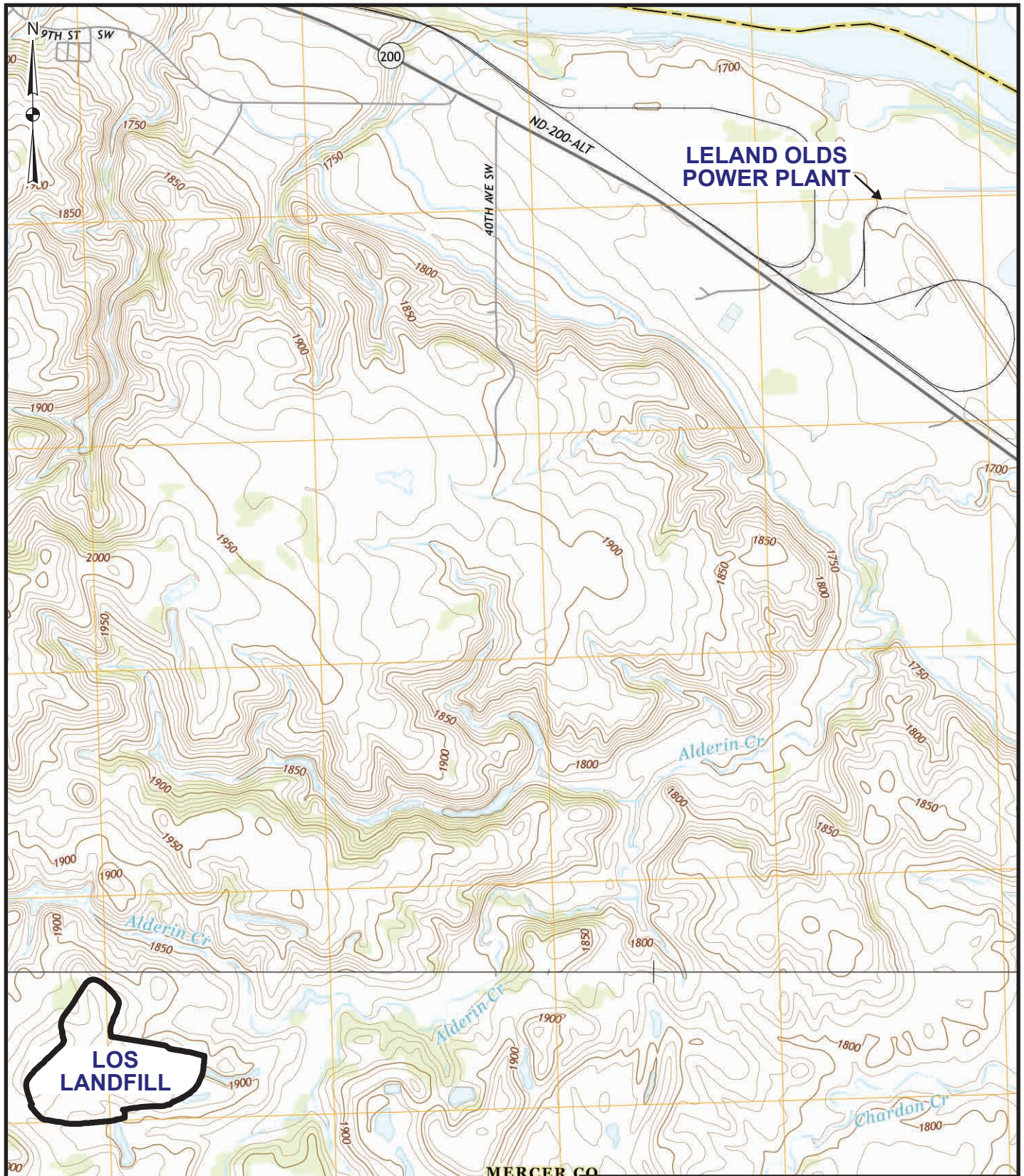
The statistical analysis results indicate that none of the Appendix III constituents had SSIs over background or statistically significant increasing trends in constituent concentrations. Based on these results, Assessment monitoring is not required at the LOS CCR Landfill and Detection monitoring will continue at the site in 2024.

6.0 References

- AECOM Technical Services, Inc. (AECOM). 2017. CCR Groundwater Monitoring System Report, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. October 2017.
- AECOM. 2018a. Sampling and Analysis Plan, CCR Monitoring Program, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2018.
- AECOM. 2018b. First Annual Groundwater Monitoring and Corrective Action Report, 2016-2017, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2018.
- AECOM. 2019. Second Annual Groundwater Monitoring and Corrective Action Report, 2018, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2019.
- AECOM. 2020. Third Annual Groundwater Monitoring and Corrective Action Report, 2019, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2020.
- AECOM. 2021. Fourth Annual Groundwater Monitoring and Corrective Action Report, 2019, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2021.
- AECOM. 2022a. Fifth Annual Groundwater Monitoring and Corrective Action Report, 2019, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2021.
- AECOM. 2022b. Sampling and Analysis Plan, Revision 1, CCR Monitoring Program, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. June 2022.
- AECOM. 2023. Sixth Annual Groundwater Monitoring and Corrective Action Report, 2023, Leland Olds Station, Stanton, North Dakota. Basin Electric Power Cooperative. January 2023.
- American Society of Testing and Materials. 2017. Designation D6312-17 Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs at Waste Disposal Facilities, 15 pp.
- Starks, T. H. 1988, Evaluation of Control Chart Methodologies for RCRA Waste Sites, U.S. Environmental Protection Agency EPA/600/4-88/040, December, 40 pp.
- U.S. Environmental Protection Agency. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Unified Guidance. EPA 530-R-09-007. March 2009. 884 pp.

Figures

J:\Project\B\Basin Electric Coop\60634996 LOS Landfill CCR Well\Data-Tech\TT



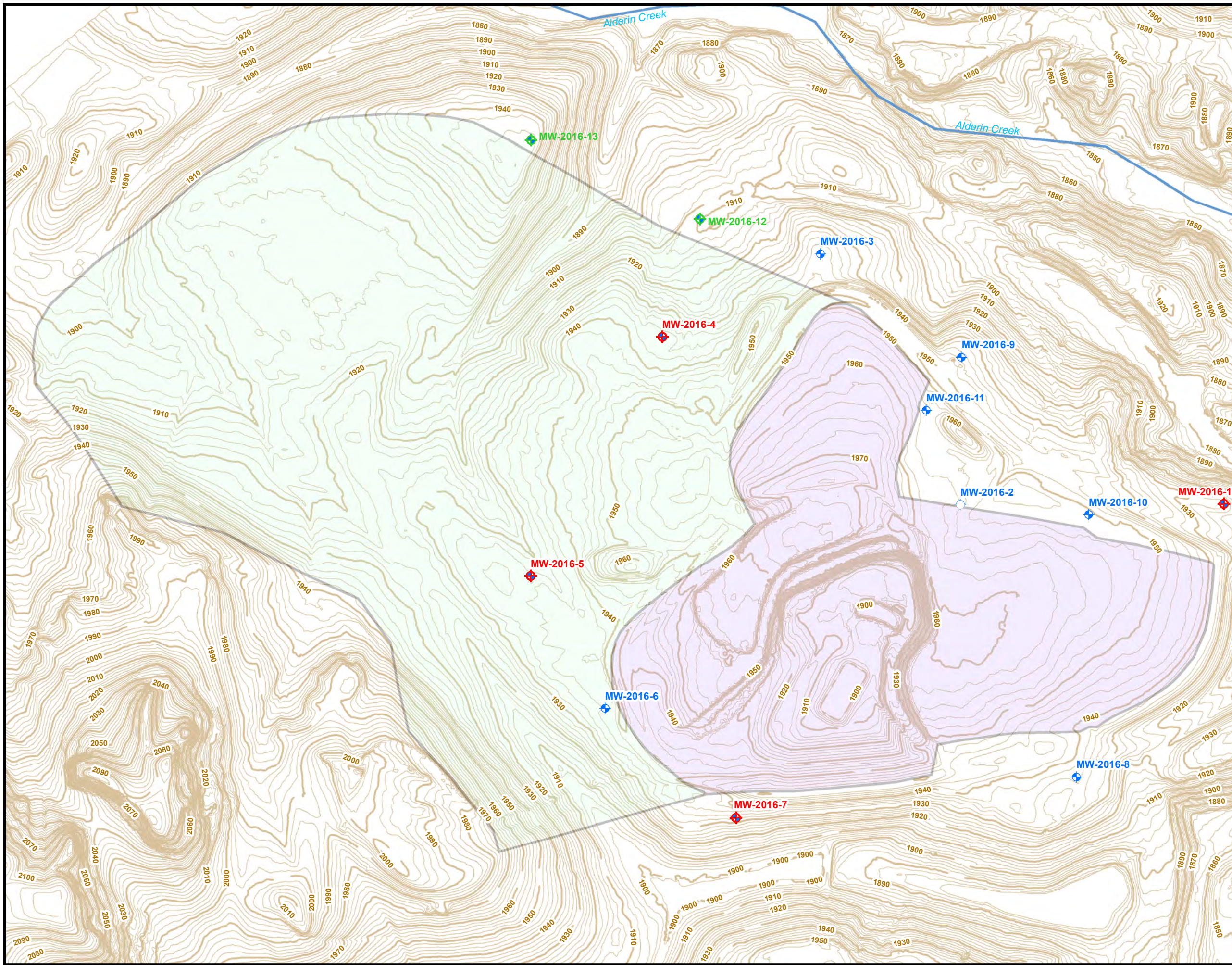
Quadrangle
Location

BASIN ELECTRIC POWER COOPERATIVE







FIGURE 1
SITE VICINITY MAP
LOS LANDFILL

BASE MAP SOURCE: USGS 7½ minute
topographic quadrangle maps: Hannover
NE, North Dakota 2014; Stanton SE, North
Dakota 2014.

JOB NO. 60634996

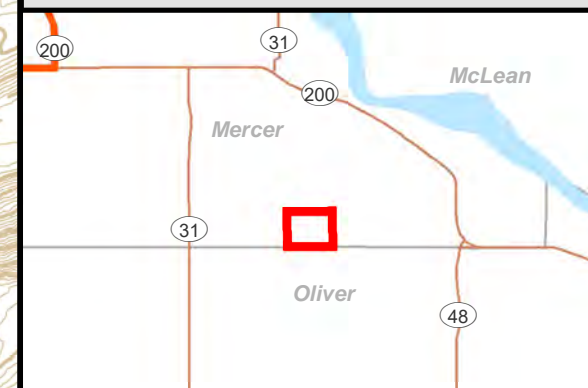
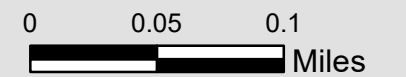


Legend

-  Monitoring Well
-  Abandoned Well (October 2022)
-  New Expansion Monitoring Well
-  Existing Limits of Waste
-  Expansion Limits of Waste
-  Surface Contours (2-foot interval)

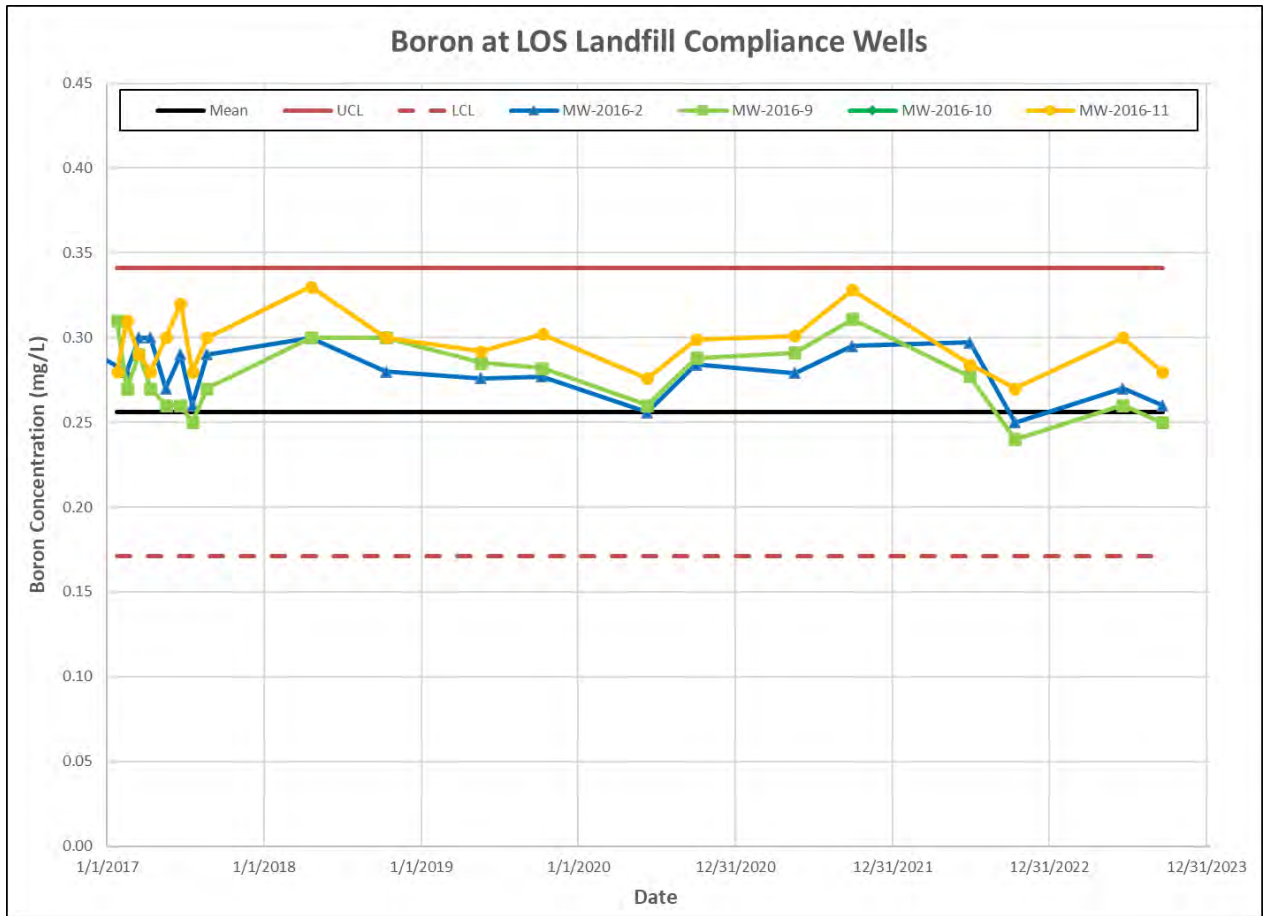


1 inch = 400 feet



**BASIN ELECTRIC POWER COOPERATIVE
FIGURE 2
LOS CCR MONITORING WELL NETWORK**

Figure 3. Boron Control Chart for October 2023
2023 Annual Groundwater Monitoring and Corrective Action Report
Leland Olds Station CCR Landfill, North Dakota



Tables

**Table 1. Background Upper Prediction Limits (UPLs) or Control Limits
2023 Annual Groundwater Monitoring and Corrective Action Report
Leland Olds Station CCR Landfill, North Dakota**

Parameter (Units)	Number of Samples	Percent Nondetects	Normal or Lognormal Distribution?	Statistical Method	Background Prediction or Control Limit
Boron (mg/L)	71	0	Yes/Yes	Control Chart 99.9% UCL	0.331
Calcium (mg/L)	70	0	No/Yes	Parametric 95% UPL	20.79
Chloride (mg/L)	71	6	No/No	Nonparametric 95% UPL	38.16
Fluoride (mg/L)	70	41	No/No	Nonparametric 95% UPL	2.5
pH (std units)	83	0	No/No	Nonparametric 95% LPL/UPL	7.25/8.24
Sulfate (mg/L)	71	0	No/No	Nonparametric 95% UPL	741
TDS (mg/L)	71	0	No/No	Nonparametric 95% UPL	2,200

Notes:

Background Prediction limits calculated using data from May 2016 through October 2020

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

mg/L= milligrams per liter

TDS = total dissolved solids

UCL = Upper Control Limit

LPL = Lower Control Limit

**Table 2. Statistical Method Analytical Results
 2023 Annual Groundwater Monitoring and Corrective Action Report
 Leland Olds Station CCR Landfill, North Dakota**

Well	Location	B	Ca	Cl	F	pH (LPL/UPL)		SO ₄	TDS
MW-2016-2	Downgradient								
MW-2016-9	Downgradient								
MW-2016-10	Downgradient								
MW-2016-11	Downgradient								

Notes:

SSIs determined using interwell upper prediction limits (UPLs) at background monitoring wells MW-2016-3, MW-2016-6, and MW-2016-8. Background monitoring wells MW-2016-4 and MW-2016-5 were abandoned in October 2022.

	Less than or equal to background upper prediction limit (UPL) or greater than lower prediction limit (LPL) for pH
	Unverified statistically significant increase (SSI) over background UPL or below background LPL for pH
	Verified SSI over background UPL or below background LPL for pH

Attachment A

Sampling and Analysis Report, 2023

2023 Groundwater Sampling and Analysis Report LOS CCR Landfill Monitoring Program

Leland Olds Station
Stanton, North Dakota

Basin Electric Power Cooperative

January 31, 2024

Prepared for:
Basin Electric Power Cooperative
Bismarck, North Dakota

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

Project #60634996

Table of Contents

List of Acronymsii

1. Introduction 1

2. Groundwater Flow 2

3. Groundwater Quality 3

Figures

- Figure 1 LOS Landfill Potentiometric Surface Map June 19, 2023
- Figure 2 LOS Landfill Potentiometric Surface Map September 19 – October 9, 2023

Tables

- Table 1A June 2023 Groundwater Monitoring Water Levels and Elevations
- Table 1B September/October 2023 Groundwater Monitoring Water Levels and Elevations
- Table 2 Estimated Groundwater Gradient and Seepage Velocity
- Table 3 2023 Analytical Results Summary
- Table 4 2023 Baseline Analytical Results Summary (MW-2016-12 and MW-2016-13)

Appendix

- Appendix I Laboratory Reports

List of Acronyms

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

1. Introduction

On behalf of Basin Electric Power Cooperative (Basin), AECOM Technical Services, Inc. (AECOM) prepared this Coal Combustion Residuals (CCR) Groundwater Sampling and Analysis Report for the Basin Leland Olds Station (LOS) CCR Landfill.

This Report was prepared to present the results of sampling and analysis of groundwater conducted for the monitoring requirements of the United States Environmental Protection Agency (EPA) CCR rule (Chapter 40 of the Code of Federal Regulations [CFR], Sections 257.90 to 257.98). Specifically, the report presents the data collected for the two groundwater Detection monitoring events and nine groundwater Baseline monitoring events conducted in 2023.

2. Groundwater Flow

As required by 40 CFR Section 257.931, groundwater elevations were measured in each well prior to purging, each time groundwater was sampled. The measurements, presented in **Tables 1A and 1B**, were used to create potentiometric surface maps for the uppermost aquifer for the Detection monitoring events. The resulting potentiometric surface maps were used to evaluate the direction and rate of groundwater flow across the subject CCR unit. **Figure 1** and **Figure 2** represent potentiometric surface maps constructed using measurements taken on June 19, 2023, and between September 19 and October 9, 2023, respectively. The maps show the inferred groundwater flow directions for the CCR unit, which are generally consistent with the patterns observed during previous monitoring events. Calculated groundwater flow velocities are summarized in **Table 2**.

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

CCR unit	Background wells	Downgradient wells
Active Landfill	MW-2016-3*, MW-2016-4**, MW-2016-5**, MW-2016-6, MW-2016-8	MW-2016-2, MW-2016-9, MW-2016-10, MW-2016-11
Landfill Expansion Area	See Above	MW-2016-12, MW-2016-13

* = MW-2016-3 evaluated as background well in 2023. Will be evaluated as downgradient well 2024 due to landfill expansion and ash placement.

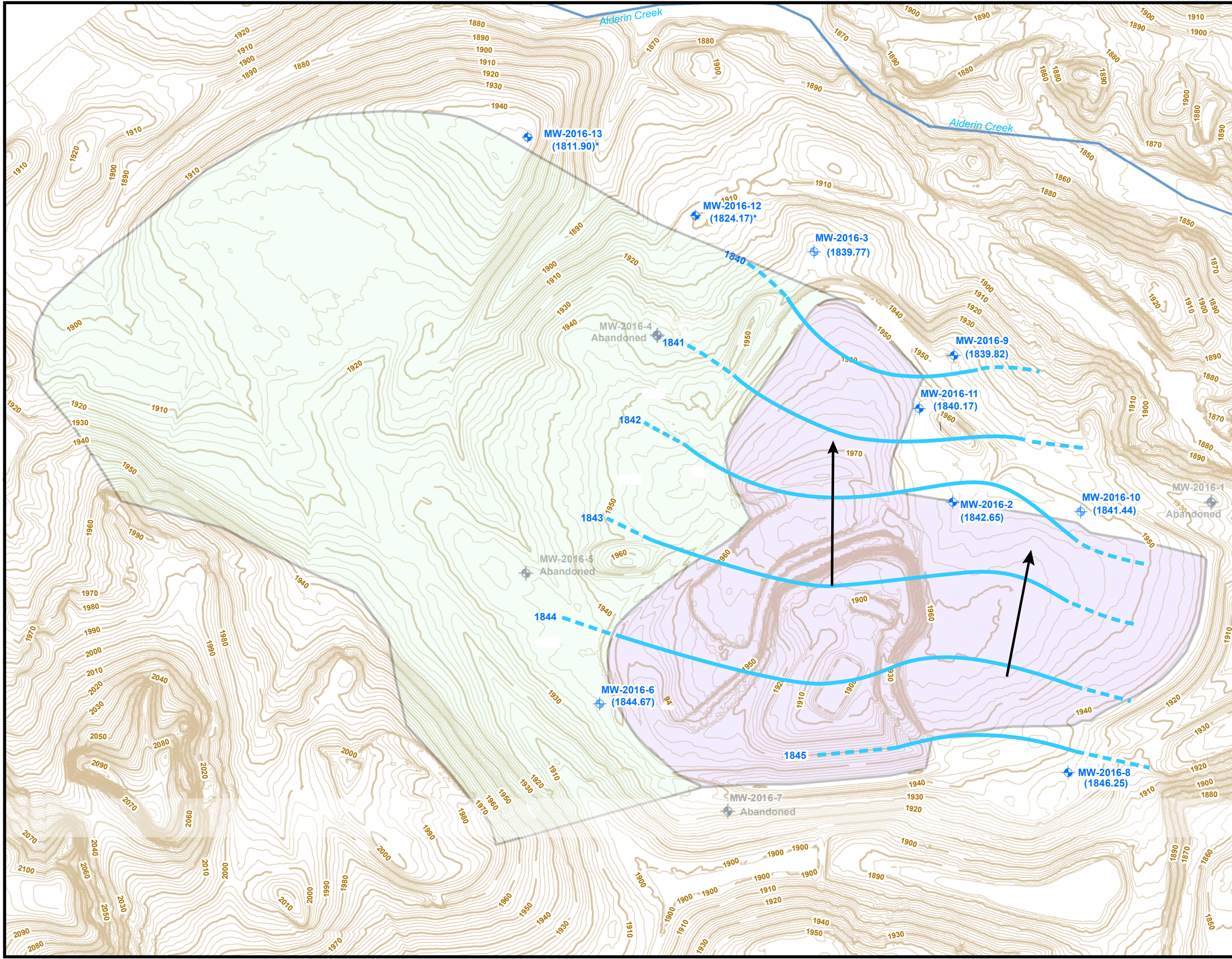
**= Abandoned Fall 2022 in preparation of landfill expansion

Four monitoring wells were decommissioned in late September to early October 2022 in preparation for landfill expansion: MW-2016-1, MW-2016-4, MW-2016-5, and MW-2016-7. Monitoring wells MW-2016-1 and MW-2016-7 were removed from the monitoring program prior to 2022 but were abandoned during same field mobilization that MW-2016-4 and MW-2016-5 were abandoned.

3. Groundwater Quality

The analytical testing laboratory reports for the 2023 monitoring events as presented in **Appendix I** were reviewed for completeness against the project-required methods and the chain-of-custody forms. Laboratory reports were also reviewed for holding times, and that the data was appropriately flagged based on the quality assurance/quality control testing results provided by the laboratory. The Detection monitoring results were compiled into a summary form as presented in **Table 3**. Baseline monitoring analytical results for the two landfill expansion wells (MW-2016-12 and MW-2016-13) are presented in **Table 4**.

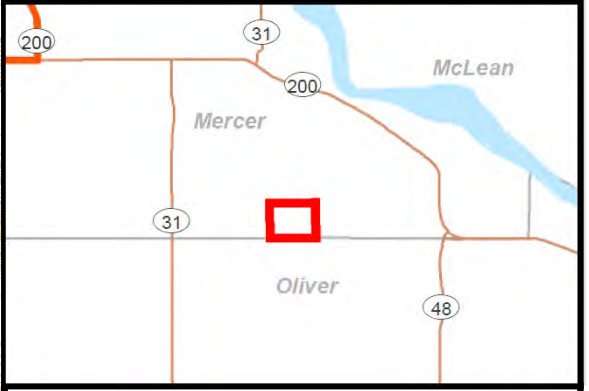
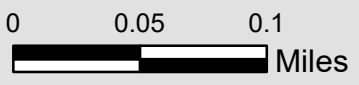
Figures



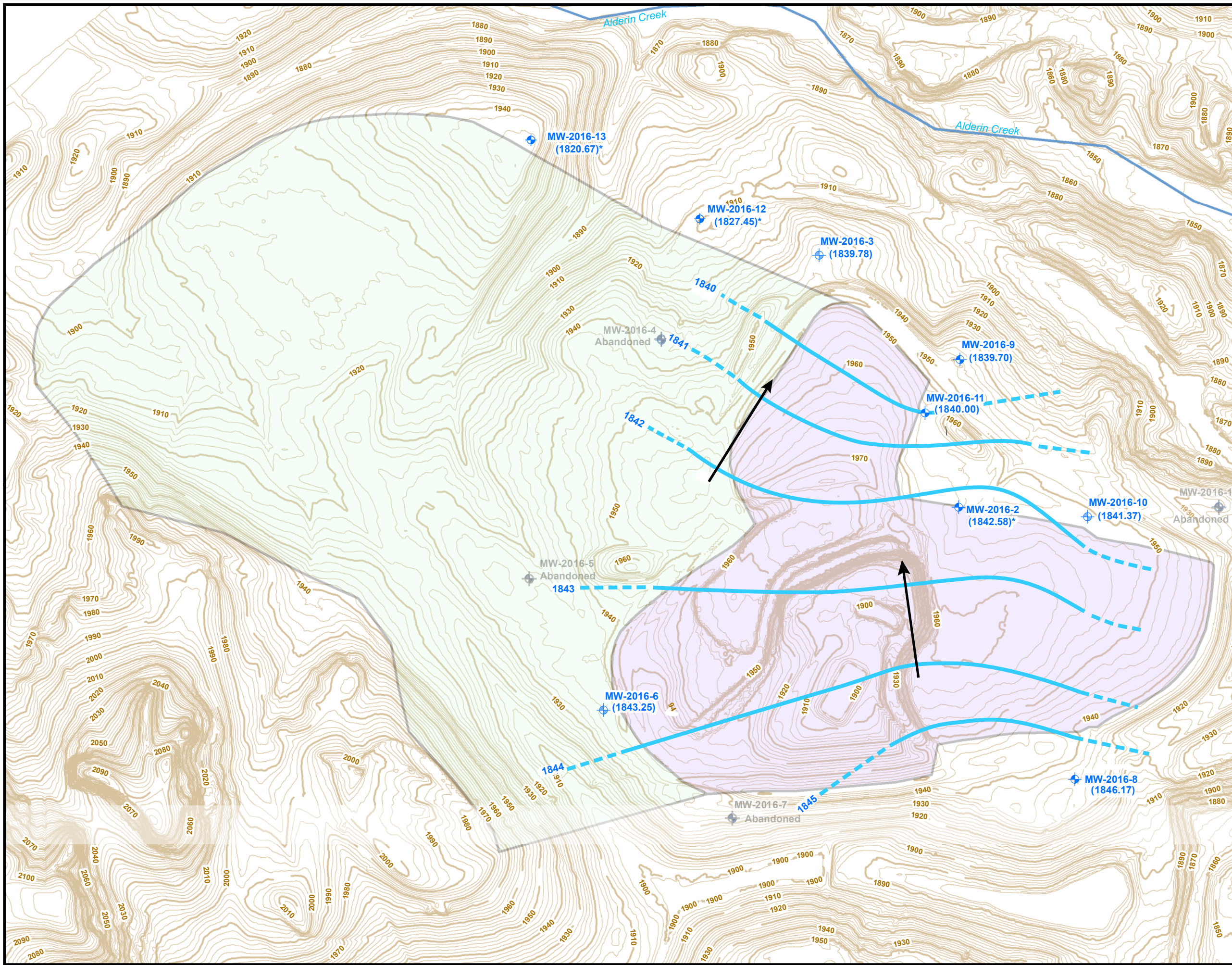
Legend

- Monitoring Well
 - Abandoned Monitoring Well (Fall2022)
 - Existing Limits of Waste
 - Expansion Limits of Waste
 - Surface Contours (2-foot interval)
 - Piezometric Surface Contour Dashed where inferred (1-foot interval)
 - Groundwater Flow Direction
- (1811.90)* Omitted from contour interpretation

Note:
Groundwater elevations were obtained on June 19, 2023



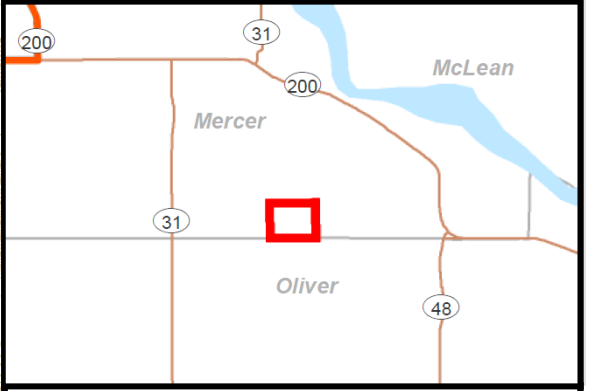
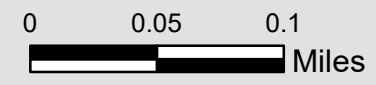
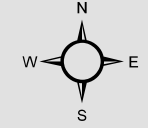
**BASIN ELECTRIC POWER COOPERATIVE
LOS LANDFILL
FIGURE 1
POTENTIOMETRIC SURFACE MAP
JUNE 19, 2023
JOB NO. 60634996**



Legend

- Monitoring Well
- Abandoned Monitoring Well (Fall 2022)
- Existing Limits of Waste
- Expansion Limits of Waste
- Surface Contours (2-foot interval)
- Piezometric Surface Contour
Dashed where inferred (1-foot interval)
Elevation in feet above mean sea level.
- (1820.67)* Omitted from contour interpretation
- Groundwater Flow Direction

Note:
Groundwater elevations were obtained between September 19 and October 9, 2023



**BASIN ELECTRIC POWER COOPERATIVE
LOS LANDFILL
FIGURE 2
POTENTIOMETRIC SURFACE MAP
SEPTEMBER 19 - OCTOBER 9, 2023
JOB NO. 60634996 AECOM**

Tables

Table 1A
June 2023 Groundwater Monitoring Water Levels and Elevations
CCR Monitoring Well Network
Leland Olds Station CCR Landfill - Stanton, North Dakota

Well ID	Reference Elevation	June 19, 2023	Groundwater
	Top of Casing	Depth to Water	Elevation
	(ft amsl, NAVD 88)	(ft btoc)	(ft amsl, NAVD 88)
MW-2016-2	1957.98	115.33	1842.65
MW-2016-3	1939.88	100.11	1839.77
MW-2016-4	1939.97	Abandoned	Not Applicable
MW-2016-5	1937.54	Abandoned	Not Applicable
MW-2016-6	1939.31	94.64	1844.67
MW-2016-7	1936.11	Abandoned	Not Applicable
MW-2016-8	1939.36	93.11	1846.25
MW-2016-9	1947.39	107.57	1839.82
MW-2016-10	1953.32	111.88	1841.44
MW-2016-11	1956.73	116.56	1840.17
MW-2016-12	1912.26	88.09	1824.17
MW-2016-13	1948.75	136.85	1811.90

Notes:

CCR = coal combustion residuals

ft amsl = feet above mean sea level

ft btoc = feet below top of casing

NAVD 88 = North American Vertical Datum 1988

Table 1B
September/October 2023 Groundwater Monitoring Water Levels and Elevations
CCR Monitoring Well Network
Leland Olds Station CCR Landfill - Stanton, North Dakota

Well ID	Date	Reference Elevation		Groundwater
		Top of Casing (ft amsl, NAVD 88)	Depth to Water (ft btoc)	Elevation (ft amsl, NAVD 88)
MW-2016-1	--	1931.73	Not Measured	Not Measured
MW-2016-2	9/19/2023	1957.98	115.40	1842.58
MW-2016-3	9/19/2023	1939.88	100.10	1839.78
MW-2016-4	--	1939.97	Abandoned	Not Applicable
MW-2016-5	--	1937.54	Abandoned	Not Applicable
MW-2016-6	9/19/2023	1939.31	96.06	1843.25
MW-2016-7	--	1936.11	Abandoned	Not Applicable
MW-2016-8	9/20/2023	1939.36	93.19	1846.17
MW-2016-9	9/19/2023	1947.39	107.69	1839.70
MW-2016-10	9/19/2023	1953.32	111.95	1841.37
MW-2016-11	9/19/2023	1956.73	116.73	1840.00
MW-2016-12	10/9/2023	1912.26	84.81	1827.45
MW-2016-13	9/19/2023	1948.75	128.08	1820.67

Notes:

CCR = coal combustion residuals

ft amsl = feet above mean sea level

ft btoc = feet below top of casing

NAVD 88 = North American Vertical Datum 1988

TABLE 2
ESTIMATED GROUNDWATER GRADIENT AND SEEPAGE VELOCITY
CCR MONITORING WELL NETWORK
LELAND OLDS STATION CCR LANDFILL – STANTON, NORTH DAKOTA

Date of event	d _i (ft)	d _h (ft)	i (ft/ft)	n _e	K (ft/day)	v _s (ft/day)
9/27/2016	680	4	5.88E-03	0.185	0.0344	1.09E-03
2/13/2017	680	3	4.41E-03	0.185	0.0344	8.20E-04
3/16/2017	600	4	6.67E-03	0.185	0.0344	1.24E-03
4/11/2017	600	3	5.00E-03	0.185	0.0344	9.30E-04
5/17/2017	920	4	4.35E-03	0.185	0.0344	8.08E-04
6/20/2017	880	4	4.55E-03	0.185	0.0344	8.45E-04
7/18/2017	960	6	6.25E-03	0.185	0.0344	1.16E-03
8/21/2017	960	5	5.21E-03	0.185	0.0344	9.68E-04
4/18/2018	800	4	5.00E-03	0.185	0.0344	9.30E-04
10/11/2018	960	3	3.13E-03	0.185	0.0344	5.81E-04
5/20/2019	800	2	2.50E-03	0.185	0.0344	4.65E-04
10/8/2019	1080	4	3.70E-03	0.185	0.0344	6.89E-04
6/9/2020	800	2	2.50E-03	0.185	0.0344	4.65E-04
9/30/2020	640	2	3.13E-03	0.185	0.0344	5.81E-04
5/17/2021	740	2	2.70E-03	0.185	0.0344	5.03E-04
9/27/2021	1290	2	1.55E-03	0.185	0.0344	2.88E-04
6/28/2022	1700	5	2.92E-03	0.185	0.0344	5.43E-04
10/11/2022	1700	5	2.99E-03	0.185	0.0344	5.57E-04
6/19/2023*	1700	5	2.83E-03	0.185	0.0344	5.26E-04
9/19-20/2023*	1700	5	2.82E-03	0.185	0.0344	5.25E-04

* = gradient and velocity calculated between MW-2016-10 and MW-2016-8

CCR = coal combustion residuals

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

d_h = Change in hydraulic head between upgradient and downgradient locations

ft = foot or feet

ft/day = feet per day

ft/ft = feet per foot

i = Hydraulic gradient (change in elevation over distance)

n_e = Site average porosity of 18.5%

K = Site average hydraulic conductivity of 3.44 E-02 ft/day from slug and pumping tests at site

v_s = Seepage Velocity (ft/day)

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

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

1. In textbook form, d_h is a negative number as hydraulic head is reported as the higher value subtracted from the lower value.

2. Negative operation performed as in textbook form, hydraulic gradient is negative.

Table 3
2023 Analytical Results Summary
CCR Monitoring Well Network
Leland Olds Station CCR Landfill - Stanton, North Dakota

Well ID	Location	Event	Date	Appendix III Constituents													
				Boron		Calcium		Chloride		Fluoride		pH		Sulfate		TDS	
				mg/L		mg/L		mg/L		mg/L		SU		mg/L		mg/L	
MW-2016-2	Downgradient	June 2023	6/19/2023	0.27		7.15		16.0		0.50		8.00		277		1760	
MW-2016-3	Background	June 2023	6/20/2023	0.24		4.70		35.2		0.63		8.02		32.1		1460	
MW-2016-4	NA	June 2023	6/19/2023	Abandoned													
MW-2016-5	NA	June 2023	6/19/2023	Abandoned													
MW-2016-6	Background	June 2023	6/20/2023	0.26		8.29		9.7		0.44		7.89		603		2070	
MW-2016-8	Background	June 2023	6/19/2023	0.26		13.1		11.8		0.32		7.92		679		2320	
MW-2016-8 (Dup)	Background	June 2023	6/19/2023	0.25		12.3		11.7		0.35		7.92		676		2310	
MW-2016-9	Downgradient	June 2023	6/19/2023	0.26		6.15		20.6		0.52		7.92		200		1710	
MW-2016-10	Downgradient	June 2023	6/20/2023	0.23		5.79		16.1		0.56		8.08		364		1700	
MW-2016-11	Downgradient	June 2023	6/19/2023	0.3		5.72		22.0		0.57		7.96		244		1640	
MW-2016-2	Downgradient	September 2023	9/19/2023	0.26		8.94		15.4		0.54		7.95		279		1730	
MW-2016-3	Background	September 2023	9/20/2023	0.24		5.05		35.0		0.71		8.02		57.4		1440	
MW-2016-4	NA	September 2023	9/20/2023	Abandoned													
MW-2016-5	NA	September 2023	9/20/2023	Abandoned													
MW-2016-6	Background	September 2023	9/20/2023	0.24		7.83		9.5		0.48		7.85		688		2040	
MW-2016-8	Background	September 2023	9/20/2023	0.24		13.1		11.2		0.36		7.85		742		2290	
MW-2016-9	Downgradient	September 2023	9/19/2023	0.25		6.67		19.7		0.58		7.92		196		1660	
MW-2016-10	Downgradient	September 2023	9/19/2023	0.23		5.77		15.7		0.59		8.09		362		1660	
MW-2016-10 (Dup)	Downgradient	September 2023	9/19/2023	0.23		5.72		15.6		0.59		8.09		340		1680	
MW-2016-11	Downgradient	September 2023	9/19/2023	0.28		6.82		22.1		0.59		7.94		237		1610	

Notes:
CCR = coal combustion residuals
Dup = duplicate sample
LOS = Leland Olds Station
mg/L = milligrams per liter
NS = not sampled
SU = standard units
TDS = total dissolved solids
NA = not applicable

Table 4
2023 Baseline Analytical Results Summary (MW-2016-12 and MW-2016-13)
CCR Monitoring Well Network
Leland Olds Station CCR Landfill - Stanton, North Dakota

Well ID	Date	Appendix III Constituents							Appendix IV Constituents													
		Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	TDS mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Radium 226/228 pCi/L	Selenium mg/L	Thallium mg/L
MW-2016-12	5/4/2023	0.23	36.7	37.5	0.55	7.56	53.9	1240	< 0.001	< 0.002	0.0628	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0150	0.95	< 0.005	< 0.0005
	6/7/2023	0.23	29.0	39.8	0.60	7.90	35.2	1380	< 0.001	< 0.002	0.0538	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0122	0.75	< 0.005	< 0.0005
	6/26/2023	0.23	23.6	38.9	0.60	7.72	41.4	1360	< 0.001	< 0.002	0.0476	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0105	0.7	< 0.005	< 0.0005
	7/12/2023	0.24	20.5	39.1	0.61	7.91	30.4	NS	< 0.001	< 0.002	0.0481	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0091	0.7	< 0.005	< 0.0005
	7/26/2023	0.22	17.4	42.6	0.62	7.96	24.8	1460	< 0.001	< 0.002	0.0467	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0088	1.9	< 0.005	< 0.0005
	8/23/2023	0.25	15.8	41.5	0.66	7.98	26.1	1510	< 0.001	< 0.002	0.0507	< 0.0005	< 0.0005	0.0029	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0101	1.3	< 0.005	< 0.0005
	9/14/2023	0.25	15.1	43.2	0.66	7.92	20.0	1480	< 0.001	< 0.002	0.0537	< 0.0005	< 0.0005	0.0025	< 0.002	0.0010	0.0223	< 0.0002	0.0087	0.8	< 0.005	< 0.0005
	10/11/2023	0.24	20.5	39.1	0.61	7.92	30.4	NS	< 0.001	< 0.002	0.0481	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0091	2.4	< 0.005	< 0.0005
10/24/2023	0.24	11.7	42.6	0.66	7.88	26.9	1530	< 0.001	< 0.002	0.0405	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	0.0213	< 0.0002	0.0084	0.5	< 0.005	< 0.0005	
MW-2016-13	5/4/2023	0.34	29.7	56.0	0.48	7.48	58.1	1460	< 0.001	< 0.002	0.0928	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0651	0.75	< 0.005	< 0.0005
	6/7/2023	0.32	22.2	60.4	0.52	7.77	42.2	1540	< 0.001	< 0.002	0.0713	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0490	0.65	< 0.005	< 0.0005
	6/26/2023	0.33	23.6	59.6	0.50	7.73	45.7	1500	< 0.001	0.0021	0.0588	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0545	0.75	< 0.005	< 0.0005
	7/12/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/26/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/23/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2023	0.31	17.4	60.8	0.58	7.74	37.0	1490	< 0.001	< 0.002	0.0603	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.0005	< 0.02	< 0.0002	0.0456	0.6	< 0.005	< 0.0005
	10/11/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/24/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes:

- ± - plus or minus
- < = less than reporting limit, non-detect
- CCR - coal combustion residuals
- mg/L - milligrams per liter
- NS - not sampled
- pCi/L - picoCuries per liter
- SU - standard units
- TDS - total dissolved solids

Appendix I

Laboratory Reports



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
Workorder: LOS Landfill SP143 (18961) **PO:** 675266-04

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

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.



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

Workorder Summary

Workorder Comments

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

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: Thursday, July 6, 2023 9:24:51 AM

Page 2 of 16

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961001 **Date Collected:** 06/20/2023 09:10 **Matrix:** Groundwater
Sample ID: MW2016-3 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	32.1	mg/L	5	1	06/23/2023 15:55	06/23/2023 15:55	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.24	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:17	SLZ	
Calcium	4.70	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:25	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	35.2	mg/L	2.0	1	06/22/2023 12:31	06/22/2023 12:31	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.63	mg/L	0.1	1	06/21/2023 22:09	06/21/2023 22:09	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1460	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961002 **Date Collected:** 06/19/2023 11:45 **Matrix:** Groundwater
Sample ID: MW2016-2 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	277	mg/L	25	5	06/23/2023 15:42	06/23/2023 15:42	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.27	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:17	SLZ	
Calcium	7.15	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:26	SLZ	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	16.0	mg/L	2.0	1	06/22/2023 12:32	06/22/2023 12:32	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.50	mg/L	0.1	1	06/21/2023 22:14	06/21/2023 22:14	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1760	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961003 **Date Collected:** 06/20/2023 09:40 **Matrix:** Groundwater
Sample ID: MW2016-6 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	603	mg/L	25	5	06/23/2023 15:43	06/23/2023 15:43	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.26	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:18	SLZ	
Calcium	8.29	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:28	SLZ	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	9.7	mg/L	2.0	1	06/22/2023 12:34	06/22/2023 12:34	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.44	mg/L	0.1	1	06/21/2023 22:20	06/21/2023 22:20	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	2070	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961004 **Date Collected:** 06/19/2023 14:00 **Matrix:** Groundwater
Sample ID: MW2016-8 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	679	mg/L	25	5	06/23/2023 15:44	06/23/2023 15:44	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.26	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:19	SLZ	
Calcium	13.1	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:30	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.8	mg/L	2.0	1	06/22/2023 12:35	06/22/2023 12:35	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.32	mg/L	0.1	1	06/21/2023 22:26	06/21/2023 22:26	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	2320	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 18961005 **Date Collected:** 06/19/2023 10:38 **Matrix:** Groundwater
Sample ID: MW2016-9 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	200	mg/L	25	5	06/23/2023 15:45	06/23/2023 15:45	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.26	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:22	SLZ	
Calcium	6.15	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:34	SLZ	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	20.6	mg/L	2.0	1	06/22/2023 12:36	06/22/2023 12:36	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.52	mg/L	0.1	1	06/21/2023 22:32	06/21/2023 22:32	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1710	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961006 **Date Collected:** 06/20/2023 08:36 **Matrix:** Groundwater
Sample ID: MW2016-10 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	364	mg/L	25	5	06/23/2023 15:47	06/23/2023 15:47	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:23	SLZ	
Calcium	5.79	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:37	SLZ	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	16.1	mg/L	2.0	1	06/22/2023 12:37	06/22/2023 12:37	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.56	mg/L	0.1	1	06/22/2023 14:46	06/22/2023 14:46	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1700	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 18961007 **Date Collected:** 06/19/2023 10:58 **Matrix:** Groundwater
Sample ID: MW2016-11 **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	244	mg/L	25	5	06/23/2023 15:48	06/23/2023 15:48	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.30	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:25	SLZ	
Calcium	5.72	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:39	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	22.0	mg/L	2.0	1	06/22/2023 13:25	06/22/2023 13:25	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.57	mg/L	0.1	1	06/22/2023 15:04	06/22/2023 15:04	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1640	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 18961008 **Date Collected:** 06/19/2023 14:00 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/21/2023 15:25 **Collector:** Client

Temp @ Receipt (C): 2.1

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	676	mg/L	25	5	06/23/2023 15:49	06/23/2023 15:49	EJV	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.25	mg/L	0.1	1	06/21/2023 17:00	06/22/2023 16:26	SLZ	
Calcium	12.3	mg/L	1	1	06/21/2023 17:00	06/28/2023 12:40	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.7	mg/L	2.0	1	06/22/2023 13:27	06/22/2023 13:27	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.35	mg/L	0.1	1	06/22/2023 15:10	06/22/2023 15:10	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	2310	mg/L	10	1	06/22/2023 14:36	06/22/2023 14:36	RAA	

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: Thursday, July 6, 2023 9:24:51 AM



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

QC Results Summary							WO #: 18961			
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	96.3		85	115			
LFB			100	90.3		85	115			
LFB			100	95.2		85	115			
LFB			100	95.6		85	115			
LFB			100	95.5		85	115			
LFB			100	93.1		85	115			
LFB			100	91.2		85	115			
LFB			100	98.2		85	115			
LFB			100	93.4		85	115			
LFB			100	99.6		85	115			
LFB			100	94.9		85	115			
LFB			100	99.2		85	115			
LFB			100	101.0		85	115			
LFB			100	103.0		85	115			
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								

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: Thursday, July 6, 2023 9:24:51 AM



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

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 (%)
MS/MSD	18297002		500	101.2	102.0	85	115	0.5	20
MS/MSD	18218003		100	91.7	91.4	85	115	1.0	20
MS/MSD	18230005		500	84.3	82.9	85	115	1.1	20
MS/MSD	18304008		500	92.4	93.3	85	115	0.5	20
MS/MSD	18304018		500	84.3	80.1	85	115	1.8	20
MS/MSD	18348001		500	74.9	73.1	85	115	1.0	20
MS/MSD	18375005		1000	98.5	110.6	85	115	10.2	20
MS/MSD	18520006		100	84.2	82.8	85	115	0.3	20
MS/MSD	18633001		100	96.6	97.7	85	115	0.8	20
MS/MSD	18688001		1000	88.7	84.5	85	115	0.0	20
MS/MSD	18822004		1000	81.0	85.0	85	115	1.1	20
MS/MSD	18835001		500	90.1	91.5	85	115	1.1	20
MS/MSD	19015002		1000	89.8	70.7	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		
LFB			30	96.2		90	110		
LFB			30	96.1		90	110		
LFB			30	96.1		90	110		
LFB			30	95.4		90	110		
LFB			30	96.6		90	110		
LFB			30	96.4		90	110		
LFB			30	96.2		90	110		
LFB			30	95.8		90	110		
LFB			30	95.8		90	110		
LFB			30	90.0		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							

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: Thursday, July 6, 2023 9:24:51 AM



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

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							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	15375001		30	88.6	88.5	90	120	0.0	20
MS/MSD	15526007		30	94.4	94.4	90	120	0.0	20
MS/MSD	18687006		30	90.5	90.2	90	120	0.3	20
MS/MSD	15688001		30	106.4	107.1	90	120	0.5	20
MS/MSD	18961007		30	112.9	113.0	90	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 (%)
UFB-DE			0.4	101.0		85	115		
UFB-DE			0.4	106.0		85	115		
MB		+0.3							
MB		+0.1							
MS/MSD	15822001		0.4	104.0	104.0	70	130	0.1	20
MS/MSD	15826007		0.4	97.5	98.4	70	130	0.2	20
MS/MSD	18961005		0.4	101.0	101.0	70	130	0.0	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 (%)
UFB-MI			100	107.0		85	115		
UFB-MI			100	110.0		85	115		
MB		<1							
MB		+0.1							
DUP	15822001							0.6	20
DUP	15826001							0.4	20
DUP	18961005							0.7	20

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: Thursday, July 6, 2023 9:24:51 AM



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

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/PDS0	17146001		100	103.0	105.0	75	125	1.4	20
PDS/PDS0	18527001		100	98.1	99.9	75	125	1.2	20
PDS/PDS0	18529001		100	100.0	100.0	75	125	0.3	20
PDS/PDS0	18634002		100	101.0	102.0	75	125	0.6	20
PDS/PDS0	18688001		500	104.0	103.0	75	125	0.9	20
PDS/PDS0	18821001		100	98.7	97.6	75	125	0.7	20
PDS/PDS0	18835001		100	101.0	99.2	75	125	1.0	20
PDS/PDS0	19099001		100	99.8	99.1	75	125	0.1	20
PDS/PDS0	19099005		100	102.0	101.0	75	125	0.8	20
PDS/PDS0	19111002		100	98.5	98.5	75	125	0.0	20
PDS/PDS0	19111012		100	103.0	103.0	75	125	0.4	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			3.39	105.0		93.8	111		
CRM-F			1.99	100.0		83.8	111		
UFB-F			0.5	100.0		90	110		
UFB-F			0.5	100.0		90	110		
UFB-F			0.5	98.0		90	110		
UFB-F			0.5	106.0		90	110		
UFB-F			0.5	102.0		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	18821001		0.5	106.0	108.0	80	120	1.0	20
MS/MSD-F	18827001		0.5	104.0	104.0	80	120	0.0	20
MS/MSD-F	18861006		0.5	112.0	108.0	80	120	1.8	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		

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: Thursday, July 6, 2023 9:24:51 AM



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

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 (%)
MB		<10							
DUP	188011008							0.4	20

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: Thursday, July 6, 2023 9:24:51 AM



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 Record
WO: 18961



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

Work Order # Lab Use Only		Account #:		Phone #:	
Account #:		Phone #:		745-7238 557-5488	
Contact:		Email:		akurtson@bepc.com mohle@bepc.com	
Name of Sampler:		For e-mail report check box		<input checked="" type="checkbox"/>	
Quote Number		Date Submitted:		6-21-23	
Project Name/Number:		Purchase Order #:		675266-04	
LOS Landfill SPM3					

Lab Use Only	Lab Number	Sample ID	Sample Matrix	Filtered Y or N		Bottle Type										Analysis Required		
				Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4		40 ml Vials H2SO4	Other:
	001	MW 2016-3	GW	6-20-23	0910													B, Ca, Cl, F SO4 + TDS
	002	MW 2016-2		6-19-23	1145													
	003	MW 2016-6		6-20-23	0940													
	004	MW 2016-8		6-19-23	1400													
	005	MW 2016-9		6-19-23	1038													
	006	MW 2016-10		6-20-23	0836													
	007	MW 2016-11		6-19-23	1058													
	008	Dup.		6-19-23	1400													

Comments:

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Time:	Temp:
1. Millennium Express	6-21-23			C. Gans	21 Jun 23	1925	2.1C
2.							TM920
3.							

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

N1157-0 0118

Form # 80-90003-1

See above for page number

Effective Date: 15 Jan 2018

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: Thursday, July 6, 2023 9:24:51 AM



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
Workorder: LOS-SP-143 Landfill CCR Wells **PO:** 790708-04
(28929)

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.

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.



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

Workorder Summary

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: Monday, October 23, 2023 10:22:11 AM

Page 2 of 18



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 28929001 **Date Collected:** 09/20/2023 08:40 **Matrix:** Groundwater
Sample ID: MW-2016-3 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	57.4	mg/L	5	1	09/28/2023 14:50	09/28/2023 14:50	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.24	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:23	MDE	
Calcium	5.05	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:32	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	35.0	mg/L	2.0	1	09/26/2023 10:12	09/26/2023 10:12	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.71	mg/L	0.1	1	09/22/2023 19:17	09/22/2023 19:17	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1440	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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.

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929002 **Date Collected:** 09/20/2023 07:50 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	37.0	mg/L	5	1	09/28/2023 14:51	09/28/2023 14:51	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	09/27/2023 13:46	09/28/2023 14:07	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.31	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:25	MDE	
Calcium	17.4	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:34	MDE	
Lithium	<0.02	mg/L	0.02	1	09/21/2023 17:15	09/28/2023 09:57	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Arsenic	<0.002	mg/L	0.002	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Barium	0.0603	mg/L	0.002	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Chromium	<0.002	mg/L	0.002	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Cobalt	<0.002	mg/L	0.002	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Lead	<0.0005	mg/L	0.0005	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Molybdenum	0.0456	mg/L	0.002	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Selenium	<0.005	mg/L	0.005	5	09/21/2023 17:15	10/02/2023 17:08	MDE	
Thallium	<0.0005	mg/L	0.0005	5	09/21/2023 17:15	10/02/2023 17:08	MDE	

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: Monday, October 23, 2023 10:22:11 AM

**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.MVT L.com

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

Lab ID: 28929002 **Date Collected:** 09/20/2023 07:50 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	60.8	mg/L	2.0	1	09/26/2023 10:18	09/26/2023 10:18	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.58	mg/L	0.1	1	09/22/2023 19:23	09/22/2023 19:23	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1490	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. 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: Monday, October 23, 2023 10:22:11 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929003 **Date Collected:** 09/20/2023 10:00 **Matrix:** Groundwater
Sample ID: MW-2016-6 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	688	mg/L	25	5	09/28/2023 14:52	09/28/2023 14:52	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.24	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:26	MDE	
Calcium	7.83	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:35	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	9.5	mg/L	2.0	1	09/26/2023 10:19	09/26/2023 10:19	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.48	mg/L	0.1	1	09/22/2023 19:29	09/22/2023 19:29	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	2040	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929004 **Date Collected:** 09/19/2023 11:55 **Matrix:** Groundwater
Sample ID: MW-2016-9 **Date Received:** 09/20/2023 16:00 **Collector:** Client

Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	196	mg/L	25	5	09/28/2023 14:40	09/28/2023 14:40	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.25	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:27	MDE	
Calcium	6.67	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:36	MDE	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	19.7	mg/L	2.0	1	09/26/2023 10:20	09/26/2023 10:20	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.58	mg/L	0.1	1	09/22/2023 19:35	09/22/2023 19:35	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1660	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 28929005 **Date Collected:** 09/19/2023 12:11 **Matrix:** Groundwater
Sample ID: MW-2016-11 **Date Received:** 09/20/2023 16:00 **Collector:** Client

Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	237	mg/L	25	5	09/28/2023 14:41	09/28/2023 14:41	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.28	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:28	MDE	
Calcium	6.82	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:37	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	22.1	mg/L	2.0	1	09/26/2023 10:21	09/26/2023 10:21	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.59	mg/L	0.1	1	09/22/2023 19:41	09/22/2023 19:41	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1610	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 28929006 **Date Collected:** 09/19/2023 12:38 **Matrix:** Groundwater
Sample ID: MW-2016-2 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	279	mg/L	25	5	09/28/2023 14:42	09/28/2023 14:42	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.26	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:28	MDE	
Calcium	8.94	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:38	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	15.4	mg/L	2.0	1	09/26/2023 10:28	09/26/2023 10:28	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.54	mg/L	0.1	1	09/22/2023 19:47	09/22/2023 19:47	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1730	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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.

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929007 **Date Collected:** 09/19/2023 13:55 **Matrix:** Groundwater
Sample ID: MW-2016-10 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	362	mg/L	25	5	09/28/2023 14:44	09/28/2023 14:44	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:31	MDE	
Calcium	5.77	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:39	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	15.7	mg/L	2.0	1	09/26/2023 10:29	09/26/2023 10:29	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.59	mg/L	0.1	1	09/25/2023 21:15	09/25/2023 21:15	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1660	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929008 **Date Collected:** 09/19/2023 13:55 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	340	mg/L	25	5	09/28/2023 14:45	09/28/2023 14:45	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:31	MDE	
Calcium	5.72	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:40	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	15.6	mg/L	2.0	1	09/26/2023 10:31	09/26/2023 10:31	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.59	mg/L	0.1	1	09/25/2023 21:21	09/25/2023 21:21	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1680	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28929009 **Date Collected:** 09/20/2023 11:35 **Matrix:** Groundwater
Sample ID: MW-2016-8 **Date Received:** 09/20/2023 16:00 **Collector:** Client
Temp @ Receipt (C): 4.0 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	742	mg/L	25	5	09/28/2023 14:58	09/28/2023 14:58	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.24	mg/L	0.1	1	09/21/2023 17:15	09/26/2023 10:34	MDE	
Calcium	13.1	mg/L	1	1	09/21/2023 17:15	09/25/2023 14:43	MDE	

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.2	mg/L	2.0	1	09/26/2023 10:32	09/26/2023 10:32	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.36	mg/L	0.1	1	09/25/2023 21:27	09/25/2023 21:27	CC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	2290	mg/L	10	1	09/22/2023 09:43	09/22/2023 09:43	CMG	

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: Monday, October 23, 2023 10:22:11 AM



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

QC Results Summary										WO #:	28929
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	108.0		85	115				
LFB			100	105.0		85	115				
LFB			100	108.0		85	115				
LFB			100	107.0		85	115				
LFB			100	96.0		85	115				
LFB			100	108.4		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MS/MSD	28782003		500	82.7	82.4	85	115	0.0	20		
MS/MSD	28782013		1000	108.8	108.5	85	115	0.0	20		
MS/MSD	28790001		500	99.4	100.5	85	115	0.7	20		
MS/MSD	28929008		500	107.3	107.8	85	115	0.2	20		
MS/MSD	28933009		100	114.5	116.0	85	115	1.7	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	93.8		90	110				
LFB			30	93.6		90	110				
LFB			30	94.3		90	110				
LFB			30	94.3		90	110				
LFB			30	94.4		90	110				
LFB			30	94.2		90	110				
LFB			30	94.2		90	110				
LFB			30	94.2		90	110				
LFB			30	94.3		90	110				
LFB			30	93.4		90	110				

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: Monday, October 23, 2023 10:22:11 AM



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

Chloride									
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							
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	28773001		30	122.8	123.8	80	120	0.0	20
MS/MSD	28785003		30	99.7	103.0	80	120	1.5	20
MS/MSD	28940001		30	120.3	122.3	80	120	0.7	20
MS/MSD	29018004		30	87.7	87.3	80	120	0.3	20
MS/MSD	29032001		30	88.8	88.4	80	120	0.3	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSO	28580001		7	96.0	95.2	75	125	0.3	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSO	28566001		100	105.0	101.0	75	125	1.4	20
PDS/PDSO	28583001		500	113.0	111.0	75	125	0.5	20
PDS/PDSO	28762008		500	109.0	110.0	75	125	0.1	20
PDS/PDSO	28785003		100	103.0	104.0	75	125	0.7	20
PDS/PDSO	28929002		100	112.0	112.0	75	125	0.6	20

Antimony									
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		
MB		<0.001							

Arsenic									
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		85	115		

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: Monday, October 23, 2023 10:22:11 AM



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

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 (%)
MB		<0.005							

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	97.3		85	115		
MB		<0.002							

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	95.1		85	115		
MB		<0.0005							

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	109.0		85	115		
MB		<0.0005							

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	101.0		85	115		
MB		<0.002							

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	102.0		85	115		
MB		<0.002							

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	96.4		85	115		
MB		<0.0005							

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	104.0		85	115		
MB		<0.002							

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	95.3		85	115		
MB		<0.01							

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: Monday, October 23, 2023 10:22:11 AM



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

Thallium									
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		85	115		
MB		<0.0005							

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB/GE			0.4	103.0		85	115		
LFB/GE			0.4	100.0		85	115		
MB		<0.1							
MB		<0.1							

MS/MSD	28929001		0.4	90.0	89.0	75	125	1.1	20
MS/MSD	28929009		0.4	89.8	90.1	75	125	0.2	20

Calcium									
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	111.0		85	115		
LFB/MI			100	111.0		85	115		
LFB/MI			100	112.0		85	115		
MB		<1							
MB		<1							
MB		<1							
DUP	28782001							0.2	20
DUP	28782011							0.8	20
DUP	28785006							0.9	20

Mercury									
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	102.0		85	115		
LFB			0.002	106.0		85	115		
LFB		<0.0002							
LFB		<0.0002							
MS/MSD	27979001		0.002	100.0	102.0	70	130	0.0	20
MS/MSD	28960004		0.002	111.0	109.0	70	130	0.0	20
MS/MSD	29146001		0.002	108.0	108.0	70	130	0.0	20
MS/MSD	29291009		0.002	97.0	98.8	70	130	0.1	20

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: Monday, October 23, 2023 10:22:11 AM



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

Fluoride									
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			3.39	105.0		83.8	111		
CRM-F			3.39	106.0		83.8	111		
LFB-F			0.5	106.0		90	110		
LFA-F			0.5	110.0		90	110		
LFB-F			0.5	108.0		90	110		
LFB-F			0.5	108.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD-F	28929005		0.5	100.0	100.0	80	120	0.0	20
MS/MSD-F	28929002		0.5	106.0	108.0	80	120	0.0	20
MS/MSD-F	28930007		0.5	82.0	84.0	80	120	1.1	20

Total Dissolved Solids									
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	97.0		90.35	110.33		
MB		<0.1							
DUP	28580001							1.8	20

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: Monday, October 23, 2023 10:22:11 AM



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: 28929



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@becpc.com aknutson@becpc.com jason.lach@aecom.com
		Name of Sampler mls	Quote Number
		Date Submitted 9/21/2023	Purchase Order # 790708-04
		Project Name/Number LOS-SP-143 LANDFILL CCR Wells	

Lab Use Only	Lab	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
	001	MW-2016-3	GW	9/20/2023	840	2	N	TDS, B, Ca, Cl, F, SO ₄
	002	MW-2016-13	GW	9/20/2023	750	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
	003	MW-2016-6	GW	9/20/2023	1000	2	N	TDS, B, Ca, Cl, F, SO ₄
	004	MW-2016-9	GW	9/19/2023	1155	2	N	TDS, B, Ca, Cl, F, SO ₄
	005	MW-2016-11	GW	9/19/2023	1211	2	N	TDS, B, Ca, Cl, F, SO ₄
	006	MW-2016-2	GW	9/19/2023	1238	2	N	TDS, B, Ca, Cl, F, SO ₄
	007	MW-2016-10	GW	9/19/2023	1355	2	N	TDS, B, Ca, Cl, F, SO ₄
	008	Dup	GW	9/19/2023	1355	2	N	TDS, B, Ca, Cl, F, SO ₄
	009	MW-2016-8	GW	9/20/2023	1135	2	N	TDS, B, Ca, Cl, F, SO ₄

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
			<i>[Signature]</i>	2/5/2023	1600	AOC	Y/N	Tmp
							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

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: Monday, October 23, 2023 10:22:11 AM



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

Workorder Summary

Workorder Comments

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

Unreported samples to update sample identifications on 14750003 and 14750004. CC 8Jun23

Analysis Results Comments

14750004 (MW-2016-13)

Matrix spike and/or matrix spike duplicate recovery was high; the associated laboratory fortified blank recovery was acceptable.(Chloride)

14750004 (MW-2016-13)

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

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: Thursday, June 8, 2023 10:37:44 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14750001 **Date Collected:** 05/03/2023 13:45 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	269	mg/L	5	1	05/10/2023 11:49	05/10/2023 11:49	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	05/09/2023 11:11	05/09/2023 11:40	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.02	mg/L	0.1	1	05/05/2023 17:01	05/11/2023 09:23	MDE	
Calcium	86.2	mg/L	1	1	05/05/2023 17:01	05/09/2023 11:40	MDE	
Lithium	<0.02	mg/L	0.02	1	05/05/2023 17:01	05/11/2023 13:44	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Arsenic	0.0025	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Barium	0.0806	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Chromium	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Cobalt	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Lead	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Molybdenum	0.0082	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Selenium	<0.005	mg/L	0.005	5	05/05/2023 17:01	05/12/2023 17:14	MDE	
Thallium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:14	MDE	

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: Thursday, June 8, 2023 10:37:44 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14750001 **Date Collected:** 05/03/2023 13:45 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.0	mg/L	2.0	1	05/09/2023 13:56	05/09/2023 13:56	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.76	mg/L	0.1	1	05/09/2023 14:41	05/09/2023 14:41	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	640	mg/L	10	1	05/09/2023 16:10	05/09/2023 16:10	RAA	

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: Thursday, June 8, 2023 10:37:44 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 14750002 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	189	mg/L	5	1	05/10/2023 11:50	05/10/2023 11:50	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	05/09/2023 11:11	05/09/2023 11:40	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.29	mg/L	0.1	1	05/05/2023 17:01	05/11/2023 09:25	MDE	
Calcium	65.4	mg/L	1	1	05/05/2023 17:01	05/09/2023 11:40	MDE	
Lithium	0.0321	mg/L	0.02	1	05/05/2023 17:01	05/11/2023 13:46	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Arsenic	0.0084	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Barium	0.0485	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Chromium	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Cobalt	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Lead	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Molybdenum	0.0095	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Selenium	<0.005	mg/L	0.005	5	05/05/2023 17:01	05/12/2023 16:55	MDE	
Thallium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:55	MDE	

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: Thursday, June 8, 2023 10:37:44 AM

**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.MVT L.com

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

Lab ID: 14750002 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: SM4500-CI-E 2011**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.2	mg/L	2.0	1	05/09/2023 13:57	05/09/2023 13:57	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.75	mg/L	0.1	1	05/09/2023 15:01	05/09/2023 15:01	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	577	mg/L	10	1	05/09/2023 16:10	05/09/2023 16:10	RAA	

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. 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: Thursday, June 8, 2023 10:37:44 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 14750003 **Date Collected:** 05/04/2023 08:37 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	53.9	mg/L	5	1	05/10/2023 11:51	05/10/2023 11:51	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	05/09/2023 11:11	05/09/2023 11:40	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	05/05/2023 17:01	05/11/2023 09:26	MDE	
Calcium	36.7	mg/L	1	1	05/05/2023 17:01	05/09/2023 11:41	MDE	
Lithium	<0.02	mg/L	0.02	1	05/05/2023 17:01	05/11/2023 13:46	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Arsenic	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Barium	0.0628	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Chromium	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Cobalt	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Lead	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Molybdenum	0.0150	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Selenium	<0.005	mg/L	0.005	5	05/05/2023 17:01	05/12/2023 16:59	MDE	
Thallium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 16:59	MDE	

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: Thursday, June 8, 2023 10:37:44 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14750003 **Date Collected:** 05/04/2023 08:37 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	37.5	mg/L	2.0	1	05/09/2023 13:58	05/09/2023 13:58	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.55	mg/L	0.1	1	05/09/2023 15:07	05/09/2023 15:07	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1240	mg/L	10	1	05/09/2023 16:10	05/09/2023 16:10	RAA	

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: Thursday, June 8, 2023 10:37:44 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 14750004 **Date Collected:** 05/04/2023 09:18 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	58.1	mg/L	5	1	05/10/2023 11:52	05/10/2023 11:52	AMC	*

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	05/09/2023 11:11	05/09/2023 11:40	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.34	mg/L	0.1	1	05/05/2023 17:01	05/11/2023 09:26	MDE	
Calcium	29.7	mg/L	1	1	05/05/2023 17:01	05/09/2023 11:42	MDE	
Lithium	<0.02	mg/L	0.02	1	05/05/2023 17:01	05/11/2023 13:47	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Arsenic	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Barium	0.0928	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Chromium	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Cobalt	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Lead	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Molybdenum	0.0651	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Selenium	<0.005	mg/L	0.005	5	05/05/2023 17:01	05/12/2023 17:04	MDE	
Thallium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:04	MDE	

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: Thursday, June 8, 2023 10:37:44 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14750004 **Date Collected:** 05/04/2023 09:18 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	56.0	mg/L	2.0	1	05/09/2023 13:59	05/09/2023 13:59	AMC	*

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.48	mg/L	0.1	1	05/09/2023 15:15	05/09/2023 15:15	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1460	mg/L	10	1	05/09/2023 16:10	05/09/2023 16:10	RAA	

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: Thursday, June 8, 2023 10:37:44 AM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 14750005 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	184	mg/L	5	1	05/10/2023 12:03	05/10/2023 12:03	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	05/09/2023 11:11	05/09/2023 11:40	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.23	mg/L	0.1	1	05/05/2023 17:01	05/11/2023 09:27	MDE	
Calcium	63.2	mg/L	1	1	05/05/2023 17:01	05/09/2023 11:43	MDE	
Lithium	0.0308	mg/L	0.02	1	05/05/2023 17:01	05/11/2023 13:48	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Arsenic	0.0083	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Barium	0.0445	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Chromium	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Cobalt	<0.002	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Lead	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Molybdenum	0.0093	mg/L	0.002	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Selenium	<0.005	mg/L	0.005	5	05/05/2023 17:01	05/12/2023 17:09	MDE	
Thallium	<0.0005	mg/L	0.0005	5	05/05/2023 17:01	05/12/2023 17:09	MDE	

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: Thursday, June 8, 2023 10:37:44 AM

**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.MVT L.com

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

Lab ID: 14750005 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8**Method: SM4500-CI-E 2011**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.1	mg/L	2.0	1	05/09/2023 14:00	05/09/2023 14:00	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.75	mg/L	0.1	1	05/09/2023 15:21	05/09/2023 15:21	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	581	mg/L	10	1	05/09/2023 16:10	05/09/2023 16:10	RAA	

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. 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: Thursday, June 8, 2023 10:37:44 AM



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

QC Results Summary										WO #:	14750
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 (%)		
UFB			100	93.4		85	115				
UFB			100	103.0		85	115				
UFB			100	92.8		85	115				
UFB			100	85.3		85	115				
UFB			100	101.0		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MSD	14335001		500	84.5	87.9	85	115	2.0	20		
MSD	14570002		100	74.9	73.0	85	115	0.8	20		
MSD	14750004		100	77.3	77.1	85	115	0.0	20		
MSD	14750005		100	88.8	92.9	85	115	1.5	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 (%)		
UFB			30	93.0		90	110				
UFB			30	93.2		90	110				
UFB			30	93.3		90	110				
UFB			30	93.3		90	110				
UFB			30	93.9		90	110				
UFB			30	94.7		90	110				
UFB			30	94.5		90	110				
MB		<1.00									
MB		<1.00									
MB		<1.00									
MB		<1.00									
MB		<1.00									
MB		<1.00									
MB		<1.00									

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: Thursday, June 8, 2023 10:37:44 AM



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

Chloride									
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							
MSD	14732003		30	89.5	90.0	80	120	0.3	20
MSD	14485001		150	132.1	133.1	80	120	0.3	20
MSD	14750004		30	131.0	130.2	80	120	0.2	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
POSD	14750005		100	97.6	98.5	75	125	0.6	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	104.0		85	115		
MB		<0.001							
MSD	14644003		0.4	107.0	104.0	70	130	2.8	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	96.2		85	115		
MB		<0.003							
MSD	14644003		0.4	104.0	103.0	70	130	1.0	20

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	103.0		85	115		
MB		<0.002							
MSD	14644003		0.4	103.0	102.0	70	130	1.0	20

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	98.2		85	115		
MB		<0.0005							
MSD	14644003		0.4	108.0	106.0	70	130	1.9	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	110.0		85	115		
MB		<0.0003							
MSD	14644003		0.4	110.0	110.0	70	130	0.0	20

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: Thursday, June 8, 2023 10:37:44 AM



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

Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
I/FB-MS			0.1	110.0		85	115		
MB		<0.002							
MSD	14544003		0.4	112.0	112.0	70	130	0.0	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 (%)
I/FB-MS			0.1	110.0		85	115		
MB		<0.002							
MSD	14544003		0.4	111.0	110.0	70	130	0.9	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 (%)
I/FB-MS			0.1	99.4		85	115		
MB		<0.0005							
MSD	14544003		0.4	106.0	105.0	70	130	1.0	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 (%)
I/FB-MS			0.1	112.0		85	115		
MB		<0.002							
MSD	14544003		0.4	114.0	112.0	70	130	1.6	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 (%)
I/FB-MS			0.1	97.8		85	115		
MB		<0.01							
MSD	14544003		0.4	106.0	103.0	70	130	2.0	20

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
I/FB-MS			0.1	98.8		85	115		
MB		<0.0005							
MSD	14544003		0.4	105.0	105.0	70	130	1.0	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPED	14109001		0.1	92.9	93.2	75	125	0.3	20
SPX	14750001		0.1	97.1		75	125		

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: Thursday, June 8, 2023 10:37:44 AM



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

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPKD	14106001		0.1	90.1	88.2	75	125	1.1	20
SPK	14750001		0.1	95.8		75	125		

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPKD	14106001		0.1	89.8	89.5	75	125	0.3	20
SPK	14750001		0.1	95.4		75	125		

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	14106001		0.1	94.2		75	125		
SPKD	14106001		0.1	92.7	88.4	75	125	4.4	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPKD	14106001		0.1	97.6	92.3	75	125	0.4	20

Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPKD	14106001		0.1	95.1	97.7	75	125	2.7	20
SPK	14750001		0.1	103.0		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 (%)
SPKD	14106001		0.1	96.0	96.8	75	125	0.8	20
SPK	14750001		0.1	103.0		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 (%)
SPKD	14106001		0.1	89.4	88.9	75	125	0.5	20
SPK	14750001		0.1	95.0		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 (%)
SPKD	14106001		0.1	94.7	93.6	75	125	1.2	20
SPK	14750001		0.1	87.2		75	125		

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPKD	14106001		0.1	84.2	85.9	75	125	2.0	20
SPK	14750001		0.1	90.7		75	125		

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: Thursday, June 8, 2023 10:37:44 AM



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

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK0	14106001		0.1	83.9	81.5	75	125	0.1	20
SPK	14750001		0.1	89.8		75	125		
Units: mg/L									
Blank Result: <0.1									
MSD									
MSD	14750001		0.4	88.3	105.0	75	125	1.9	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-DE			0.4	99.3		85	115		
Units: mg/L									
Blank Result: <0.1									
MSD									
MSD	14750001		0.4	88.3	105.0	75	125	1.9	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MI			100	109.0		85	115		
Units: mg/L									
Blank Result: <1									
MSD									
MSD	14750001		100	109.0	105.0	75	125	3.9	20

Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-DE			0.4	103.0		85	115		
Units: mg/L									
Blank Result: <0.04									
MSD									
MSD	14750001		0.4	100.0	100.0	75	125	0.1	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-M5			0.1	92.9		80	120		
Units: mg/L									
Blank Result: <0.001									
MSD									
MSD	14750001		0.4	85.9	99.3	75	125	8.3	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-M5			0.1	92.1		80	120		
Units: mg/L									
Blank Result: <0.002									
MSD									
MSD	14750001		0.4	94.6	98.8	75	125	3.9	20

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-M5			0.1	95.5		80	120		
Units: mg/L									
Blank Result: <0.002									
MSD									
MSD	14750001		0.1	99.7	98.9	75	125	0.9	20

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: Thursday, June 8, 2023 10:37:44 AM



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

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 (%)
I/FB-MS			0.1	101.0		80	120		
MB		<0.0005							
MSD	14750001		0.4	100.0	102.0	75	125	2.0	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 (%)
I/FB-MS			0.1	105.0		80	120		
MB		<0.001							
MSD	14750001		0.4	104.0	102.0	75	125	1.7	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 (%)
I/FB-MS			0.1	105.0		80	120		
MB		<0.001							
MSD	14750001		0.4	102.0	108.0	75	125	0.0	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 (%)
I/FB-MS			0.1	96.8		80	120		
MB		<0.0005							
MSD	14750001		0.4	101.0	101.0	75	125	0.0	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 (%)
I/FB-MS			0.1	98.5		80	120		
MB		<0.002							
MSD	14750001		0.8	96.2	97.7	75	125	1.5	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 (%)
I/FB-MS			0.1	91.9		80	120		
U/B TC			0.1	96.6		80	120		
MB		<0.005							
MSD	14750001		0.4	96.7	98.0	75	125	1.3	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 (%)
I/FB-MS			0.1	92.0		80	120		
MB		<0.0005							

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: Thursday, June 8, 2023 10:37:44 AM



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

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MSD	14750001		0.4	96.4	96.4	75	125	0.3	20

Mercury									
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		

LBB		<0.0002							
-----	--	---------	--	--	--	--	--	--	--

MSD	13693001		0.002	107.0	100.0	70	130	4.9	20
-----	----------	--	-------	-------	-------	----	-----	-----	----

XSD	14644002		0.002	65.6	67.8	70	130	3.8	20
-----	----------	--	-------	------	------	----	-----	-----	----

MSD	14750005		0.002	99.1	89.8	70	130	10.5	20
-----	----------	--	-------	------	------	----	-----	------	----

Fluoride									
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			3.19	98.8		83.8	111		

LFB-F			0.5	104.0		90	110		
-------	--	--	-----	-------	--	----	-----	--	--

LBB-F			0.5	104.0		90	110		
-------	--	--	-----	-------	--	----	-----	--	--

MB-F		<0.1							
------	--	------	--	--	--	--	--	--	--

MB-F		<0.1							
------	--	------	--	--	--	--	--	--	--

MSD-F	14750001		0.5	108.0	114.0	80	120	1.8	20
-------	----------	--	-----	-------	-------	----	-----	-----	----

Total Dissolved Solids									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM			746	90.0		90.35	110.88		

MB		<10							
----	--	-----	--	--	--	--	--	--	--

DUP	14750005							1.2	20
-----	----------	--	--	--	--	--	--	-----	----

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: Thursday, June 8, 2023 10:37:44 AM



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

Basin Electric Power Cooperative Custody Record
 WO: 14750
 Page 1 of 1

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

Account #: _____ Phone #: 701-400-7751
 Contact: Casey Mutzenberger Email: a.knutsen@bepc.com
cmutzenberger@bepc.com
 Name of Sampler: mb For e-mail report check box
 Quote Number _____ Date Submitted: 5-5-23
 Project Name/Number: New LOS CCR Wells Purchase Order #: 675266-04

Sample Information			Filtered Y or N		Bottle Type										Analysis		
Lab Use Only	Lab Number	Sample ID	Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml HNO3	250 ml H2SO4	1000 ml NaOH	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4	40 ml Vials H2SO4	Other:	Analysis Required
	<u>001</u>	<u>MW-2017-10</u>	<u>5-3-23</u>	<u>1345</u>			X	X									<u>B, Ca, Cl, F, SO4</u>
	<u>002</u>	<u>MW-2017-11</u>	<u>5-3-23</u>	<u>1140</u>			X	X									<u>Sb, As, Ba, Be, Cd</u>
	<u>003</u>	<u>MW-2017-12</u>	<u>5-4-23</u>	<u>0837</u>			X	X									<u>Cr, Cu, Pb, Li, Hg</u>
	<u>004</u>	<u>MW-2017-13</u>	<u>5-4-23</u>	<u>0918</u>			X	X									<u>Mn, Se, TL</u>
	<u>005</u>	<u>Dup.</u>	<u>5-3-23</u>	<u>1140</u>			X	X									<u>Radium 226 + 228</u>
																	<u>TDS</u>

Comments:

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Time:	Temp:
<u>1. Millennium Express</u>	<u>5-5-23</u>			<u>C. Amick</u>	<u>5 May 23</u>	<u>1605</u>	<u>4.8°C</u>
<u>2.</u>							<u>TU920</u>
<u>3.</u>							

Please submit the top two copies with your samples. We will return the completed original with your results. N1157-0 0118

Form # 80-90003-1
See above for page number
Effective Date: 15 Jan 2018

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: Thursday, June 8, 2023 10:37:44 AM



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.MVTTL.com



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (20725) **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

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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.



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.MVTTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

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

Analysis Results Comments

20725002 (Dup)

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

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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, August 2, 2023 12:09:17 PM

Page 2 of 7

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 20725001 **Date Collected:** 07/12/2023 09:30 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 07/12/2023 15:00 **Collector:** Client
Temp @ Receipt (C): 4.7 **Received on Ice:** Yes

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	30.4	mg/L	5	1	07/19/2023 11:23	07/19/2023 11:23	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/18/2023 09:25	07/18/2023 11:44	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.24	mg/L	0.1	1	07/12/2023 17:34	07/19/2023 09:35	SLZ	
Calcium	20.5	mg/L	1	1	07/12/2023 17:34	07/14/2023 12:32	SLZ	
Lithium	<0.02	mg/L	0.02	1	07/12/2023 17:34	07/26/2023 14:14	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Arsenic	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Barium	0.0481	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/19/2023 11:44	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Chromium	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Cobalt	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Lead	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Molybdenum	0.0091	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Selenium	<0.005	mg/L	0.005	5	07/12/2023 17:34	07/13/2023 18:14	MDE	
Thallium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:14	MDE	

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, August 2, 2023 12:09:17 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTTL.com

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

Lab ID: 20725001 **Date Collected:** 07/12/2023 09:30 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 07/12/2023 15:00 **Collector:** Client
Temp @ Receipt (C): 4.7 **Received on Ice:** Yes

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	39.1	mg/L	2.0	1	07/18/2023 10:25	07/18/2023 10:25	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.61	mg/L	0.1	1	07/13/2023 11:29	07/13/2023 11:29	RAA	

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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, August 2, 2023 12:09:17 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 20725002 **Date Collected:** 07/12/2023 09:30 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 07/12/2023 15:00 **Collector:** Client
Temp @ Receipt (C): 4.7 **Received on Ice:** Yes

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	29.7	mg/L	5	1	07/19/2023 11:24	07/19/2023 11:24	AMC	*

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/18/2023 09:25	07/18/2023 11:44	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	07/12/2023 17:34	07/19/2023 09:36	SLZ	
Calcium	19.8	mg/L	1	1	07/12/2023 17:34	07/14/2023 12:36	SLZ	
Lithium	<0.02	mg/L	0.02	1	07/12/2023 17:34	07/26/2023 14:16	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Arsenic	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Barium	0.0466	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/19/2023 11:47	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Chromium	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Cobalt	<0.002	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Lead	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Molybdenum	0.0092	mg/L	0.002	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Selenium	<0.005	mg/L	0.005	5	07/12/2023 17:34	07/13/2023 18:19	MDE	
Thallium	<0.0005	mg/L	0.0005	5	07/12/2023 17:34	07/13/2023 18:19	MDE	

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, August 2, 2023 12:09:17 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 20725002 **Date Collected:** 07/12/2023 09:30 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 07/12/2023 15:00 **Collector:** Client

Temp @ Receipt (C): 4.7 **Received on Ice:** Yes

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	39.2	mg/L	2.0	1	07/18/2023 10:26	07/18/2023 10:26	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.62	mg/L	0.1	1	07/13/2023 11:49	07/13/2023 11:49	RAA	

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, August 2, 2023 12:09:17 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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 Coope
WO: 20725


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@bepec.com aknutson@bepec.com
		Name of Sampler Myles Schettler	jerney.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 8-7-12-23
		Project Name/Number LOS CCR Wells	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-2016-12	GW	7/12/2023	930	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228
	002	Dup	GW	7/12/2023	930	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
			<i>[Signature]</i>	8/2/23	1500	4.7°C	Y/N	74920
							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

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, August 2, 2023 12:09:17 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

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

Analysis Results Comments

22208001 (MW-2016-12)

Matrix spike and/or matrix spike duplicate recovery was high; the associated laboratory fortified blank recovery was acceptable.(Chloride)

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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, August 11, 2023 3:01:03 PM

Page 2 of 13

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 22208001 **Date Collected:** 07/26/2023 08:15 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 07/27/2023 15:09 **Collector:** Client

Temp @ Receipt (C): 5.3**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	24.8	mg/L	5	1	08/02/2023 14:43	08/02/2023 14:43	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/31/2023 12:41	08/02/2023 08:31	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.22	mg/L	0.1	1	07/28/2023 17:18	08/04/2023 12:16	SLZ	
Calcium	17.4	mg/L	1	1	07/28/2023 17:18	08/01/2023 10:51	SLZ	
Lithium	<0.02	mg/L	0.02	1	07/28/2023 17:18	08/04/2023 15:07	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Arsenic	<0.002	mg/L	0.002	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Barium	0.0467	mg/L	0.005	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	07/28/2023 17:18	08/08/2023 10:03	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Chromium	<0.002	mg/L	0.002	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Cobalt	<0.002	mg/L	0.002	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Lead	<0.0005	mg/L	0.0005	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Molybdenum	0.0088	mg/L	0.002	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Selenium	<0.005	mg/L	0.005	5	07/28/2023 17:18	08/07/2023 16:49	MDE	
Thallium	<0.0005	mg/L	0.0005	5	07/28/2023 17:18	08/07/2023 16:49	MDE	

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 22208001 **Date Collected:** 07/26/2023 08:15 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 07/27/2023 15:09 **Collector:** Client

Temp @ Receipt (C): 5.3

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	42.6	mg/L	2.0	1	08/01/2023 13:53	08/01/2023 13:53	AMC	*

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.62	mg/L	0.1	1	07/31/2023 14:00	07/31/2023 14:00	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1460	mg/L	10	1	07/28/2023 14:27	07/28/2023 14:27	RAA	

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #: 22208		
Sulfate									
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	89.2		85	115		
LFB			100	85.3		85	115		
LFB			100	94.9		85	115		
LFB			100	100.0		85	115		
LFB			100	101.0		85	115		
LFB			100	102.0		85	115		
UPL			100	108.0		85	115		
LFB			100	92.9		85	115		
LFB			100	92.5		85	115		
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MS/MSD	22177002		500	92.2	92.2	85	115	0.0	20
MS/MSD	22177013		1000	94.4	93.0	80	115	0.6	20
MS/MSD	22178004		500	95.6	95.8	85	115	0.2	20
MS/MSD	22203001		100	84.5	82.5	85	115	0.9	20
MS/MSD	22203012		100	89.4	88.9	85	115	0.0	20
MS/MSD	22377002		100	88.0	89.8	85	115	1.8	20
MS/MSD	22541001		100	82.0	83.6	85	115	1.6	20
MS/MSD	22541003		100	80.8	81.5	85	115	0.7	20
Chloride									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			90	94.0		90	110		

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Chloride									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB			30	95.1		90	110		
IFB			30	90.4		90	110		
IFB			30	93.2		90	110		
IFB			30	94.0		90	110		
IFB			30	95.1		90	110		
IFB			30	95.3		90	110		
IFB			30	97.4		90	110		
IFB			30	97.4		90	110		
IFB			30	94.5		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							
MB		<2.0							
MS/MSD	21916002		30	84.1	84.6	80	120	0.3	20
MS/MSD	22177006		30	88.1	87.8	80	120	0.3	20
MS/MSD	22202003		30	91.5	91.4	80	120	0.0	20
MS/MSD	22208003		30	81.7	83.9	80	120	0.0	20
MS/MSD	22208001		30	131.8	129.4	80	120	0.9	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-OC			0.4	97.0		85	115		
IFB-OC			0.4	98.1		85	115		
MB		<0.1							
MB		<0.1							

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)

MS/MSD	22206001		0.4	90.0	89.5	70	130	0.4	20
MS/MSD	22208001		0.4	87.9	84.1	70	130	4.3	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 (%)

UF&M			100	113.0		85	115		
UF&M			100	113.0		85	115		

MB		<.3							
MB		<.1							

DUP	22151001							3.8	20
DUP	22203010							4.3	20

DUP	22208001							2.8	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 (%)

UF&C			0.4	104.0		85	115		
UF&C			0.4	107.0		85	115		

MB		<.04							
MB		<.04							

MS/MSD	22206001		0.4	99.0	86.6	70	130	1.8	20
MS/MSD	22208001		0.4	103.0	105.0	70	130	2.2	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 (%)

PDS/PDSO	21916003		100	108.0	107.0	75	125	0.6	20
PDS/PDSO	22177002		100	106.0	106.0	75	125	0.4	20

PDS/PDSO	22177018		500	96.0	101.0	75	125	1.0	20
PDS/PDSO	22203007		100	111.0	110.0	75	125	1.0	20

PDS/PDSO	22203009		100	105.0	105.0	75	125	0.7	20
PDS/PDSO	22258001		100	108.0	108.0	75	125	0.2	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 (%)

MS/MSD	22102001		0.4	105.0	105.0	70	130	0.2	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 (%)

MS/MSD	22102001		0.4	105.0	104.0	70	130	1.2	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Barium									
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	22102001		0.4	101.0	100.0	70	130	1.2	20

Beryllium									
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	22102001		0.4	102.0	102.0	70	130	0.5	20

Cadmium									
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	22102001		0.4	104.0	106.0	70	130	2.1	20

Chromium									
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	22102001		0.4	106.0	106.0	70	130	0.2	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 (%)
MS/MSD	22102001		0.4	105.0	105.0	70	130	0.0	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 (%)
MS/MSD	22102001		0.4	99.2	97.3	70	130	2.0	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 (%)
MS/MSD	22102001		0.4	111.0	114.0	70	130	2.8	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 (%)
MS/MSD	22102001		0.4	104.0	98.4	70	130	5.7	20

Thallium									
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	22102001		0.4	92.4	91.4	70	130	1.1	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	109.0		75	125		

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	112.0		75	125		

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	97.6		75	125		

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	113.0		75	125		

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	95.3		75	125		

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	22208001		0.1	103.0		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 (%)
SPK	22208001		0.1	103.0		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 (%)
SPK	22208001		0.1	84.9		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 (%)
SPK	22208001		0.1	109.0		75	125		

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	105.0		75	125		

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	22208001		0.1	88.4		75	125		

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	107.8		80	120		
IFB-MS			0.1	99.5		80	120		
MB		<0.001							
MB		<0.001							
MS/MSD	22208002		0.4	106.0	102.0	75	125	4.1	20
MS/MSD	22208001		0.4	101.0	105.0	75	125	5.6	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	102.0		80	120		
IFB-MS			0.1	102.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	22208002		0.8	109.8	108.0	75	125	3.8	20

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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	22208001		0.4	102.0	106.0	75	125	4.1	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 (%)
UFB-MS			0.1	99.9		80	120		
UFB-MS			0.1	101.0		80	120		

MB		<0.005							
MB		<0.005							

MS/MSD	22203009		0.4	104.0	99.0	75	125	3.0	20
MS/MSD	22208001		0.4	89.8	82.1	75	125	2.4	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 (%)
UFB-MS			0.1	104.0		80	120		
UFB-MS			0.1	96.8		80	120		

MB		<0.0005							
MB		<0.0005							

MS/MSD	22203009		0.4	109.0	105.0	75	125	4.0	20
MS/MSD	22208001		0.4	99.6	102.0	75	125	3.0	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 (%)
UFB-MS			0.1	107.0		80	120		
UFB-MS			0.1	107.0		80	120		

MB		<0.0005							
MB		<0.0005							

MS/MSD	22203009		0.4	101.0	99.4	75	125	1.9	20
MS/MSD	22208001		0.4	99.5	102.0	75	125	1.5	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 (%)
UFB-MS			0.1	109.0		80	120		
UFB-MS			0.1	107.0		80	120		

MB		<0.002							
MB		<0.002							

MS/MSD	22203009		0.4	106.0	104.0	75	125	1.8	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)

MS/MSD	22208001		0.4	100.0	105.0	75	125	4.1	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 (%)

UFB-MS			0.1	111.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

UFB-MS			0.1	109.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

MB		<0.007							
----	--	--------	--	--	--	--	--	--	--

MB		<0.007							
----	--	--------	--	--	--	--	--	--	--

MS/MSD	22209009		0.4	108.0	109.0	75	118	3.1	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	22208001		0.4	102.0	105.0	75	125	1.7	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 (%)

UFB-MS			0.1	91.8		80	120		
--------	--	--	-----	------	--	----	-----	--	--

UFB-MS			0.1	96.7		80	120		
--------	--	--	-----	------	--	----	-----	--	--

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

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

MS/MSD	22209009		0.4	104.0	101.0	75	125	2.8	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	22208001		0.4	85.2	87.5	75	125	2.5	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 (%)

UFB-MS			0.1	107.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

UFB-MS			0.1	109.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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

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

MS/MSD	22209009		0.4	109.0	105.0	75	125	4.4	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	22208001		0.4	102.0	104.0	75	125	2.1	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 (%)

UFB-MS			0.1	98.2		80	120		
--------	--	--	-----	------	--	----	-----	--	--

UFB-MS			0.1	105.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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

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

MS/MSD	22209009		0.4	107.0	109.0	75	125	1.1	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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	22208001		0.4	104.0	108.0	75	125	3.8	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	98.0		80	120		
LFB-MS			0.1	95.0		80	120		
MB		<0.0005							
MB		<0.0005							
MS/MSD	22208009		0.4	97.0	98.2	75	125	3.8	20
MS/MSD	22208001		0.4	89.5	92.2	75	125	3.0	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	114.0		85	115		
LFB		<0.0002							
MS/MSD	22208003		0.002	111.0	112.0	70	130	0.0	20
MS/MSD	22208007		0.002	104.0	106.0	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			3.38	103.0		88.8	111		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	94.0		90	110		
LFB-F			0.5	98.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD-F	22178002		0.5	112.0	116.0	80	120	3.5	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			735	95.0		90.35	110.65		
MB		<10							
DUP	20734011							3.0	20

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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 Coope
WO: 22208



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@bepec.com aknutson@bepec.com
		Name of Sampler Myles Schettler	jerney.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted
		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-2016-12	GW	7/26/2023	815	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.			<i>[Signature]</i>	7/26/23	1509	53C	Y/N	7m 820
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

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, August 11, 2023 3:01:03 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

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: Thursday, October 19, 2023 11:13:05 AM

Page 2 of 14

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 28209001 **Date Collected:** 09/14/2023 08:00 **Matrix:** Groundwater
Sample ID: LOS Landfill MW **Date Received:** 09/14/2023 16:12 **Collector:** Client
 2016-12

Temp @ Receipt (C): 5.4 **Received on Ice:** Yes

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

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	20.0	mg/L	5	1	09/20/2023 10:53	09/20/2023 10:53	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	09/19/2023 10:05	09/20/2023 15:42	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.25	mg/L	0.1	1	09/14/2023 16:51	09/26/2023 10:12	MDE	
Calcium	15.1	mg/L	1	1	09/14/2023 16:51	09/21/2023 13:37	SLZ	
Lithium	0.0223	mg/L	0.02	1	09/14/2023 16:51	09/28/2023 09:55	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Arsenic	<0.002	mg/L	0.002	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Barium	0.0537	mg/L	0.002	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	09/14/2023 16:51	09/20/2023 11:19	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Chromium	0.0025	mg/L	0.002	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Cobalt	<0.002	mg/L	0.002	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Lead	0.0010	mg/L	0.0005	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Molybdenum	0.0087	mg/L	0.002	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Selenium	<0.005	mg/L	0.005	5	09/14/2023 16:51	09/19/2023 14:53	MDE	
Thallium	<0.0005	mg/L	0.0005	5	09/14/2023 16:51	09/20/2023 11:19	MDE	

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: Thursday, October 19, 2023 11:13:05 AM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 28209001 **Date Collected:** 09/14/2023 08:00 **Matrix:** Groundwater
Sample ID: LOS Landfill MW **Date Received:** 09/14/2023 16:12 **Collector:** Client
2016-12

Temp @ Receipt (C): 5.4 **Received on Ice:** Yes

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

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	43.2	mg/L	2.0	1	09/19/2023 10:52	09/19/2023 10:52	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.66	mg/L	0.1	1	09/15/2023 20:22	09/15/2023 20:22	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1480	mg/L	10	1	09/15/2023 12:42	09/15/2023 12:42	CMG	

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: Thursday, October 19, 2023 11:13:05 AM



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

QC Results Summary							WO #: 28209		
Sulfate									
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	93.9		85	115		
LFB			100	96.3		85	115		
LFB			100	87.3		85	115		
LFB			100	91.6		85	115		
LFB			100	81.1		85	115		
LFB			100	96.1		85	115		
LFB			100	100.0		85	115		
LFB			100	100.0		85	115		
LFB			100	99.0		85	115		
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MS/MSD	27998010		4000	87.4	87.9	85	115	0.2	20
MS/MSD	28070803		500	87.7	88.2	85	115	0.4	20
MS/MSD	28072001		500	92.0	93.8	85	115	0.8	20
MS/MSD	28072011		500	88.1	92.6	85	115	1.7	20
MS/MSD	28215002		100	79.3	79.4	85	115	0.1	20
MS/MSD	28216004		1000	84.8	83.9	85	115	0.6	20
MS/MSD	28433002		500	86.3	86.6	85	115	0.8	20
MS/MSD	28433003		500	103.5	101.1	85	115	0.7	20
Chloride									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			80	97.2		90	110		

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: Thursday, October 19, 2023 11:13:05 AM



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

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	97.4		90	110		
LFB			30	96.9		90	110		
LFB			30	95.5		90	110		
LFB			30	96.3		90	110		
LFB			30	96.8		90	110		
LFB			30	96.3		90	110		
LFB			30	96.9		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	28070002		30	88.9	88.9	80	120	0.0	20
MS/MSD	28072001		30	93.7	94.3	80	120	0.4	20
MS/MSD	28226004		30	86.8	85.9	80	120	0.3	20
MS/MSD	28354001		30	97.0	96.4	80	120	0.0	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	112.0		85	115		
LFB-MI			100	112.0		85	115		
MB		<1							
MB		<1							
DUP	28052001							4.2	20
DUP	28070005							1.9	20
DUP	28072012							0.1	20
DUP	28075002							7.4	20

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: Thursday, October 19, 2023 11:13:05 AM



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

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
FDS/PDSO	28580001		3	96.0	95.2	75	125	0.3	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSO	27649002		100	102.0	102.0	75	125	0.1	20
PDS/PDSO	27844003		100	111.0	110.0	75	125	0.7	20
PDS/PDSO	28070004		100	107.0	110.0	75	125	1.6	20
PDS/PDSO	28072001		100	105.0	111.0	75	125	2.3	20
PDS/PDSO	28072012		100	108.0	112.0	75	125	3.0	20
PDS/PDSO	28215006		100	102.0	104.0	75	125	0.6	20
FDS/PDSO	28216002		100	101.0	98.8	75	125	1.1	20

Antimony									
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	28072001		0.1	97.2	99.1	75	125	1.9	20

Arsenic									
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	28072001		0.1	91.2	92.2	75	125	1.0	20

Barium									
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	28072001		0.1	80.1	78.2	75	125	1.3	20

Beryllium									
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	28072001		0.1	107.0	102.0	75	125	4.0	20

Cadmium									
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	28072001		0.1	97.7	97.8	75	125	0.1	20

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/SPKD	28072001		0.1	99.2	97.3	75	125	1.7	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 (%)
SPK/SPKD	28072001		0.1	97.1	94.7	75	125	2.4	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 (%)
SPK/SPKD	28072001		0.1	90.0	91.7	75	125	1.8	20

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: Thursday, October 19, 2023 11:13:05 AM

**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

Molybdenum									
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	28072001		0.1	94.9	96.3	75	125	1.2	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 (%)
SPK/SPKD	28072001		0.1	89.0	86.0	75	125	3.4	20

Thallium									
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	28072001		0.1	86.7	86.0	75	125	0.8	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-0E			0.4	103.0		85	115		
LFB-0E			0.4	107.0		85	115		
MB		<0.1							
MB		<0.1							
MS/MSD	28070001		0.4	96.1	91.9	75	125	1.8	20
MS/MSD	28072001		0.4	84.4	88.8	75	125	0.0	20
MS/MSD	28072004		0.4	95.7	94.9	75	125	0.2	20
MS/MSD	28072005		0.4	80.3	77.5	75	125	0.5	20
MS/MSD	28072011		0.4	101.0	95.2	75	125	1.9	20

Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-0E			0.4	104.0		85	115		
LFB-0E			0.4	106.0		85	115		
MB		<0.04							
MB		<0.04							
MS/MSD	28070001		0.4	96.0	98.2	75	125	2.2	20
MS/MSD	28072004		0.4	94.4	92.6	75	125	1.7	20
MS/MSD	28072005		0.4	97.0	96.1	75	125	1.1	20
MS/MSD	28072011		0.4	96.8	95.8	75	125	0.0	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-AS			0.1	102.0		80	120		
LFB-AS			0.1	104.0		80	120		
MB		<0.001							

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: Thursday, October 19, 2023 11:13:05 AM



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

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.001							
MS/MSD	28070001		0.4	101.0	102.0	75	125	1.2	20
MS/MSD	28072004		0.4	101.0	100.0	75	125	2.7	20
MS/MSD	28072005		0.4	86.8	87.3	75	125	0.9	20
MS/MSD	28072011		0.4	103.0	102.0	75	125	1.5	20

Arsenic									
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	97.2		80	120		
LFB-MS			0.1	97.4		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	28070001		0.4	95.7	97.8	75	125	1.5	20
MS/MSD	28072004		0.4	99.4	94.5	75	120	3.2	20
MS/MSD	28072005		0.4	96.8	97.6	75	125	0.7	20
MS/MSD	28072011		0.4	101.0	100.0	75	125	1.0	20

Barium									
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	92.0		80	120		
LFB-MS			0.1	95.1		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	28070001		0.4	88.1	88.6	75	125	1.4	20
MS/MSD	28072004		0.4	89.2	87.8	75	125	1.5	20
MS/MSD	28072005							1.0	20
MS/MSD	28072011		0.4	91.1	89.4	75	125	1.1	20

Beryllium									
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	106.0		80	120		
MB		<0.0005							
MB		<0.0005							

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: Thursday, October 19, 2023 11:13:05 AM

**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

Beryllium									
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	28070001		0.4	101.0	106.0	75	125	5.6	20
MS/MSD	28072004		0.4	108.0	105.0	75	125	2.6	20
MS/MSD	28072005		0.4	105.0	108.0	75	125	0.5	20
MS/MSD	28072011		0.4	111.0	109.0	75	125	2.1	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	100.0		80	120		
IFB-MS			0.1	102.0		80	120		
MB		<0.0005							
MB		<0.0005							
MS/MSD	28070001		0.4	97.4	97.8	75	125	0.3	20
MS/MSD	28072004		0.4	100.0	97.1	75	125	1.1	20
MS/MSD	28072005		0.4	95.7	95.1	75	125	0.5	20
MS/MSD	28072011		0.4	98.9	97.6	75	125	1.5	20

Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	110.0		80	120		
IFB-MS			0.1	109.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	28070001		0.4	104.0	106.0	75	125	1.7	20
MS/MSD	28072004		0.4	109.0	105.0	75	125	8.0	20
MS/MSD	28072005		0.4	108.0	107.0	75	125	0.4	20
MS/MSD	28072011		0.4	109.0	110.0	75	125	0.7	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 (%)
IFB-MS			0.1	109.0		80	120		
IFB-MS			0.1	107.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	28070001		0.4	103.0	109.0	75	125	2.4	20

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: Thursday, October 19, 2023 11:13:05 AM



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

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 (%)
MS/MSD	28072004		0.4	106.0	102.0	75	125	3.6	20
MS/MSD	28072005		0.4	102.0	102.0	75	125	0.0	20
MS/MSD	28072011		0.4	107.0	105.0	75	125	1.4	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 (%)
UFB-MS			0.1	102.0		80	120		
UFB-MS			0.1	109.0		80	120		
MB		<0.0005							
MB		<0.0005							
MS/MSD	28070001		0.4	99.5	102.0	75	125	6.0	20
MS/MSD	28072004		0.4	100.0	95.0	75	125	1.3	20
MS/MSD	28072005		0.4	96.1	96.1	75	125	0.0	20
MS/MSD	28072011		0.4	102.0	101.0	75	125	1.0	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 (%)
UFB-MS			0.1	102.0		80	120		
UFB-MS			0.1	104.0		80	120		
MB		<0.002							
MB		<0.002							
MS/MSD	28070001		0.4	96.3	97.2	75	125	1.0	20
MS/MSD	28072004		0.4	99.8	97.8	75	125	3.2	20
MS/MSD	28072005		0.4	98.1	95.7	75	125	1.4	20
MS/MSD	28072011		0.4	102.0	98.5	75	125	2.8	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 (%)
UFB-MS			0.1	97.6		80	120		
UFB-MS			0.1	94.7		80	120		
MB		<0.005							
MB		<0.005							
MS/MSD	28070001		0.4	95.6	98.9	75	125	1.8	20
MS/MSD	28072004		0.4	101.0	90.1	75	125	0.4	20

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: Thursday, October 19, 2023 11:13:05 AM



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

Selenium									
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	28072005		0.4	94.2	94.7	75	125	0.5	20
MS/MSD	28072011		0.4	98.1	100.0	75	125	2.3	20

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB/MS			0.1	96.3		80	120		
UFB/MS			0.1	97.2		80	120		

MB		<0.0005							
MB		<0.0005							

MS/MSD	28070001		0.4	94.1	94.3	75	125	0.3	20
MS/MSD	28072004		0.4	94.8	94.7	75	125	0.5	20
MS/MSD	28072005		0.4	91.2	92.1	75	125	0.8	20
MS/MSD	28072011		0.4	96.1	95.4	75	125	0.5	20

Mercury									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB			0.002	94.6		85	115		
UFB			0.002	99.6		85	115		
UFB		<0.0002							
UFB		<0.0002							
MS/MSD	27912001		0.002	97.4	101.0	70	130	5.1	20
MS/MSD	27912007		0.002	107.0	104.0	70	130	0.0	20
MS/MSD	28072001		0.002	104.0	88.0	70	130	4.9	20
MS/MSD	28072011		0.002	94.4	107.0	70	130	10.0	20

Fluoride									
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			17	97.3		85.8	111		
UFB/F			0.5	98.0		90	110		
UFB/F			0.5	100.0		90	110		
UFB/F			0.5	100.0		90	110		
UFB/F			0.5	100.0		90	110		
MB/F		0.3							
MB/F		0.1							

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: Thursday, October 19, 2023 11:13:05 AM



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

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 (%)
MB-P		<0.1							
MB-F		<0.1							
MS/MSD-F	28070001		0.5	100.0	102.0	80	120	0.8	20
MS/MSD-F	28070011		0.5	104.0	104.0	80	120	0.0	20
MS/MSD-F	28072001		0.5	106.0	108.0	80	120	1.0	20
MS/MSD-F	28072011		0.5	107.0	98.0	80	120	1.8	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			796	97.0		90.35	110.35		
MB		<10							
ICUP	28200001							1.2	20

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: Thursday, October 19, 2023 11:13:05 AM



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 Cooperative
WO: 28209



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@becp.com aknutson@becp.com
		Name of Sampler mls	jerney.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 9/14/2023
		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	LOS LANDFILL MW 2016 - 12	GW	9/14/2023	800	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	9/14/2023	NOON	<i>[Signature]</i>	14 Sep 23	1612	5.4°C	Y/N	TM920
2.								

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

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: Thursday, October 19, 2023 11:13:05 AM

Page 14 of 14

**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.MVT L.com

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

Lab ID: 32039001 **Date Collected:** 10/24/2023 08:24 **Matrix:** Groundwater
Sample ID: MW - 2016 - 12 **Date Received:** 10/24/2023 16:45 **Collector:** Client
Temp @ Receipt (C): 2.8 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	26.9	mg/L	5	1	11/01/2023 15:10	11/01/2023 15:10	
Method: EPA 245.1							
Mercury	<0.0002	mg/L	0.0002	1	11/02/2023 09:26	11/02/2023 11:26	
Method: EPA 6010D							
Boron	0.24	mg/L	0.1	1	10/25/2023 15:50	11/08/2023 10:28	
Calcium	11.7	mg/L	1	1	10/25/2023 15:50	10/30/2023 12:44	
Lithium	0.0213	mg/L	0.02	1	10/25/2023 15:50	11/08/2023 11:33	
Method: EPA 6020B							
Antimony	<0.001	mg/L	0.001	5	10/25/2023 15:50	11/09/2023 11:11	
Arsenic	<0.002	mg/L	0.002	5	10/25/2023 15:50	11/09/2023 11:11	
Barium	0.0405	mg/L	0.002	5	10/25/2023 15:50	11/09/2023 11:11	
Beryllium	<0.0005	mg/L	0.0005	5	10/25/2023 15:50	11/09/2023 16:36	
Cadmium	<0.0005	mg/L	0.0005	5	10/25/2023 15:50	11/09/2023 11:11	
Chromium	<0.002	mg/L	0.002	5	10/25/2023 15:50	11/09/2023 11:11	
Cobalt	<0.002	mg/L	0.002	5	10/25/2023 15:50	11/09/2023 11:11	
Lead	<0.0005	mg/L	0.0005	5	10/25/2023 15:50	11/09/2023 11:11	
Molybdenum	0.0084	mg/L	0.002	5	10/25/2023 15:50	11/09/2023 11:11	
Selenium	<0.005	mg/L	0.005	5	10/25/2023 15:50	11/09/2023 11:11	
Thallium	<0.0005	mg/L	0.0005	5	10/25/2023 15:50	11/09/2023 11:11	
Method: SM4500-CI-E 2011							
Chloride	42.6	mg/L	2.0	1	10/31/2023 11:25	10/31/2023 11:25	
Method: SM4500-F-C-2011							
Fluoride	0.66	mg/L	0.1	1	10/25/2023 21:10	10/25/2023 21:10	
Method: USGS I-1750-85							
Total Dissolved Solids	1530	mg/L	10	1	10/27/2023 13:13	10/27/2023 13:13	

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary										WO #:	32039
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	104.0		85	115				
LFB			100	107.0		85	115				
LFB			100	102.0		85	115				
LFB			100	106.0		85	115				
LFB			100	107.0		85	115				
LFB			100	103.0		85	115				
UR			100	105.0		85	115				
LFB			100	106.0		85	115				
LFB			100	105.0		85	115				
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MB		<5									
MS/MSD	31825019		100	104.6	105.7	85	115	1.8	20		
MS/MSD	31877007		1000	80.0	83.0	80	115	1.3	20		
MS/MSD	31902004		1000	81.3	88.7	85	115	0.6	20		
MS/MSD	32066001		1000	75.5	74.8	85	115	0.8	20		
MS/MSD	32088007		4000	104.3	103.8	85	115	0.4	20		
MS/MSD	32226005		5000	105.0	105.2	85	115	0.0	20		
MS/MSD	32226013		4000	95.7	97.2	85	115	0.9	20		
MS/MSD	32339008		500	98.0	92.0	85	115	2.3	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	94.9		90	110				

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTl.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
LF8			30	98.8		90	110		
LF8			30	98.1		90	110		
LF8			30	96.7		90	110		
LF8			30	97.8		90	110		
LF8			30	91.4		90	110		
LF8			30	90.6		90	110		
LF8			30	98.6		90	110		
LF8			30	90.4		90	110		
LF8			30	90.2		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							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	32039001		30	119.8	119.1	80	120	0.1	20
MS/MSD	32202004		30	118.4	121.8	80	120	0.8	20
MS/MSD	32254001		30	106.1	115.6	80	120	1.1	20
MS/MSD	32445001		30	81.3	92.0	80	120	0.0	20
MS/MSD	32445002		30	88.8	89.1	80	120	0.4	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 (%)
PDS/PDSO	32034001		400	104.0	105.0	75	125	1.1	20
PDS/PDSO	32068006		800	97.6	93.3	75	125	0.6	20
PDS/PDSO	32153001		400	103.8	105.0	75	125	1.0	20
PDS/PDSO	32338007		80	114.8	113.0	75	125	0.5	20

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
FDS/POSD	32154002		300	101.0	102.0	75	125	0.9	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 (%)
MS/MSD	32151001		0.4	104.0	106.0	70	130	1.9	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 (%)
MS/MSD	32151001		0.4	99.1	102.0	70	130	3.5	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 (%)
MS/MSD	32151001		0.4	94.6	95.8	70	130	1.3	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 (%)
MS/MSD	32151001		0.4	106.0	108.0	70	130	1.8	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 (%)
MS/MSD	32151001		0.4	101.8	101.0	70	130	0.3	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 (%)
MS/MSD	32151001		0.4	101.0	103.0	70	130	2.7	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 (%)
MS/MSD	32151001		0.4	98.4	100.0	70	130	2.0	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 (%)
MS/MSD	32151001		0.4	99.7	100.0	70	130	0.8	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 (%)
MS/MSD	32151001		0.4	97.9	97.6	70	130	0.5	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 (%)
MS/MSD	32151001		0.4	100.0	101.0	70	130	0.7	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 (%)
MS/MSD	32151001		0.4	91.9	93.3	70	130	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 (%)
SP6	32099001		0.1	113.0	75	125			

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	114.0		75	125		

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	109.0		75	125		

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	119.0		75	125		
SPK	32039001		0.02	521.0		75	125		

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	107.0		75	125		

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	32039001		0.1	115.0		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 (%)
SPK	32039001		0.1	115.0		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 (%)
SPK	32039001		0.1	104.0		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 (%)
SPK	32039001		0.1	122.0		75	125		

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	108.0		75	125		

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	32039001		0.1	96.6		75	125		
SPK	32151901								

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LF8-OE			0.4	99.0		85	115		
MB		<0.1							
MS/MV1	32039001		0.8	96.0	100.0	75	125	0.6	0.1

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-M			100	105.0		85	115		
MB		<1							
DUP	32038008							0.6	20
DUP	32038001							2.9	20
DUP	32038003							0.2	20

Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-DE			0.4	105.0		85	115		
MB		<0.04							
MS/MSD	32039001		0.4	96.0	96.0	75	125	1.0	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-MS			0.1	102.0		80	120		
MB		<0.001							
MS/MSD	32039001		0.4	108.0	106.0	75	125	2.3	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-MS			0.1	98.5		80	120		
MB		<0.002							
MS/MSD	32039001		0.4	106.0	102.0	75	125	1.4	20

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-MS			0.1	96.1		80	120		
MB		<0.002							
MS/MSD	32039001		0.4	99.4	97.0	75	125	1.1	20

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-MS			0.1	101.0		80	120		
MB		<0.0005							
MS/MSD	32039001		0.4	103.0	102.0	75	125	1.0	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
Units: mg/L									
LFB-MS			0.1	99.0		80	120		

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Cadmium									
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							
MS/MSD	32039001		0.4	102.0	102.0	75	125	0.2	20

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							
MS/MSD	32039001		0.4	103.0	103.0	75	125	0.2	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 (%)
MB		<-0.002							
MS/MSD	32039001		0.4	102.0	101.0	75	125	0.5	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 (%)
MB		<-0.0005							
MS/MSD	32039001		0.4	99.8	98.9	75	125	-1.0	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 (%)
MB		<-0.002							
MS/MSD	32039001		0.4	107.0	104.0	75	125	-2.1	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 (%)
MB		<-0.005							
MS/MSD	32039001		0.4	103.0	102.0	75	125	0.5	20

Thallium									
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							
MS/MSD	32039001		0.4	95.2	93.9	75	125	1.5	20

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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			0.002	105.0		85	115		
MB		<-0.0002							
MB		<-0.0002							
MS/MSD	32088903		0.002	95.2	87.8	70	130	8.7	20
MS/MSD	32567001		0.002	104.0	102.0	70	130	9.9	20
MS/MSD	32873096		0.002	105.0	105.0	70	130	9.0	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			15.3	104.0		83.99	111.11		
LFB-F			0.5	104.0		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	32088901		0.5	118.0	108.0	80	120	7.5	10
MS/MSD-F	32088908		0.5	118.0	100.0	80	120	1.8	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	110.58		
MB		<10							
MB	32078017							2.3	10

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 32039

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@bepec.com aknutson@bepec.com
		Name of Sampler mls	jermey.hurshman@aeacom.com jason.lach@aeacom.com
		Quote Number	Date Submitted 10/24/2023
		Project Name/Number LOS CCR Wells SP 143	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 - 2016 - 12	GW	10/24/2023	824	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
		<i>pH & 7.88</i>						

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	10/24/2023		<i>[Signature]</i>	10/23/2023	1645	2.8°C	(Y)N	Tmf20
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

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

Report Date: Tuesday, November 28, 2023 4:15:49 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (17868) **PO:** 675266-04

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

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.



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

Workorder Summary

Workorder Comments

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

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: Monday, June 26, 2023 1:27:46 PM

Page 2 of 31

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868001 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	265	mg/L	5	1	06/13/2023 14:52	06/13/2023 14:52	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.95	mg/L	0.1	1	06/08/2023 17:48	06/12/2023 12:57	MDE	
Calcium	86.1	mg/L	1	1	06/08/2023 17:48	06/12/2023 14:09	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/08/2023 17:48	06/22/2023 10:27	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Arsenic	0.0029	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Barium	0.0796	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Chromium	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Molybdenum	0.0079	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Selenium	<0.005	mg/L	0.005	5	06/08/2023 17:48	06/15/2023 17:13	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:13	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVT L.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868001 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.2	mg/L	2.0	1	06/09/2023 15:32	06/09/2023 15:32	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.80	mg/L	0.1	1	06/12/2023 13:04	06/12/2023 13:04	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	670	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. 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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868002 **Date Collected:** 06/06/2023 12:45 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	175	mg/L	25	5	06/13/2023 14:53	06/13/2023 14:53	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.23	mg/L	0.1	1	06/08/2023 17:48	06/12/2023 13:02	MDE	
Calcium	63.1	mg/L	1	1	06/08/2023 17:48	06/12/2023 14:10	SLZ	
Lithium	0.0319	mg/L	0.02	1	06/08/2023 17:48	06/22/2023 10:29	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Arsenic	0.0088	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Barium	0.0458	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Chromium	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Molybdenum	0.0097	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Selenium	<0.005	mg/L	0.005	5	06/08/2023 17:48	06/15/2023 17:30	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:30	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868002 **Date Collected:** 06/06/2023 12:45 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.4	mg/L	2.0	1	06/09/2023 15:33	06/09/2023 15:33	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.77	mg/L	0.1	1	06/13/2023 11:50	06/13/2023 11:50	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	504	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868003 **Date Collected:** 06/07/2023 10:45 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	35.2	mg/L	25	5	06/13/2023 14:54	06/13/2023 14:54	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	06/08/2023 17:48	06/12/2023 13:04	MDE	
Calcium	29.0	mg/L	1	1	06/08/2023 17:48	06/12/2023 14:12	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/08/2023 17:48	06/22/2023 10:29	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Arsenic	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Barium	0.0538	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Chromium	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Molybdenum	0.0122	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Selenium	<0.005	mg/L	0.005	5	06/08/2023 17:48	06/15/2023 17:35	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:35	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868003 **Date Collected:** 06/07/2023 10:45 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	39.8	mg/L	2.0	1	06/09/2023 15:34	06/09/2023 15:34	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.60	mg/L	0.1	1	06/12/2023 13:10	06/12/2023 13:10	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1380	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868004 **Date Collected:** 06/07/2023 10:30 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	42.2	mg/L	25	5	06/13/2023 15:12	06/13/2023 15:12	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.32	mg/L	0.1	1	06/08/2023 17:48	06/12/2023 13:06	MDE	
Calcium	22.2	mg/L	1	1	06/08/2023 17:48	06/12/2023 14:17	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/08/2023 17:48	06/22/2023 10:30	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Arsenic	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Barium	0.0713	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Chromium	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Molybdenum	0.0490	mg/L	0.002	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Selenium	<0.005	mg/L	0.005	5	06/08/2023 17:48	06/15/2023 17:39	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/08/2023 17:48	06/15/2023 17:39	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868004 **Date Collected:** 06/07/2023 10:30 **Matrix:** Groundwater
Sample ID: MW-2016-13 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	60.4	mg/L	2.0	1	06/09/2023 15:35	06/09/2023 15:35	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.52	mg/L	0.1	1	06/12/2023 13:16	06/12/2023 13:16	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1540	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868005 **Date Collected:** 06/07/2023 08:45 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	489	mg/L	25	5	06/13/2023 15:14	06/13/2023 15:14	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.65	mg/L	0.1	1	06/09/2023 16:36	06/12/2023 16:03	MDE	
Calcium	8.55	mg/L	1	1	06/09/2023 16:36	06/15/2023 10:24	SLZ	
Lithium	0.0612	mg/L	0.02	1	06/09/2023 16:36	06/22/2023 10:32	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Arsenic	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Barium	0.0459	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/20/2023 10:10	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Chromium	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Molybdenum	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Selenium	<0.005	mg/L	0.005	5	06/09/2023 16:36	06/16/2023 11:55	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:55	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17868005 **Date Collected:** 06/07/2023 08:45 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	18.7	mg/L	2.0	1	06/09/2023 15:36	06/09/2023 15:36	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.61	mg/L	0.1	1	06/12/2023 13:22	06/12/2023 13:22	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1930	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868006 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	353	mg/L	25	5	06/13/2023 15:26	06/13/2023 15:26	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	06/15/2023 14:30	06/16/2023 09:52	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.97	mg/L	0.1	1	06/09/2023 16:36	06/12/2023 16:04	MDE	
Calcium	88.7	mg/L	1	1	06/09/2023 16:36	06/15/2023 10:27	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/09/2023 16:36	06/22/2023 10:33	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Arsenic	0.0031	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Barium	0.0795	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/20/2023 10:12	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Chromium	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Molybdenum	0.0083	mg/L	0.002	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Selenium	<0.005	mg/L	0.005	5	06/09/2023 16:36	06/16/2023 11:59	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/09/2023 16:36	06/16/2023 11:59	MDE	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 17868006 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/08/2023 15:38 **Collector:** Client
Temp @ Receipt (C): 3.2

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	12.3	mg/L	2.0	1	06/09/2023 15:38	06/09/2023 15:38	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.79	mg/L	0.1	1	06/13/2023 12:09	06/13/2023 12:09	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	655	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868007 **Date Collected:** 06/07/2023 09:55 **Matrix:** Groundwater
Sample ID: MW-2017-8 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	1900	mg/L	50	10	06/13/2023 15:27	06/13/2023 15:27	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.41	mg/L	0.1	1	06/09/2023 16:36	06/12/2023 16:10	MDE	
Calcium	132	mg/L	5	5	06/09/2023 16:36	06/15/2023 10:27	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	27.2	mg/L	2.0	1	06/09/2023 15:39	06/09/2023 15:39	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.37	mg/L	0.1	1	06/13/2023 12:15	06/13/2023 12:15	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	3740	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868008 **Date Collected:** 06/07/2023 13:10 **Matrix:** Groundwater
Sample ID: MW-2017-7 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	344	mg/L	25	5	06/13/2023 15:17	06/13/2023 15:17	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.87	mg/L	0.1	1	06/09/2023 16:36	06/12/2023 16:12	MDE	
Calcium	64.8	mg/L	1	1	06/09/2023 16:36	06/15/2023 10:28	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	13.2	mg/L	2.0	1	06/09/2023 15:45	06/09/2023 15:45	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	1.51	mg/L	0.1	1	06/13/2023 12:21	06/13/2023 12:21	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	695	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 17868009 **Date Collected:** 06/07/2023 14:25 **Matrix:** Groundwater
Sample ID: MW-2017-4 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	364	mg/L	25	5	06/13/2023 15:37	06/13/2023 15:37	AMC	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.12	mg/L	0.1	1	06/09/2023 16:36	06/12/2023 16:14	MDE	
Calcium	134	mg/L	1	1	06/09/2023 16:36	06/15/2023 10:29	SLZ	

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	13.2	mg/L	2.0	1	06/09/2023 15:46	06/09/2023 15:46	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.78	mg/L	0.1	1	06/13/2023 12:29	06/13/2023 12:29	RAA	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	774	mg/L	10	1	06/09/2023 09:41	06/09/2023 09:41	RAA	

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #: 17868		
Sulfate									
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	100.0		85	115		
LFB			100	97.3		85	115		
LFB			100	97.4		85	115		
LFB			100	95.5		85	115		
LFB			100	107.0		85	115		
LFB			100	89.8		85	115		
LFB			100	97.9		85	115		
LFB			100	107.0		85	115		
LFB			100	114.0		85	115		
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MS/MSD	17714805		100	83.3	82.5	85	115	0.9	20
MS/MSD	17846004		100	84.2	85.0	80	115	0.7	20
MS/MSD	17846014		2000	81.4	82.1	85	115	2.4	20
MS/MSD	17846024		1000	87.9	84.7	85	115	1.8	20
MS/MSD	17846034		100	96.2	96.0	85	115	0.0	20
MS/MSD	17888003		500	109.3	110.5	85	115	0.9	20
MS/MSD	17876004		100	111.8	112.4	85	115	0.7	20
MS/MSD	26044001		1000	81.0	81.7	85	115	0.5	20
Chloride									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			90	95.9		90	110		

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
IFB			30	95.6		90	110		
IFB			30	96.1		90	110		
IFB			30	95.5		90	110		
IFB			30	95.9		90	110		
IFB			30	90.6		90	110		
IFB			30	95.0		90	110		
IFB			30	95.4		90	110		
IFB			30	95.4		90	110		
IFB			30	95.6		90	110		
IFB			30	95.1		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							
MB		<2.0							
MS/MSD	17448905		30	137.1	138.4	80	120	0.0	20
MS/MSD	17719004		30	134.8	134.5	80	120	0.0	20
MS/MSD	17846019		30	114.4	114.4	80	120	0.0	20
MS/MSD	17846019		30	117.0	116.5	80	120	0.2	20
MS/MSD	17874001		30	134.0	133.4	80	120	0.0	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 (%)
IFB-MI			100	108.0		85	115		
IFB-MI			100	108.6		85	115		

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
17B-M1			100	112.0		85	115		
17B-M1			100	105.0		85	115		
MB		<1							
MB		<1							
MB		<1							
MB		<1							
DUP	17714802							6.3	20
DUP	17715801							1.8	20
DUP	17846025							0.8	20
DUP	17852001							1.0	20
DUP	17868002							0.8	20
DUP	17888005							0.0	20
DUP	17876003							2.8	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 (%)
17B-OE			0.4	109.0		85	115		
17B-OE			0.4	108.0		85	115		
MB		<0.04							
MB		<0.04							
MS/MSD	17888001		0.4	99.0	103.0	70	130	3.0	20
MS/MSD	17868006		0.4	109.0	101.0	70	130	1.2	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 (%)
PDS/PDSO	17268002		100	103.0	106.0	75	125	2.1	20
PDS/PDSO	17268007		100	103.0	103.0	75	125	0.3	20
PDS/PDSO	17448005		500	97.9	103.0	75	125	3.1	20
PDS/PDSO	17714005		100	98.1	108.0	75	125	5.4	20
PDS/PDSO	17714005		100	107.0	106.0	75	125	0.5	20
PDS/PDSO	17846032		500	105.0	108.0	75	125	1.3	20
PDS/PDSO	17876004		100	108.0	106.0	75	125	1.8	20
PDS/PDSO	17876005		100	97.4	99.7	75	125	1.1	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
FDS/PDSO	18218007		100	108.0	107.0	75	125	0.9	20
FDS/PDSO	18304003		100	99.5	101.0	75	125	0.8	20
FDS/PDSO	18304016		100	102.0	108.0	75	125	1.8	20
FDS/PDSO	18304023		100	96.1	92.7	75	125	1.7	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	109.0		85	135		
MB		<0.001							
MS/MSD	17717001		0.4	102.0	89.6	70	130	2.2	20
MS/MSD	17908002		0.4	109.0	107.0	70	130	0.5	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	97.1		85	115		
MB		<0.005							
MS/MSD	17717002		0.4	101.0	99.2	70	130	1.8	20
MS/MSD	17908002		0.4	101.0	103.0	70	130	1.7	20

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	101.0		85	115		
MB		<0.002							
MS/MSD	17717002		0.4	98.2	98.8	70	130	1.2	20
MS/MSD	17908002		0.4	95.2	85.0	70	130	0.0	20

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	94.5		85	115		
MB		<0.0005							
MS/MSD	17717002		0.4	102.0	105.0	70	130	2.7	20
MS/MSD	17908002		0.4	115.0	132.0	70	130	2.6	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
IFB-MS			0.1	106.0		85	115		
MB		<0.0005							
MS/MSD	17717002		0.4	97.6	98.3	70	130	0.8	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
MS/MSD	17908002		0.4	96.3	98.4	70	130	0.0	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 (%)
LF8-MS			0.1	106.0		85	115		
MB		<0.001							
MS/MSD	17717002		0.4	101.0	101.0	70	130	0.6	20
MS/MSD	17908002		0.4	95.6	95.1	70	130	0.0	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 (%)
LF8-MS			0.1	105.0		85	115		
MB		<0.002							
MS/MSD	17717002		0.4	98.9	98.4	70	130	0.5	20
MS/MSD	17908002		0.4	105.0	106.0	70	130	0.7	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 (%)
LF8-MS			0.1	101.0		85	115		
MB		<0.0005							
MS/MSD	17717002		0.4	97.9	97.5	70	130	0.5	20
MS/MSD	17908002		0.4	98.3	98.2	70	130	0.3	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 (%)
LF8-MS			0.1	107.0		85	115		
MB		<0.002							
MS/MSD	17717002		0.4	101.0	100.0	70	130	1.0	20
MS/MSD	17908002		0.4	106.0	107.0	70	130	0.6	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 (%)
LF8-MS			0.1	96.3		85	115		
MB		<0.01							
MS/MSD	17717002		0.8	107.0	102.0	70	130	4.1	20
MS/MSD	17908002		0.4	100.0	100.0	70	130	0.3	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
JFB/MS			0.1	95.3		88	115		
MB		0.0005							
MS/MSD	17717002		0.4	96.3	95.2	70	130	1.0	20
MS/MSD	17908002		0.4	93.4	93.6	70	130	0.5	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717007		0.1	104.8		75	125		
SPK/SPKD	17717003		0.8	111.0	108.0	75	125	3.1	20
SPK	17908002		0.1	106.0		75	125		

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	101.0		75	125		
SPK/SPKD	17717003		0.8	101.0	100.0	75	125	0.9	20
SPK	17908002		0.1	101.0		75	125		

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	97.6		75	125		
SPK/SPKD	17717003		0.8	91.8	92.5	75	125	1.1	20
SPK	17908002		0.1	91.0		75	125		

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	98.8		75	125		
SPK/SPKD	17717003		0.8	120.0	112.0	75	125	6.7	20
SPK	17908002		0.1	114.0		75	125		

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	97.8		75	125		
SPK/SPKD	17717003		0.8	96.0	102.0	75	125	6.5	20
SPK	17908002		0.1	84.1		75	125		

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	17717002		0.1	103.0		75	125		
SPK/SPKD	17717003		0.8	107.0	108.0	75	125	2.2	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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	17908002		0.1	57.1		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 (%)
SPK	17717002		0.1	59.9		75	125		
SPK/SPKD	17717003		0.8	105.0	104.0	75	125	0.6	20
SPK	17908002		0.1	104.0		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 (%)
SPK	17717002		0.1	96.8		75	125		
SPK/SPKD	17717003		0.8	96.6	101.0	75	125	6.1	20
SPK	17908002		0.1	89.5		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 (%)
SPK	17717002		0.1	106.0		75	125		
SPK/SPKD	17717003		0.8	101.0	98.6	75	125	2.2	20
SPK	17908003		0.1	103.0		75	125		

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	97.3		75	125		
SPK/SPKD	17717003		0.8	96.1	101.0	75	125	3.8	20
SPK	17908002		0.1	87.3		75	125		

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	17717002		0.1	92.2		75	125		
SPK/SPKD	17717003		0.8	91.4	97.2	75	125	5.7	20
SPK	17908002		0.1	89.1		75	125		

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-CE			0.4	97.3		85	115		
LFB-CE			0.4	96.1		85	115		
LFB-CE			0.4	98.6		85	115		
LFB-CE			0.4	102.8		85	115		
MR									

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.1							
MB		<0.1							
MB		<0.1							
MS/MSD	17846001		0.4	87.8	85.8	75	125	0.5	20
MS/MSD	17846005		0.4	96.3	97.4	75	125	0.5	20
MS/MSD	17846028		0.4	89.7	86.5	75	125	2.0	20
MS/MSD	17861001		0.4	109.0	76.0	75	125	4.8	20
MS/MSD	17868001		0.4	95.0	102.0	75	125	2.2	20
MS/MSD	17868006		0.4	99.6	99.6	75	125	0.0	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	99.5		80	120		
UFB-MS			0.1	102.0		80	120		
UFB-MS			0.1	104.0		80	120		
MB		<0.001							
MB		<0.001							
MB		<0.001							
MS/MSD	17714001		0.4	99.4	98.5	75	125	1.0	20
MS/MSD	17846028		0.4	104.0	103.0	75	125	0.5	20
MS/MSD	17861001		0.4	107.0	104.0	75	125	2.4	20
MS/MSD	17868001		0.4	102.0	104.0	75	125	2.2	20
MS/MSD	17868006		0.4	106.0	103.0	75	125	2.4	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MS			0.1	100.0		80	120		
UFB-MS			0.1	101.0		80	120		
UFB-MS			0.1	97.2		80	120		
MB		<0.001							
MB		<0.002							
MB		<0.002							
MS/MSD	17714001		0.4	100.0	99.6	75	125	0.7	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Arsenic									
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	17846028		0.4	97.0	101.0	75	125	4.2	20
MS/MSD	17861001		0.4	103.0	104.0	75	125	0.5	20
MS/MSD	17868001		0.4	98.8	100.0	75	125	1.3	20
MS/MSD	17868006		0.4	97.9	98.7	75	125	0.8	20

Barium									
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	97.9		80	120		
LFB-MS			0.1	101.0		80	120		
LFB-MS			0.1	99.2		80	120		
MB		<0.002							
MB		<0.002							
MB		<0.002							
MS/MSD	17714001		0.4	97.0	96.2	75	125	0.5	20
MS/MSD	17846028		0.4	97.8	97.3	75	125	0.2	20
MS/MSD	17861001		0.4	101.0	97.2	75	125	1.1	20
MS/MSD	17868001		0.4	97.5	98.4	75	125	0.6	20
MS/MSD	17868006		0.4	95.6	93.1	75	125	2.2	20

Beryllium									
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	97.7		80	120		
LFB-MS			0.1	105.0		80	120		
LFB-MS			0.1	108.0		80	120		
MB		<0.0005							
MB		<0.0005							
MB		<0.0005							
MS/MSD	17714001		0.4	109.0	97.7	75	125	8.0	20
MS/MSD	17846028		0.4	102.0	108.0	75	125	1.5	20
MS/MSD	17861001		0.4	107.0	104.0	75	125	3.1	20
MS/MSD	17868001		0.4	106.0	108.0	75	125	1.0	20
MS/MSD	17868006		0.4	98.0	90.7	75	125	1.8	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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	104.0		80	120		
LFB-MS			0.1	98.8		80	120		
LFB-MS			0.1	101.6		80	120		
MB		<0.0005							
MB		<0.0005							
MB		<0.0005							
MS/MSD	17714001		0.4	103.0	98.8	75	125	4.0	20
MS/MSD	17846024		0.4	101.0	102.0	75	125	3.5	20
MS/MSD	17861001		0.4	103.0	98.6	75	125	3.3	20
MS/MSD	17889001		0.4	99.2	97.0	75	125	1.8	20
MS/MSD	17869006		0.4	103.0	103.0	75	125	0.2	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	105.0		80	120		
LFB-MS			0.1	104.0		80	120		
LFB-MS			0.1	102.0		80	120		
MB		<0.002							
MB		<0.002							
MB		<0.002							
MS/MSD	17714001		0.4	103.0	98.3	75	125	3.0	20
MS/MSD	17846025		0.4	103.0	105.0	75	125	2.1	20
MS/MSD	17861001		0.4	106.0	101.0	75	125	5.1	20
MS/MSD	17869001		0.4	101.0	102.0	75	125	0.5	20
MS/MSD	17869006		0.4	103.0	103.0	75	125	0.0	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	101.0		80	120		
LFB-MS			0.1	104.0		80	120		
LFB-MS			0.1	105.0		80	120		
MB		<0.002							
MB		<0.002							

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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							
MS/MSD	17714001		0.4	101.0	97.2	75	125	3.3	20
MS/MSD	17846028		0.4	100.0	102.0	75	125	2.2	20
MS/MSD	17861001		0.4	103.0	88.6	75	125	4.7	20
MS/MSD	17868001		0.4	98.7	101.0	75	125	7.0	20
MS/MSD	17868006		0.4	103.0	101.0	75	125	1.7	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 (%)
UB-MS			0.1	95.3		80	120		
IFB-MS			0.1	99.7		80	120		
IFB-MS			0.1	99.8		80	120		
MB		<-0.0005							
MB		<-0.0005							
MB		<-0.0005							
MS/MSD	17714001		0.4	97.1	96.8	75	125	9.3	20
MS/MSD	17846028		0.4	98.2	95.5	75	125	1.8	20
MS/MSD	17861001		0.4	98.8	97.6	75	125	1.1	20
MS/MSD	17868001		0.4	98.7	99.8	75	125	1.0	20
MS/MSD	17868006		0.4	105.0	104.0	75	125	0.7	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 (%)
IFB-MS			0.1	106.0		80	120		
IFB-MS			0.1	109.0		80	120		
IFB-MS			0.1	104.0		80	120		
MB		<0.002							
MB		<0.002							
MB		<0.002							
MS/MSD	17714001		0.4	100.0	97.8	75	125	2.5	20
MS/MSD	17846028		0.4	108.0	108.0	75	125	0.5	20
MS/MSD	17861001		0.4	105.0	104.0	75	125	1.8	20
MS/MSD	17868001		0.4	101.0	102.0	75	125	1.0	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)

MS/MSD	17868006		0.4	99.5	98.4	75	125	1.2	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	104.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

LFB-MS			0.1	97.5		80	120		
--------	--	--	-----	------	--	----	-----	--	--

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

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

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

MS/MSD	17714001		0.4	105.0	108.0	75	125	3.1	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	17846028		0.4	89.9	92.3	75	125	2.5	20
--------	----------	--	-----	------	------	----	-----	-----	----

MS/MSD	17861001		0.4	108.0	108.0	75	125	2.3	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	17868001		0.4	106.0	108.0	75	125	2.8	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

MS/MSD	17868006		0.4	108.0	100.0	75	125	6.7	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	97.6		80	120		
--------	--	--	-----	------	--	----	-----	--	--

LFB-MS			0.1	93.0		80	120		
--------	--	--	-----	------	--	----	-----	--	--

LFB-MS			0.1	97.1		80	120		
--------	--	--	-----	------	--	----	-----	--	--

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

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

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

MS/MSD	17714001		0.4	95.4	94.5	75	125	0.8	20
--------	----------	--	-----	------	------	----	-----	-----	----

MS/MSD	17846028		0.4	96.0	94.6	75	125	1.6	20
--------	----------	--	-----	------	------	----	-----	-----	----

MS/MSD	17861001		0.4	96.0	94.6	75	125	1.6	20
--------	----------	--	-----	------	------	----	-----	-----	----

MS/MSD	17868001		0.4	96.4	97.7	75	125	1.6	20
--------	----------	--	-----	------	------	----	-----	-----	----

MS/MSD	17868006		0.4	100.0	99.3	75	125	0.8	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		
-----	--	--	-------	-------	--	----	-----	--	--

LFB		<-0.0002							
-----	--	----------	--	--	--	--	--	--	--

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
MS/MSD	1786806		0.002	96.0	97.0	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			3.39	103.0		85.8	111		
CRM-F			3.39	98.8		83.8	111		
UB-F			0.5	100.0		90	110		
UB-F			0.5	100.0		90	110		
UB-F			0.5	104.0		90	110		
UB-F			0.5	100.0		90	110		
UB-F			0.5	100.0		90	110		
UB-F			0.5	102.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MB-F		<0.1							
MS/MSD-F	17868011		10	94.0	102.0	80	120	1.8	20
MS/MSD-F	17868002		0.5	99.0	98.0	80	120	1.8	20
MS/MSD-F	18057001		2.5	92.0	86.0	80	120	2.0	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	103.0		90.35	110.33		
CRM			736	101.0		90.35	110.33		
MB		<10							
MB		<10							
DUP	17448005							0.1	20
DUP	17874001							0.6	20

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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

Basin Electric Power Cooperative Custody Record
WO: 17868



Page 1 of 1

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

Account #:	Phone #:
Contact:	745-7238 557-5488
Name of Sampler:	Email: a.knutson@bepc.com
Quote Number:	mdihle@bepc.com
Project Name/Number:	For e-mail report check box <input checked="" type="checkbox"/>
LOS CCR Wells	
Date Submitted:	6-8-23
Purchase Order #:	675266-04

Billing Address (indicate if different from above):

Lab Use Only	Lab Number	Sample ID	Sample Matrix	Filtered Y or N		Bottle Type										Analysis Required		
				Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH/HNO3	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4		40 ml Vials H2SO4	Other:
	001	MW-2017-10	GW	6-6-23	1400			X					X					B, Ca, Cl, F, SO4
	002	MW-2017-11		6-6-23	1245								X					Sb, As, Ba, Be, Cd
	003	MW-2016-12		6-7-23	1045								X					Cr, Co, Pb, Li, Hg
	004	MW-2016-13		6-7-23	1030								X					Mn, Se, TL, Radium
	005	MW-2017-8D		6-7-23	0845								X					226 + 228
	006	Dup.		6-6-23	1400								X					
	007	MW-2017-8		6-7-23	0955													B, Ca, Cl, F, SO4
	008	MW-2017-7		6-7-23	1310													
	009	MW-2017-4	↓	6-7-23	1425			↓										↓

Comments:

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Time:	Temp:
1. Millennium Express	6-8-23			Toni Ju	8 Jun 23	3:28	TM 815
2.						15:38	5.2°C
3.						8:02:40	

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

N1157-9 0118

Form # 80-90003-1

See above for page number

Effective Date: 15 Jan 2018

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: Monday, June 26, 2023 1:27:46 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: LOS CCR Wells (19625) **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

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.



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

Workorder Summary

Workorder Comments

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

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, July 12, 2023 2:03:55 PM

Page 2 of 20



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 19625001 **Date Collected:** 06/26/2023 14:06 **Matrix:** Groundwater
Sample ID: LOS POND MW-2017-10 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	328	mg/L	25	5	07/07/2023 10:31	07/07/2023 10:31	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/07/2023 12:05	07/10/2023 11:20	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.97	mg/L	0.1	1	06/29/2023 16:48	07/06/2023 10:37	SLZ	
Calcium	90.8	mg/L	1	1	06/29/2023 16:48	07/10/2023 12:26	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/29/2023 16:48	07/05/2023 16:18	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Arsenic	0.0032	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Barium	0.0837	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/07/2023 10:33	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Chromium	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Molybdenum	0.0085	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Selenium	<0.005	mg/L	0.005	5	06/29/2023 16:48	07/06/2023 16:31	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:31	MDE	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 19625001 **Date Collected:** 06/26/2023 14:06 **Matrix:** Groundwater
Sample ID: LOS POND MW-2017-10 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.7	mg/L	2.0	1	07/06/2023 09:53	07/06/2023 09:53	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.77	mg/L	0.1	1	06/30/2023 18:53	06/30/2023 18:53	AMC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	682	mg/L	10	1	07/05/2023 16:55	07/05/2023 16:55	RAA	

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, July 12, 2023 2:03:55 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 19625002 **Date Collected:** 06/26/2023 12:11 **Matrix:** Groundwater
Sample ID: LOS POND MW-2017-11 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	219	mg/L	25	5	07/07/2023 10:32	07/07/2023 10:32	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/07/2023 12:05	07/10/2023 11:20	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.30	mg/L	0.1	1	06/29/2023 16:48	07/06/2023 10:40	SLZ	
Calcium	68.3	mg/L	1	1	06/29/2023 16:48	07/10/2023 12:26	SLZ	
Lithium	0.0323	mg/L	0.02	1	06/29/2023 16:48	07/05/2023 16:23	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Arsenic	0.0100	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Barium	0.0493	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/07/2023 10:44	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Chromium	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Molybdenum	0.0100	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Selenium	<0.005	mg/L	0.005	5	06/29/2023 16:48	07/06/2023 16:49	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:49	MDE	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 19625002 **Date Collected:** 06/26/2023 12:11 **Matrix:** Groundwater
Sample ID: LOS POND MW-2017-11 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Method: SM4500-Cl-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.7	mg/L	2.0	1	07/06/2023 09:54	07/06/2023 09:54	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.70	mg/L	0.1	1	06/30/2023 19:10	06/30/2023 19:10	AMC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	571	mg/L	10	1	07/05/2023 16:55	07/05/2023 16:55	RAA	

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, July 12, 2023 2:03:55 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 19625003 **Date Collected:** 06/26/2023 12:11 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6**Method: ASTM D516-16**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	223	mg/L	25	5	07/07/2023 10:33	07/07/2023 10:33	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/07/2023 12:05	07/10/2023 11:20	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	1.31	mg/L	0.1	1	06/29/2023 16:48	07/06/2023 10:40	SLZ	
Calcium	68.8	mg/L	1	1	06/29/2023 16:48	07/10/2023 12:27	SLZ	
Lithium	0.0324	mg/L	0.02	1	06/29/2023 16:48	07/05/2023 16:24	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Arsenic	0.0100	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Barium	0.0490	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/07/2023 10:46	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Chromium	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Molybdenum	0.0108	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Selenium	<0.005	mg/L	0.005	5	06/29/2023 16:48	07/06/2023 16:53	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:53	MDE	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19625003 **Date Collected:** 06/26/2023 12:11 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	11.9	mg/L	2.0	1	07/06/2023 09:56	07/06/2023 09:56	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.71	mg/L	0.1	1	06/30/2023 19:16	06/30/2023 19:16	AMC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	583	mg/L	10	1	07/05/2023 16:55	07/05/2023 16:55	RAA	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 19625004 **Date Collected:** 06/26/2023 08:40 **Matrix:** Groundwater
Sample ID: LOS LANDFILL **Date Received:** 06/28/2023 16:24 **Collector:** Client
MW2016-12

Temp @ Receipt (C): 5.6

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	41.4	mg/L	5	1	07/07/2023 10:55	07/07/2023 10:55	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/07/2023 12:05	07/10/2023 11:20	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.23	mg/L	0.1	1	06/29/2023 16:48	07/06/2023 10:41	SLZ	
Calcium	23.6	mg/L	1	1	06/29/2023 16:48	07/10/2023 12:28	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/29/2023 16:48	07/05/2023 16:25	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Arsenic	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Barium	0.0476	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/07/2023 10:49	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Chromium	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Molybdenum	0.0105	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Selenium	<0.005	mg/L	0.005	5	06/29/2023 16:48	07/06/2023 16:58	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 16:58	MDE	

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.



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 19625004 **Date Collected:** 06/26/2023 08:40 **Matrix:** Groundwater
Sample ID: LOS LANDFILL **Date Received:** 06/28/2023 16:24 **Collector:** Client
MW2016-12

Temp @ Receipt (C): 5.6

Method: SM4500-CI-E 2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	38.9	mg/L	2.0	1	07/06/2023 10:04	07/06/2023 10:04	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.60	mg/L	0.1	1	06/30/2023 19:22	06/30/2023 19:22	AMC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1360	mg/L	10	1	07/05/2023 16:55	07/05/2023 16:55	RAA	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19625005 **Date Collected:** 06/26/2023 07:50 **Matrix:** Groundwater
Sample ID: LOS LANDFILL MW-2016-13 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	45.7	mg/L	5	1	07/07/2023 10:56	07/07/2023 10:56	AMC	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	07/07/2023 12:05	07/10/2023 11:20	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.33	mg/L	0.1	1	06/29/2023 16:48	07/06/2023 10:42	SLZ	
Calcium	23.6	mg/L	1	1	06/29/2023 16:48	07/10/2023 12:29	SLZ	
Lithium	<0.02	mg/L	0.02	1	06/29/2023 16:48	07/05/2023 16:27	SLZ	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Arsenic	0.0021	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Barium	0.0588	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/07/2023 10:52	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Chromium	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Cobalt	<0.002	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Lead	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Molybdenum	0.0545	mg/L	0.002	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Selenium	<0.005	mg/L	0.005	5	06/29/2023 16:48	07/06/2023 17:02	MDE	
Thallium	<0.0005	mg/L	0.0005	5	06/29/2023 16:48	07/06/2023 17:02	MDE	

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, July 12, 2023 2:03:55 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 19625005 **Date Collected:** 06/26/2023 07:50 **Matrix:** Groundwater
Sample ID: LOS LANDFILL MW-2016-13 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6**Method: SM4500-CI-E 2011**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Chloride	59.6	mg/L	2.0	1	07/06/2023 10:05	07/06/2023 10:05	AMC	

Method: SM4500-F-C-2011

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Fluoride	0.50	mg/L	0.1	1	06/30/2023 19:30	06/30/2023 19:30	AMC	

Method: USGS I-1750-85

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Total Dissolved Solids	1500	mg/L	10	1	07/05/2023 16:55	07/05/2023 16:55	RAA	

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary							WO #: 19625			
Sulfate										
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	Units: mg/L
LFB			100	101.0		85	115			
LFB			100	105.0		85	115			
LFB			100	107.0		85	115			
LFB			100	101.0		85	115			
LFB			100	94.5		85	115			
LFB			100	98.2		85	115			
UPL			100	94.0		85	115			
LFB			100	100.0		85	115			
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MB		<5								
MS/MSD	19619001		1000	88.0	88.3	85	115	0.0	20	
MS/MSD	19629002		500	108.1	107.1	85	115	0.7	20	
MS/MSD	19772001		500	111.6	110.6	85	115	0.7	20	
MS/MSD	19801002		500	62.1	70.4	80	115	5.6	20	
MS/MSD	19801012		1000	85.8	88.8	85	115	1.3	20	
MS/MSD	19922005		500	84.4	88.0	85	115	2.5	20	
MS/MSD	20040001		500	60.5	66.3	85	115	4.2	20	
Chloride										
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)	Units: mg/L
LFB			30	93.8		90	110			
LFB			30	93.1		90	110			
LFB			30	92.1		90	110			
LFB			30	92.7		90	110			

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Chloride									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB			30	91.2		90	110		
UFB			30	92.9		90	110		
UFB			30	92.8		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	19619001		30	114.8	115.2	90	120	0.3	20
MS/MSD	19772006		30	94.0	94.1	90	120	0.0	20
MS/MSD	19929001		30	118.0	123.3	90	120	0.7	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-GE			0.4	101.0		85	115		
MB		<0.1							
MS/MSD	19625001		0.4	103.0	113.0	70	130	1.8	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-MI			100	110.0		85	115		
MB		<1							
DUP	19628001							1.0	20

Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UFB-GE			0.4	106.0		85	115		
MB		<0.04							
MS/MSD	19629001		0.4	103.0	101.0	70	130	0.3	20

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSD	19111012		0.4	91.6	91.2	75	125	0.2	20

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDS0	17146005		100	105.0	105.0	75	125	0.2	20
PDS/PDS0	19772001		100	95.9	97.6	75	125	0.7	20
PDS/PDS0	19807001		100	106.0	105.0	75	125	0.3	20
PDS/PDS0	19922006		100	97.9	97.5	75	125	0.2	20
PDS/PDS0	19922008		100	108.0	108.0	75	125	0.0	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	105.0	107.0	70	130	1.5	20

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	103.0	101.0	70	130	1.7	20

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	98.8	98.1	70	130	0.7	20

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	101.0	98.5	70	130	2.3	20

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	102.0	103.0	70	130	1.2	20

Chromium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MS/MS0	19637001		0.4	103.0	107.0	70	130	0.7	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 (%)
MS/MS0	19637001		0.4	103.0	107.0	70	130	1.0	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 (%)
MS/MS0	19637001		0.4	97.9	97.1	70	130	1.0	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 (%)
MS/MS0	19637001		0.4	108.0	110.0	70	130	1.6	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 (%)
MS/MS0	19637001		0.4	104.0	96.5	70	130	2.1	20

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
M5/MSD	19637001		0.4	95.3	94.2	70	130	11	20

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	107.0		75	125		

Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	104.0		75	125		

Barium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	100.0		75	125		

Beryllium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	114.0		75	125		

Cadmium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	98.9		75	125		

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	19637001		0.1	104.0		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 (%)
SPK	19637001		0.1	105.0		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 (%)
SPK	19637001		0.1	96.2		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 (%)
SPK	19637001		0.1	112.0		75	125		

Selenium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	98.2		75	125		

Thallium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	19637001		0.1	93.0		75	125		

Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
1F8-MS			0.1	108.0		80	120		

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 (%)
MB		<0.001							
MS/MSD	19625001		0.4	101.0	103.0	75	125	1.7	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 (%)
MB		<0.002							
MS/MSD	19625001		0.4	104.0	101.0	75	125	3.4	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 (%)
MB		<0.002							
MS/MSD	19625001		0.4	100.0	99.5	75	125	0.4	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 (%)
MB		<0.0005							
MS/MSD	19625001		0.4	99.8	98.4	75	125	1.3	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 (%)
MB		<0.0005							
MS/MSD	19625001		0.4	102.0	102.0	75	125	0.5	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 (%)
MB		<0.002							
MS/MSD	19625001		0.4	103.0	101.0	75	125	1.0	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 (%)
MB		<0.002							
MS/MSD	19625001		0.4	102.0	101.0	75	125	0.5	20

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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	104.0		80	120		
MB		<0.0005							
MS/MSD	19625001		0.4	102.0	102.0	75	125	0.5	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	112.0		80	120		
MB		<0.002							
MS/MSD	19625001		0.4	104.0	103.0	75	125	1.2	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	95.7		80	120		
MB		<0.005							
MS/MSD	19625001		0.4	101.0	103.0	75	125	1.5	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	99.4		80	120		
MB		<0.0005							
MS/MSD	19625001		0.4	98.1	98.0	75	125	1.0	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	87.8		85	115		
MB		<0.0002							
MS/MSD	19227003		0.002	95.0	87.8	70	130	3.4	20
MS/MSD	19625004		0.002	87.2	89.1	70	130	5.7	20
MS/MSD	19922001		0.002	90.8	92.0	70	130	0.0	20
MS/MSD	19922012		0.002	93.0	91.8	70	130	3.4	20
MS/MSD	20030001		0.002	91.6	90.6	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			3.30	97.3		85.8	111		
LFB-F			0.5	98.0		80	110		
LFB-F			0.5	98.0		80	110		
LFB-F			0.5	96.0		80	110		

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVT L.com



Account #: 2040

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 (%)	
MB-F		<0.1								
MB-F		<0.1								
MB-F		<0.1								
MS/MSD-F	19625001		0.5	102.0	104.0	80	120	0.8	20	
MS/MSD-F	19770001		0.5	102.0	104.0	80	120	1.2	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	95.0		90.35	110.65			
MB		<10								
DUF	19224001							9.0	20	
DUF	19625005							0.0	20	

MVT L 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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 19625



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 mis	jermy hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 6/28/2023
		Project Name/Number LOS CCR Wells	Purchase Order # 675266-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	LOS POND MW-2017-10	GW	6/26/2023	1406	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	LOS POND MW-2017-11	GW	6/26/2023	1211	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
003	Dup	GW	6/26/2023	1211	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
004	LOS LANDFILL MW2016-12	GW	6/27/2023	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
005	LOS LANDFILL MW-2016-13	GW	6/27/2023	750	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			<i>[Signature]</i>	28 Jun 23	1624	5.6°C	Y/N	TM 920
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

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, July 12, 2023 2:03:55 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

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

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, September 8, 2023 4:15:59 PM

Page 2 of 10

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Lab ID: 25638001 **Date Collected:** 08/23/2023 08:10 **Matrix:** Groundwater
Sample ID: LOS LANDFILL MW **Date Received:** 08/23/2023 15:49 **Collector:** Client
 2016-12

Temp @ Receipt (C): 6.1 **Received on Ice:** Yes

Method: ASTM D516-16

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Sulfate	26.1	mg/L	5	1	08/29/2023 11:50	08/29/2023 11:50	EJV	

Method: EPA 245.1

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Mercury	<0.0002	mg/L	0.0002	1	08/24/2023 10:53	08/24/2023 12:53	MDE	

Method: EPA 6010D

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Boron	0.25	mg/L	0.1	1	08/23/2023 16:48	08/29/2023 12:15	MDE	
Calcium	15.8	mg/L	1	1	08/23/2023 16:48	08/30/2023 11:22	MDE	
Lithium	<0.02	mg/L	0.02	1	08/23/2023 16:48	08/29/2023 09:36	MDE	

Method: EPA 6020B

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Antimony	<0.001	mg/L	0.001	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Arsenic	<0.002	mg/L	0.002	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Barium	0.0507	mg/L	0.002	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Beryllium	<0.0005	mg/L	0.0005	5	08/23/2023 16:48	09/06/2023 10:06	MDE	
Cadmium	<0.0005	mg/L	0.0005	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Chromium	0.0029	mg/L	0.002	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Cobalt	<0.002	mg/L	0.002	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Lead	<0.0005	mg/L	0.0005	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Molybdenum	0.0101	mg/L	0.002	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Selenium	<0.005	mg/L	0.005	5	08/23/2023 16:48	09/05/2023 17:20	MDE	
Thallium	<0.0005	mg/L	0.0005	5	08/23/2023 16:48	09/05/2023 17:20	MDE	

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

QC Results Summary										WO #: 25638
Sulfate										
QC Type	Original Sample ID	Blank Result	Spike Amount	Units: mg/L	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			100		97.7		85	115		
LFB			100		99.7		85	115		
LFB			100		96.6		85	115		
LFB			100		96.6		85	115		
MB		<S								
MB		<S								
MB		<S								
MB		<S								
MS/MSD	2578001		500		79.8	77.7	85	115	1.2	20
MS/MSD	25787002		100		78.5	76.1	85	115	1.0	20
MS/MSD	25881002		500		84.8	83.0	85	115	1.0	20
MS/MSD	25917001		500		91.8	91.0	85	115	0.4	20
Chloride										
QC Type	Original Sample ID	Blank Result	Spike Amount	Units: mg/L	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			90		101.0		90	110		
LFB			90		103.0		90	110		
LFB			90		103.0		90	110		
LFB			90		102.0		90	110		
LFB			90		108.0		90	110		
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								
MB		<2.0								
MS/MSD	25546001		30		116.2	114.2	80	120	0.6	20
MS/MSD	25881002		30		97.0	98.6	80	120	1.2	20
Calcium										
QC Type	Original Sample ID	Blank Result	Spike Amount	Units: mg/L	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
DUP	25511001								0.6	20

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, September 8, 2023 4:15:59 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com

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

Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
FDS/PDSDD	2562001		3	92.1	88.8	75	125	3.2	20

Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSDD	2554001		500	104.0	104.0	75	125	0.4	20
PDS/PDSDD	2554001		100	109.0	104.0	75	125	0.6	20
PDS/PDSDD	2563001		100	108.0	108.0	75	125	0.2	20
PDS/PDSDD	25791002		1000	109.0	103.0	75	125	0.5	20
PDS/PDSDD	25791002		500	97.1	95.9	75	125	0.6	20
PDS/PDSDD	25881007		100	93.2	92.0	75	125	0.1	20
PDS/PDSDD	26051007		100	106.0	105.0	75	125	1.2	20

Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
PDS/PDSDD	2563001		0.4	94.2	92.6	75	125	1.7	20

Antimony									
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	25512001		0.4	104.0	106.0	70	130	1.8	20

Arsenic									
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	25512001		0.4	102.0	106.0	70	130	1.8	20

Barium									
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	25512001		0.4	99.4	101.0	70	130	1.5	20

Beryllium									
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	25512001		0.4	110.0	110.0	70	130	0.0	20

Cadmium									
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	25512001		0.4	104.0	106.0	70	130	1.7	20

Chromium									
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	25512001		0.4	105.0	107.0	70	130	1.9	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 (%)
MS/MSD	25512001		0.4	104.0	106.0	70	130	1.8	20

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Lead									
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	25512001		0.4	102.0	102.0	70	130	1.0	20
Units: mg/L									
Molybdenum									
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	25512001		0.4	107.0	108.0	70	130	0.7	20
Units: mg/L									
Selenium									
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	25512001		0.4	96.8	104.0	70	130	7.0	20
Units: mg/L									
Thallium									
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	25512001		0.4	96.3	97.0	70	130	0.8	20
Units: mg/L									
Beryllium									
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	25636001		0.1	97.3	97.8	75	125	0.5	20
Units: mg/L									
Boron									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UB-GE			0.4	107.0		85	115		
MB		<0.1							
Units: mg/L									
Calcium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UB-AH			100	111.0		85	115		
MB		<1							
DUP	25548002							1.9	20
Units: mg/L									
Lithium									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UB-GE			0.4	104.0		85	115		
MB		<0.04							
Units: mg/L									
Antimony									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UB-MS			0.1	104.0		80	120		
MB		<0.001							
MS/MSD	25628001		0.4	106.0	109.0	75	125	3.0	20
Units: mg/L									
Arsenic									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
UB-MS			0.1	101.0		80	120		
MB		<0.002							
Units: mg/L									

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Arsenic									
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	25628001		0.4	105.0	108.0	75	125	7.6	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

Barium									
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		<0.002							
----	--	--------	--	--	--	--	--	--	--

MS/MSD	25628001		0.4	97.2	98.1	75	125	0.6	20
--------	----------	--	-----	------	------	----	-----	-----	----

Beryllium									
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	95.8		80	120		
--------	--	--	-----	------	--	----	-----	--	--

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

MS/MSD	25628001		0.4	116.0	115.0	75	125	1.1	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

Cadmium									
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	106.6		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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

MS/MSD	25628001		0.4	105.0	107.0	75	125	3.0	20
--------	----------	--	-----	-------	-------	----	-----	-----	----

Chromium									
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		<0.002							
----	--	--------	--	--	--	--	--	--	--

MS/MSD	25628001		0.4	105.0	105.0	75	125	0.5	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	104.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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

MS/MSD	25628001		0.4	94.0	83.8	75	125	0.7	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	103.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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

MS/MSD	25628001		0.4	99.8	100.0	75	125	0.8	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	109.0		80	120		
--------	--	--	-----	-------	--	----	-----	--	--

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Molybdenum									
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							
MS/MSD	25628001		0.4	108.0	108.0	75	125	2.1	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 (%)
MB		<-0.005							
MS/MSD	25628001		0.4	98.0	104.0	75	125	5.7	20

Thallium									
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							
MS/MSD	25628001		0.4	94.4	95.5	75	125	1.1	20

Mercury									
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<-0.0002							
MS/MSD	24287003		0.002	107.0	110.0	70	130	4.4	20
MS/MSD	25161001		0.002	108.0	110.0	70	130	0.0	20

Fluoride									
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			3.39	95.9		83.8	111		
MB-F			0.5	98.0		90	110		
MB-F			0.5	104.0		90	110		
MB-F		<-0.1							
MB-F		<-0.1							
MS/MSD-F	25036001		0.5	107.0	108.0	80	120	1.8	20

Total Dissolved Solids									
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	103.0		90.35	110.34		
MB		<10							
DUP	25292001							1.6	20

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 25638

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 mls	jermev.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 8/23/2023
		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
Lab							
	001 LOS LANDFILL MW 2016-12	GW	8/23/2023	810	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			<i>[Signature]</i>	23 Aug 23	1549	6.1°C	Y/N	T4920
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

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, September 8, 2023 4:15:59 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040 **Client:** Basin Electric Power Cooperative
Workorder: New LOS CCR Wells (14751) **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:

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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

Workorder Summary

Workorder Comments

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

Unreported samples to update sample identifications on 14751003 and 14751004. CC 8Jun23

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14751001 **Date Collected:** 05/03/2023 13:45 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	
Radium 228	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTl.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14751002 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	
Radium 228	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 14751005 **Date Collected:** 05/03/2023 11:40 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 05/05/2023 16:05 **Collector:** Client

Temp @ Receipt (C): 4.8

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	
Radium 228	See Attached			1	06/02/2023 14:58	06/02/2023 14:58	SUBv	

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.energylabs.com

Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

ANALYTICAL SUMMARY REPORT

June 09, 2023

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

Work Order: C23050455 Quote ID: C15480

Project Name: 14751

Energy Laboratories, Inc. Casper WY received the following 5 samples for Minnesota Valley Testing Laboratories on 5/10/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23050455-001	14751001; MW-2017-10	05/03/23 13:45	05/10/23	Groundwater	Radium 226, Total Radium 228, Total
C23050455-002	14751002; MW-2017-11	05/03/23 11:40	05/10/23	Groundwater	Same As Above
C23050455-003	14751003; MW-2016-12	05/03/23 9:37	05/10/23	Groundwater	Same As Above
C23050455-004	14751004; MW-2016-13	05/03/23 9:18	05/10/23	Groundwater	Same As Above
C23050455-005	14751005; Dup	05/03/23 11:40	05/10/23	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:

Ashley Wilson
Project Manager

Digitally signed by
Ashley L. Wilson
Date: 2023.06.09 13:14:41 -06:00

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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.MVT L.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 800.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

CLIENT: Minnesota Valley Testing Laboratories
Project: 14751
Work Order: C23050455

Revised Date: 06/09/23
Report Date: 06/01/23

CASE NARRATIVE

Revised 6/9/2023

Sample ID 14751003; MW-2017-12 (C23050455-003) has been updated to 14751003; MW-2016-12 and Sample ID 14751004; MW-2017-13 (C23050455-004) has been updated to 14751004; MW-2016-13 per the emailed request from Claudette Carroll on 6/08/2023. No analytical data was affected.

This revised report replaces any previously issued reports in its entirety.

MVT L 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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-001
Client Sample ID: 14751001; MW-2017-10

Revised Date: 06/09/23
Report Date: 06/01/23
Collection Date: 05/03/23 13:45
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.5	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)

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

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.



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-002
Client Sample ID: 14751002; MW-2017-11

Revised Date: 06/09/23
Report Date: 06/01/23
Collection Date: 05/03/23 11:40
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.1	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

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)

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-003
Client Sample ID: 14751003; MW-2016-12

Revised Date: 06/09/23
Report Date: 06/01/23
Collection Date: 05/03/23 09:37
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.3	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 228	0.05	pCi/L	U			RA-05	05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L				RA-05	05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L				RA-05	05/18/23 13:08 / trs

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)

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.



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-004
Client Sample ID: 14751004; MW-2016-13

Revised Date: 06/09/23
Report Date: 06/01/23
Collection Date: 05/03/23 09:18
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.2	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-005
Client Sample ID: 14751005, Dup

Revised Date: 06/09/23
Report Date: 06/01/23
Collection Date: 05/03/23 11:40
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.6	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

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)

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23050455

Report Date: 05/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-10894										
Lab ID: LCS-RA226-10894	3	Laboratory Control Sample								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		11	pCi/L	114		70	130			
Radium 226 precision (±)		2.3	pCi/L							
Radium 226 MDC		0.22	pCi/L							
Lab ID: MB-RA226-10894	3	Method Blank								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		0.1	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23050423-001FDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		1.9	pCi/L					5.6	30	
Radium 226 precision (±)		0.48	pCi/L							
Radium 226 MDC		0.23	pCi/L							
- The RER result is 0.15.										

Qualifiers:

RL - Analyte Reporting Limit

U - Not detected at Minimum Detectable Concentration (MDC)

ND - Not detected at the Reporting Limit (RL)

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.412.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23050455

Report Date: 05/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA226-7094										
Lab ID: LCS-228-RA226-10894	3	Laboratory Control Sample								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		5.7	pCi/L	81		70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.2	pCi/L							
Lab ID: MB-RA226-10894	3	Method Blank								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		2	pCi/L							
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23050423-001FDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		2.2	pCi/L					11	30	
Radium 228 precision (±)		0.91	pCi/L							
Radium 228 MDC		1.3	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvttl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Cheyenne, WY 307.688.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23050455

Login completed by: Manford E. Hurley

Date Received: 5/10/2023

Reviewed by: cjohnson

Received by: slr

Reviewed Date: 5/15/2023

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:	12.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <5mm (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.

Contact and Corrective Action Comments:

None

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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

Revision Date: 24-Dec-2021

Nitric acid, Trace Metal Grade

Toxic if inhaled
Corrosive to the respiratory tract

Precautionary Statements
Do not breathe dust/fume/gas/aerosol/vapors/spray
Avoid contact with skin and eyes
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not get inside clothing
Keep Store away from combustible materials
Take any precaution to avoid mixing with combustibles
Wear respiratory protection
Wear eye protection

Response
Immediately call a POISON CENTER or doctor/physician
Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Skin (100%): Wash thoroughly with plenty of water. Remove all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If SWALLOWED: Rinse mouth. DO NOT induce vomiting
First Aid: In case of fire: Use CO2, dry chemical, or foam for extinction
Storage: Store in a well-ventilated place. Keep container tightly closed
Store in a dry place
Dispose of contents/container to an approved waste disposal plant
Hazardous not otherwise classified (HNO3)
Corrosive to the respiratory tract

3. Composition/Information on Ingredients

Component	CAS No.	Weight %
Nitric acid (HNO3)	7723-35-5	30.55
Water		

4. First-aid measures
Immediate medical attention is required. Show this safety data sheet to the doctor in

Page 2/0

ThermoFisher SCIENTIFIC

SAFETY DATA SHEET

Revision Date: 24-Dec-2021

Revision Number: 10

Creation Date: 11-Mar-2006

1. Identification

Product Name: Nitric acid, Trace Metal Grade
Cat No.: A509-212; A509-500; A509P112; A509P500; A509SK12
CAS No.: 7897-32-2
Synonyms: Azotic acid; Engineer's acid; Aqua Regia
Recommended Use: Laboratory chemicals
Label: See package or module product use.

Details of the supplier of the safety data sheet:
Company: Fisher Scientific Company
Fisher Scientific Company
1735 Central Expressway
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency telephone Number: CHEMTREC®: Inside the USA: 1-800-424-9300
CHEMTREC®: Outside the USA: 011-703-567-5887

2. Hazard(s) identification

CLASSIFICATION:
This chemical is considered hazardous by the 2012 Globally Harmonized System of Classification and Labeling of Chemicals (GHS) (28 CFR 19.10.1200)

Physical State: Oxidizing liquid
Corrosive to metals: Category 1
Very toxic to aquatic life with long-term effects: Category 1
Very toxic to aquatic life: Category 1
Serious eye damage/eye irritation: Category 1

Label Elements:
Hazard Word: Danger
Pictogram:
Hazard Statements:
May intensify fire, oxidizer
Causes severe skin burns and eye damage

Page 1/8

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.



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

Table with 2 columns: Property and Value. Includes sections for Antic acid, Trace Metal Grade, Carcinogenicity, Reproductive Effects, Ecological Information, Disposal Considerations, and Transport Information.

Table with 2 columns: Property and Value. Includes sections for Nitric acid, Trace Metal Grade, Physical State, Stability and reactivity, Toxicological Information, and Toxicologically Synergistic.

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.



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

Revision Date: 24-Dec-2021

16. Other Information

Prepared By: Rebecca C. ...
 Creation Date: 12-Mar-2009
 Revision Date: 24-Dec-2021
 Revision Summary: SDS sections updated: 2, 11.

Disclaimer
 The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the time of preparation. It is intended for use by persons who are familiar with the product and its use. This information is provided for informational purposes only and is not to be considered a warranty or liability. The information is provided only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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

Chain of Custody Record form containing fields for Laboratory Name, Account #, Contact, Sample Information, and Analysis Required. Includes handwritten notes and signatures.

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.



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

Chain of Custody Record form containing company information, contact details, and a table for sample analysis with columns for IML Lab Number, MVTL Lab Number, Client Sample ID, Sample Type, Date Sampled, Time Sampled, Bottle Type, and Analysis Required.

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.energylabs.com

Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

ANALYTICAL SUMMARY REPORT

June 01, 2023

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

Work Order: C23050455 Quote ID: C15480

Project Name: 14751

Energy Laboratories, Inc. Casper WY received the following 5 samples for Minnesota Valley Testing Laboratories on 5/10/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23050455-001	14751001; MW-2017-10	05/03/23 13:45	05/10/23	Groundwater	Radium 226, Total Radium 228, Total
C23050455-002	14751002; MW-2017-11	05/03/23 11:40	05/10/23	Groundwater	Same As Above
C23050455-003	14751003; MW-2017-12	05/03/23 9:37	05/10/23	Groundwater	Same As Above
C23050455-004	14751004; MW-2017-13	05/03/23 9:18	05/10/23	Groundwater	Same As Above
C23050455-005	14751005; Dup	05/03/23 11:40	05/10/23	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:

Digitally signed by
Jeannie G. Gharib
Date: 2023.06.01 17:53:51 -06:00

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-001
Client Sample ID: 14751001; MW-2017-10

Report Date: 06/01/23
Collection Date: 05/03/23 13:45
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.5	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-002
Client Sample ID: 14751002; MW-2017-11

Report Date: 06/01/23
Collection Date: 05/03/23 11:40
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.1	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-003
Client Sample ID: 14751003; MW-2017-12

Report Date: 06/01/23
Collection Date: 05/03/23 09:37
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.3	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L				E903.0	05/23/23 11:12 / kdk
Radium 228	0.05	pCi/L	U			RA-05	05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L				RA-05	05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L				RA-05	05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-004
Client Sample ID: 14751004; MW-2017-13

Report Date: 06/01/23
Collection Date: 05/03/23 09:18
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.2	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

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)

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.



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 14751
Lab ID: C23050455-005
Client Sample ID: 14751005; Dup

Report Date: 06/01/23
Collection Date: 05/03/23 11:40
Date Received: 05/10/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		05/23/23 11:12 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		05/23/23 11:12 / kdk
Radium 228	0.6	pCi/L	U		RA-05		05/18/23 13:08 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		05/18/23 13:08 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		05/18/23 13:08 / trs

Report Definitions: RL - Analyte Reporting Limit
 QCL - Quality Control Limit
 U - Not detected at Minimum Detectable Concentration (MDC)

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

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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.MVTTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23050455

Report Date: 05/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-10894										
Lab ID: LCS-RA226-10894	3	Laboratory Control Sample								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		11	pCi/L	114		70	130			
Radium 226 precision (±)		2.3	pCi/L							
Radium 226 MDC		0.22	pCi/L							
Lab ID: MB-RA226-10894	3	Method Blank								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		0.1	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23050423-001FDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230512B								05/23/23 11:12
Radium 226		1.9	pCi/L					5.6	30	
Radium 226 precision (±)		0.48	pCi/L							
Radium 226 MDC		0.23	pCi/L							
- The RER result is 0.15.										

Qualifiers:

RL - Analyte Reporting Limit

U - Not detected at Minimum Detectable Concentration (MDC)

ND - Not detected at the Reporting Limit (RL)

MVTTL 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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 866.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23050455

Report Date: 05/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA226-7094										
Lab ID: LCS-228-RA226-10894	3	Laboratory Control Sample								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		5.7	pCi/L	81		70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.2	pCi/L							
Lab ID: MB-RA226-10894	3	Method Blank								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		2	pCi/L							
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23050423-001FDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230512A								05/18/23 13:08
Radium 228		2.2	pCi/L					11	30	
Radium 228 precision (±)		0.91	pCi/L							
Radium 228 MDC		1.3	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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



Trust our People. Trust our Data.
www.mvttl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Cheyenne, WY 307.688.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23050455

Login completed by: Manford E. Hurley

Date Received: 5/10/2023

Reviewed by: cjohnson

Received by: slr

Reviewed Date: 5/15/2023

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:	12.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <5mm (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.

Contact and Corrective Action Comments:

None

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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

Chain of Custody Record form containing fields for Account #, Client, Contact, Date, Time, Sample Type, and Analysis Required. Includes a table with columns for IML Lab Number, MVTL Lab Number, Client Sample ID, Date Sampled, Time Sampled, and Analysis Required.

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.



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

Custody Record

Basin Electric Power Cooperative
 WO: 14751

Page 1 of 1

Barcode:

Phone #: 701-400-7751

Contact: Casey Mutzenberger Email: c.mutzenberger@bepc.com
c.mutzenberger@bepc.com

Name of Sampler: mb For e-mail report check box

Quote Number: _____ Date Submitted: 5-5-23

Project Name/Number: New LOS CCR Wells Purchase Order #: 675266-04

Lab Use Only	Lab Number	Sample ID	Sample Matrix PW - Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O - Other	Filtered Y or N		Bottle Type										Analysis Required			
				Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4		40 ml Vials H2SO4	Other:	
	001	MW-2017-10	GW	5-3-23	1745			X	X										B, Ca, Cl, F, SO4
	002	MW-2017-11	GW	5-3-23	11410			X	X										Sb, As, Ba, Be, Cd
	003	MW-2017-12	GW	5-4-23	0917			X	X										Ce, Co, Pb, Li, Hg
	004	MW-2017-13	GW	5-4-23	0918			X	X										Mn, Se, TL
	005	Dup.	GW	5-3-23	1140			X	X										Radium 226 + 228 TDS

Comments:

Transferred by:	Date:	Time:	Sample Condition:	Received by:	Date:	Time:	Temp:
1. <u>Millennium Express</u>	<u>5-5-23</u>			<u>(initials)</u>	<u>12 May 23</u>	<u>11005</u>	<u>48°C</u>
2.							<u>72(920)</u>
3.							

Please submit the top two copies with your samples. We will return the completed original with your results. N1157-9 0118

Form # 80-90003-1
See above for page number
Effective Date: 15 Jan 2018

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, June 9, 2023 2:29:39 PM

Corrected 14751 - 1381304



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

Workorder Summary

Workorder Comments

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

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, July 21, 2023 12:27:13 PM

Page 2 of 20



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17869001 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: MW-2017-10 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	
Radium 228	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



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

Analytical Results

Lab ID: 17869002 **Date Collected:** 06/06/2023 12:45 **Matrix:** Groundwater
Sample ID: MW-2017-11 **Date Received:** 06/08/2023 15:38 **Collector:** Client
Temp @ Receipt (C): 3.2

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	
Radium 228	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17869003 **Date Collected:** 06/07/2023 10:45 **Matrix:** Groundwater
Sample ID: MW-2016-12 **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	
Radium 228	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 17869005 **Date Collected:** 06/07/2023 08:45 **Matrix:** Groundwater
Sample ID: MW-2017-8D **Date Received:** 06/08/2023 15:38 **Collector:** Client

Temp @ Receipt (C): 3.2

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	
Radium 228	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	

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, July 21, 2023 12:27:13 PM

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVT L.com



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

Analytical Results

Lab ID: 17869006 **Date Collected:** 06/06/2023 14:00 **Matrix:** Groundwater
Sample ID: Dup **Date Received:** 06/08/2023 15:38 **Collector:** Client
Temp @ Receipt (C): 3.2

Contract Lab**Method: Contracted Result**

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	
Radium 228	See Attached			1	07/20/2023 15:55	07/20/2023 15:55	SUBv	

MVT L 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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

July 19, 2023

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

Work Order: C23060624 Quote ID: C15480

Project Name: 17869

Energy Laboratories, Inc. Casper WY received the following 6 samples for Minnesota Valley Testing Laboratories on 8/15/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23060624-001	17869001; MW-2017-10	06/06/23 14:00	06/15/23	Groundwater	Radium 226, Total Radium 228, Total
C23060624-002	17869002; MW-2017-11	06/06/23 12:45	06/15/23	Groundwater	Same As Above
C23060624-003	17869003; MW-2016-12	06/06/23 10:45	06/15/23	Groundwater	Same As Above
C23060624-004	17869004; MW-2016-13	06/06/23 10:30	06/15/23	Groundwater	Same As Above
C23060624-005	17869005; MW-2017-8D	06/06/23 8:45	06/15/23	Groundwater	Same As Above
C23060624-006	17869006; Dup	06/06/23 14:00	06/15/23	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:

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-001
Client Sample ID: 17869001; MW-2017-10

Report Date: 07/19/23
Collection Date: 06/06/23 14:00
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		07/11/23 13:22 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 226 MDC	0.3	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 228	0.6	pCi/L	U		RA-05		07/06/23 15:28 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		07/06/23 15:28 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/06/23 15:28 / trs

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)

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-002
Client Sample ID: 17869002; MW-2017-11

Report Date: 07/19/23
Collection Date: 06/06/23 12:45
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	-0.1	pCi/L	U		E903.0		07/11/23 13:22 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 226 MDC	0.3	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 228	0.3	pCi/L	U		RA-05		07/06/23 15:28 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/06/23 15:28 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/06/23 15:28 / trs

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)	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-003
Client Sample ID: 17869003; MW-2016-12

Report Date: 07/19/23
Collection Date: 06/06/23 10:45
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.07	pCi/L	U		E903.0		07/11/23 13:22 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 226 MDC	0.3	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 228	-0.6	pCi/L	U		RA-05		07/06/23 15:28 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/06/23 15:28 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/06/23 15:28 / trs

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)	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-004
Client Sample ID: 17869004; MW-2016-13

Report Date: 07/19/23
Collection Date: 06/06/23 10:30
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.03	pCi/L	U		E903.0		07/11/23 13:22 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		07/11/23 13:22 / kdk
Radium 228	0.04	pCi/L	U		RA-05		07/06/23 15:28 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/06/23 15:28 / trs
Radium 228 MDC	1.1	pCi/L			RA-05		07/06/23 15:28 / trs

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)	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-005
Client Sample ID: 17869005; MW-2017-8D

Report Date: 07/19/23
Collection Date: 06/06/23 08:45
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U			E903.0	07/11/23 15:01 / kdk
Radium 226 precision (±)	0.1	pCi/L				E903.0	07/11/23 15:01 / kdk
Radium 226 MDC	0.2	pCi/L				E903.0	07/11/23 15:01 / kdk
Radium 228	0.3	pCi/L	U			RA-05	07/06/23 15:28 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	07/06/23 15:28 / trs
Radium 228 MDC	1.1	pCi/L				RA-05	07/06/23 15:28 / trs

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)	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 17869
Lab ID: C23060624-006
Client Sample ID: 17869006; Dup

Report Date: 07/19/23
Collection Date: 06/06/23 14:00
Date Received: 06/15/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U			E903.0	07/11/23 15:01 / kdk
Radium 226 precision (±)	0.2	pCi/L				E903.0	07/11/23 15:01 / kdk
Radium 226 MDC	0.2	pCi/L				E903.0	07/11/23 15:01 / kdk
Radium 228	0.9	pCi/L	U			RA-05	07/14/23 17:17 / trs
Radium 228 precision (±)	0.8	pCi/L				RA-05	07/14/23 17:17 / trs
Radium 228 MDC	1.4	pCi/L				RA-05	07/14/23 17:17 / trs

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)	

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvttl.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23060624

Report Date: 07/18/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-10942										
Lab ID: LCS-RA226-10942	3	Laboratory Control Sample								
		Run: G542M-2_230621A								07/11/23 11:43
Radium 226		9.9	pCi/L	99		70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.24	pCi/L							
Lab ID: MB-RA226-10942	3	Method Blank								
		Run: G542M-2_230621A								07/11/23 11:43
Radium 226		-0.1	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23060533-004EDUP	3	Sample Duplicate								
		Run: G542M-2_230621A								07/11/23 11:43
Radium 226		1.7	pCi/L					7.9	30	
Radium 226 precision (±)		0.40	pCi/L							
Radium 226 MDC		0.25	pCi/L							
- The RER result is 0.4.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23060624

Report Date: 07/18/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05 Batch: RA228-7147										
Lab ID: LCS-228-RA226-10962	3	Laboratory Control Sample								
		Run: TENNELEC-3_230711A								07/14/23 16:47
Radium 228		7.4	pCi/L	108		70	130			
Radium 228 precision (±)		1.6	pCi/L							
Radium 228 MDC		1.2	pCi/L							
Lab ID: MB-RA226-10962	3	Method Blank								
		Run: TENNELEC-3_230711A								07/14/23 16:47
Radium 228		-0.7	pCi/L							U
Radium 228 precision (±)		0.9	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C23060522-011DDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230711A								07/14/23 16:47
Radium 228		1.0	pCi/L					180	30	UR
Radium 228 precision (±)		1.3	pCi/L							
Radium 228 MDC		2.2	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 0.57.										
Lab ID: C23060938-002ADUP	3	Sample Duplicate								
		Run: TENNELEC-3_230711A								07/14/23 16:47
Radium 228		0.089	pCi/L					1700	30	UR
Radium 228 precision (±)		0.70	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 0.20.										
Method: RA-05 Batch: RA228-7129										
Lab ID: LCS-228-RA226-10942	3	Laboratory Control Sample								
		Run: TENNELEC-4_230621A								07/06/23 13:52
Radium 228		7.3	pCi/L	106		70	130			
Radium 228 precision (±)		1.7	pCi/L							
Radium 228 MDC		0.97	pCi/L							
Lab ID: MB-RA226-10942	3	Method Blank								
		Run: TENNELEC-4_230621A								07/06/23 13:52
Radium 228		-0.5	pCi/L							U
Radium 228 precision (±)		0.5	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23060533-004EDUP	3	Sample Duplicate								
		Run: TENNELEC-4_230621A								07/06/23 13:52
Radium 228		7.9	pCi/L					8.2	30	
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		0.93	pCi/L							
- The RER result is 0.25.										

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)

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gallatin, WY 307.688.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23060624

Login completed by: Hannah R. Johnson

Date Received: 6/15/2023

Reviewed by: cjohnson

Received by: gah

Reviewed Date: 6/19/2023

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:	19.8°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.

Contact and Corrective Action Comments:

None

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record form containing fields for Account #, Client, Laboratory Name, Contact, Sample Information, and Analysis Results. Includes a table for Sample Information and Analysis Required.

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.

Report Date: Friday, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
 www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

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 Custody Record WO: 17869 Barcode Page <u>1</u> of <u>1</u>																																																																																																																																																																																																											
Company Name and Address: Billing Address (indicate if different from above):		Account #: _____ Phone #: <u>745-7238 557-5488</u> Contact: <u>Aaron Knutson, Mark Dible</u> Email: <u>aknutson@bepc.com</u> <u>mdible@bepc.com</u> Name of Sampler: <u>mls</u> For e-mail report check box <input checked="" type="checkbox"/> Quote Number _____ Date Submitted: <u>6-8-23</u> Project Name/Number: <u>LOS CCR Wells</u> Purchase Order #: <u>675266-04</u>																																																																																																																																																																																																											
<table border="1"> <thead> <tr> <th rowspan="2">Lab Use Only</th> <th rowspan="2">Lab Number</th> <th rowspan="2">Sample ID</th> <th rowspan="2">Sample Matrix PW - Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O - Other</th> <th colspan="2">Filtered Y or N</th> <th colspan="10">Bottle Type</th> <th rowspan="2">Analysis Required</th> </tr> <tr> <th>Date Sampled</th> <th>Time Sampled</th> <th>Untreated</th> <th>Sterile</th> <th>500 ml HNO3</th> <th>1000 ml H2SO4</th> <th>250 ml H2SO4</th> <th>1000 ml NaOH</th> <th>Amber HCl</th> <th>Amber Unpres.</th> <th>VOC Vials HCl</th> <th>Amber H2SO4</th> <th>40 ml Vials H2SO4</th> <th>Other:</th> </tr> </thead> <tbody> <tr> <td></td> <td>001</td> <td>MW-2017-10</td> <td>GW</td> <td>6-6-23</td> <td>1400</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>B, Ca, Cl, F, SO4</td> </tr> <tr> <td></td> <td>002</td> <td>MW-2017-11</td> <td></td> <td>6-6-23</td> <td>1245</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Sb, As, Ba, Be, Cd</td> </tr> <tr> <td></td> <td>003</td> <td>MW-2016-12</td> <td></td> <td>6-7-23</td> <td>1045</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Cr, Co, Pb, Li, Hg</td> </tr> <tr> <td></td> <td>004</td> <td>MW-2016-13</td> <td></td> <td>6-7-23</td> <td>1030</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Mn, Se, Tl, Radium</td> </tr> <tr> <td></td> <td>005</td> <td>MW-2017-8D</td> <td></td> <td>6-7-23</td> <td>0845</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>226 + 228</u></td> </tr> <tr> <td></td> <td>006</td> <td>Dup.</td> <td></td> <td>6-6-23</td> <td>1400</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>MW-2017-8</td> <td></td> <td>6-7-23</td> <td>0955</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>B, Ca, Cl, F, SO4</td> </tr> <tr> <td></td> <td></td> <td>MW-2017-7</td> <td></td> <td>6-7-23</td> <td>1310</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>MW-2017-4</td> <td></td> <td>6-7-23</td> <td>1425</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Lab Use Only	Lab Number	Sample ID	Sample Matrix PW - Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O - Other	Filtered Y or N		Bottle Type										Analysis Required	Date Sampled	Time Sampled	Untreated	Sterile	500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4	40 ml Vials H2SO4	Other:		001	MW-2017-10	GW	6-6-23	1400		X											B, Ca, Cl, F, SO4		002	MW-2017-11		6-6-23	1245													Sb, As, Ba, Be, Cd		003	MW-2016-12		6-7-23	1045													Cr, Co, Pb, Li, Hg		004	MW-2016-13		6-7-23	1030													Mn, Se, Tl, Radium		005	MW-2017-8D		6-7-23	0845													<u>226 + 228</u>		006	Dup.		6-6-23	1400																MW-2017-8		6-7-23	0955													B, Ca, Cl, F, SO4			MW-2017-7		6-7-23	1310																MW-2017-4		6-7-23	1425														Comments: Transferred by: _____ Date: _____ Time: _____ Sample Condition: _____ Received by: _____ Date: _____ Time: _____ Temp: _____ 1. <u>Millennium Express</u> <u>6-8-23</u> _____ <u>Tom</u> <u>8 Jun 23</u> <u>3:22</u> <u>TM 805</u> 2. _____ _____ _____ _____ _____ _____ _____ _____ _____ 3. _____ _____ _____ _____ _____ _____ _____ _____ _____	
Lab Use Only	Lab Number					Sample ID	Sample Matrix PW - Potable Water GW - Groundwater WW - Wastewater SW - Surface Water S - Soil/Sludge O - Other	Filtered Y or N		Bottle Type										Analysis Required																																																																																																																																																																																									
		Date Sampled	Time Sampled	Untreated	Sterile			500 ml HNO3	1000 ml H2SO4	250 ml H2SO4	1000 ml NaOH	Amber HCl	Amber Unpres.	VOC Vials HCl	Amber H2SO4	40 ml Vials H2SO4	Other:																																																																																																																																																																																												
	001	MW-2017-10	GW	6-6-23	1400		X											B, Ca, Cl, F, SO4																																																																																																																																																																																											
	002	MW-2017-11		6-6-23	1245													Sb, As, Ba, Be, Cd																																																																																																																																																																																											
	003	MW-2016-12		6-7-23	1045													Cr, Co, Pb, Li, Hg																																																																																																																																																																																											
	004	MW-2016-13		6-7-23	1030													Mn, Se, Tl, Radium																																																																																																																																																																																											
	005	MW-2017-8D		6-7-23	0845													<u>226 + 228</u>																																																																																																																																																																																											
	006	Dup.		6-6-23	1400																																																																																																																																																																																																								
		MW-2017-8		6-7-23	0955													B, Ca, Cl, F, SO4																																																																																																																																																																																											
		MW-2017-7		6-7-23	1310																																																																																																																																																																																																								
		MW-2017-4		6-7-23	1425																																																																																																																																																																																																								

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, July 21, 2023 12:27:13 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVT L.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

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

MVT L guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVT L 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 MVT L. 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: Thursday, August 10, 2023 4:01:01 PM

Page 2 of 22



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19634001 **Date Collected:** 06/26/2023 14:06 **Matrix:** Groundwater
Sample ID: LOS Pond MW-2017-10 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:04	08:04		
Radium 228	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19634002 **Date Collected:** 06/26/2023 12:11 **Matrix:** Groundwater
Sample ID: LOS Pond MW-2017-11 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		
Radium 228	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19634004 **Date Collected:** 06/27/2023 08:40 **Matrix:** Groundwater
Sample ID: LOS Landfill MW-2016-12 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		
Radium 228	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 19634005 **Date Collected:** 06/27/2023 07:50 **Matrix:** Groundwater
Sample ID: LOS Landfill MW-2016-13 **Date Received:** 06/28/2023 16:24 **Collector:** Client

Temp @ Receipt (C): 5.6

Contract Lab

Method: Contracted Result

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	By	Qual
Radium 226	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		
Radium 228	See			1	08/07/2023	08/07/2023	SUBv	
	Attached				08:05	08:05		

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylabs.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

August 03, 2023

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

Work Order: C23070174 Quote ID: C15480

Project Name: 19634

Energy Laboratories, Inc. Casper WY received the following 5 samples for Minnesota Valley Testing Laboratories on 7/7/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23070174-001	19634001; LOS POND MW-2017-10	06/26/23 14:06	07/07/23	Groundwater	Radium 226, Total Radium 228, Total
C23070174-002	19634002; LOS POND MW-2017-11	06/26/23 12:11	07/07/23	Groundwater	Same As Above
C23070174-003	19634003; Dup	06/26/23 12:11	07/07/23	Groundwater	Same As Above
C23070174-004	19634004; LOS LANDFILL MW2016-12	06/26/23 8:40	07/07/23	Groundwater	Same As Above
C23070174-005	19634005; LOS LANDFILL MW2016-13	06/26/23 7:50	07/07/23	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:

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 19634
Lab ID: C23070174-001
Client Sample ID: 19634001; LOS POND MW-2017-10

Report Date: 08/03/23
Collection Date: 06/26/23 14:06
Date Received: 07/07/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.09	pCi/L	U		E903.0		07/24/23 14:41 / kdk
Radium 226 precision (±)	0.2	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 226 MDC	0.3	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 228	-0.1	pCi/L	U		RA-05		07/18/23 14:34 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/18/23 14:34 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/18/23 14:34 / trs

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)	

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 19634
Lab ID: C23070174-002
Client Sample ID: 19634002; LOS POND MW-2017-11

Report Date: 08/03/23
Collection Date: 06/26/23 12:11
Date Received: 07/07/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.04	pCi/L	U		E903.0		07/24/23 14:41 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 228	-0.5	pCi/L	U		RA-05		07/18/23 15:06 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/18/23 15:06 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/18/23 15:06 / trs

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)	

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 19634
Lab ID: C23070174-003
Client Sample ID: 19634003; Dup

Report Date: 08/03/23
Collection Date: 06/26/23 12:11
Date Received: 07/07/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	-0.03	pCi/L	U		E903.0		07/24/23 14:41 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 228	-0.9	pCi/L	U		RA-05		07/18/23 15:06 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/18/23 15:06 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		07/18/23 15:06 / trs

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)

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 19634
Lab ID: C23070174-004
Client Sample ID: 19634004; LOS LANDFILL MW2016-12

Report Date: 08/03/23
Collection Date: 06/26/23 08:40
Date Received: 07/07/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		07/24/23 14:41 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 228	-0.3	pCi/L	U		RA-05		07/18/23 15:06 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		07/18/23 15:06 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		07/18/23 15:06 / trs

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)	

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 19634
Lab ID: C23070174-005
Client Sample ID: 19634005; LOS LANDFILL MW2016-13

Report Date: 08/03/23
Collection Date: 06/26/23 07:50
Date Received: 07/07/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.05	pCi/L	U		E903.0		07/24/23 14:41 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		07/24/23 14:41 / kdk
Radium 228	0.1	pCi/L	U		RA-05		07/18/23 15:06 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		07/18/23 15:06 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		07/18/23 15:06 / trs

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)

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23070174

Report Date: 07/25/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-10961										
Lab ID: LCS-RA226-10961	3	Laboratory Control Sample								
		Run: TENNELEC-3_230711D 07/24/23 14:41								
Radium 226		9.6	pCi/L	96		70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-10961	3	Method Blank								
		Run: TENNELEC-3_230711D 07/24/23 14:41								
Radium 226		0.06	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23070174-001ADUP	3	Sample Duplicate								
		Run: TENNELEC-3_230711D 07/24/23 14:41								
Radium 226		0.092	pCi/L					0.3	30	U
Radium 226 precision (±)		0.15	pCi/L							
Radium 226 MDC		0.24	pCi/L							
- The RER result is 0.0										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23070174

Report Date: 07/25/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7146										
Lab ID: LCS-228-RA226-10961	3	Laboratory Control Sample								
Radium 228		6.6	pCi/L	96		70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-10961	3	Method Blank								
Radium 228		-0.7	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23070174-001ADUP	3	Sample Duplicate								
Radium 228		-0.23	pCi/L					42	30	UR
Radium 228 precision (±)		0.86	pCi/L							
Radium 228 MDC		1.1	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 0.08

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)

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billing, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23070174

Login completed by: Dakota R. Januska

Date Received: 7/7/2023

Reviewed by: cjohnson

Received by: gah

Reviewed Date: 7/13/2023

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 type="checkbox"/>	No <input checked="" 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:	14.5°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.

Contact and Corrective Action Comments:

An additional cooler was received with a temp of 15.6°C

Sample 19634005-1 were received at pH=6, 2mLs of *added per *mL to preserve to pH <2.

BO#s also included - 174743 and 173529.

Chain of custody lists as receiving 2 bottles per sample set and we only received one. 7/7/23 DR

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Chain of Custody Record



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

Phone: (701) 258-9720
Fax: (701) 258-9724

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

Page 1 of 1

Work Order # 19634

Account #: _____

Phone #: 701-258-9720

Fax #: _____

For faxed report check box

E-mail: gcarroll@mvtl.com

For e-mail report check box

Date Submitted: 30-Jun-23

Purchase Order #: BL6720

Analysis

Analysis

Bottle Type

Sample Information

Lab Number	MVTL Lab Number	Client Sample ID	Sample Type	Date Sampled	Time Sampled	1000 ml HNO3	VOC Vials	Unpreserved	Glass Jar	Other	Analysis Required
	19634001	LOS POND MW-2017-10	GW	26-Jun-23	1406	2					Ra226 & Ra228
	19634002	LOS POND MW-2017-11	GW	26-Jun-23	1211	2					Ra226 & Ra228
	19634003	Dup	GW	26-Jun-23	1211	2					Ra226 & Ra228
	19634004	LOS LANDFILL MW2016-12	GW	26-Jun-23	0840	2					Ra226 & Ra228
	19634005	LOS LANDFILL MW2016-13	GW	26-Jun-23	0750	2					Ra226 & Ra228

Ca226/228

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	30-Jun-23	1700		Jane Rogers	7/6/23	

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.



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

Safety Data Sheet for Nitric acid, Trace Metal Grade. Includes sections for 1. Identification, 2. Hazard(s) Identification, 3. Composition/Information on Ingredients, and 4. First-aid measures. Features hazard pictograms and a red circular logo with 'HNO3 NITRIC ACID'.

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Nitric acid, Trace Metal Grade
Revision Date: 24-Dec-2021
Irritation: Causes severe burns by all exposure routes
Sensitization: No information available
Carcinogenicity: The table below indicates whether each agency has listed any 'ingredient' as a carcinogen.
CAS No. 7429-26-1
Molecular Weight 63.01

Nitric acid, Trace Metal Grade
Revision Date: 24-Dec-2021
Physical State: Clear Colorless, Light yellow
Other: Strong Acid
pH: < 1.0 (0.1M) available
Melting Point/Range: -41 °C / -41.6 °F
Boiling Point/Range: Not applicable
Flash Point: Not applicable
Evaporation Rate: Not applicable
Flammability or explosive limits: Upper
Vapor Pressure: 13.8 kPa (100°C)
Specific Gravity: 1.42
Stability: Stable
Solubility: Soluble in water
Autoignition Temperature: Not applicable
Decomposition Temperature: Not applicable
Molecular Formula: HNO3
Molecular Weight: 63.01

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Revision Date: 24-Dec-2021

Nitric acid, Trace Metal Grade

16. Other information

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Email: E6605310@thermofisher.com

Creation Date: 12-Mar-2009
Print Date: 24-Dec-2021
Revision Summary: 5256 actions updated: 2, 11

Disclaimer
This information is provided in this Safety Data Sheet as correct to the best of our knowledge, information and belief at the time of its creation. The information is not intended to be used for purposes of design, construction, installation, operation, maintenance, repair, transportation, disposal and reuse and is not to be considered a warranty or quality specification. The information is provided for informational purposes only and should not be used for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 19634



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@bepc.com aknutson@bepc.com
		Name of Sampler mls	jermey.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 6/28/2023
		Project Name/Number LOS CCR Wells	Purchase Order # 675266-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	LOS POND MW-2017-10	GW	6/26/2023	1406	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	LOS POND MW-2017-11	GW	6/26/2023	1211	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	6/26/2023	1211	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
004	LOS LANDFILL MW2016-12	GW	6/27/2023	840	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
005	LOS LANDFILL MW-2016-13	GW	6/27/2023	750	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. #
MILLENNIUM EXPRESS			<i>[Signature]</i>	28 Jun 23	11:24	5.10°C	Y/N	TN 920

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

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 19634



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 mls	jermey.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 6/28/2023
		Project Name/Number LOS CCR Wells	Purchase Order # 675266-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001	LOS POND MW-2017-10	GW	6/26/2023	1406	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	LOS POND MW-2017-11	GW	6/26/2023	1211	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	6/26/2023	1211	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
004	LOS LANDFILL MW2016-12	GW	6/27/2023	840	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228, TDS
005	LOS LANDFILL MW-2016-13	GW	6/27/2023	750	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. #
MILLENNIUM EXPRESS			<i>[Signature]</i>	28 Jun 23	1624	5.16 °C	Y/N	TM 920
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

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: Thursday, August 10, 2023 4:01:01 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Workorder Summary

Workorder Comments

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

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, August 16, 2023 11:23:25 AM

Page 2 of 12



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

August 14, 2023

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

Work Order: C23070519 Quote ID: C15480

Project Name: 20727

Energy Laboratories, Inc. Casper WY received the following 2 samples for Minnesota Valley Testing Laboratories on 7/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23070519-001	20727001; MW-2016-12	07/12/23 9:30	07/17/23	Groundwater	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total
C23070519-002	20727002; Dup	07/12/23 9:30	07/17/23	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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 20727
Lab ID: C23070519-001
Client Sample ID: 20727001; MW-2016-12

Report Date: 08/14/23
Collection Date: 07/12/23 09:30
Date Received: 07/17/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.05	pCi/L	U		E903.0		08/01/23 12:25 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		08/01/23 12:25 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		08/01/23 12:25 / kdk
Radium 228	0.02	pCi/L	U		RA-05		07/25/23 16:56 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		07/25/23 16:56 / trs
Radium 228 MDC	1.3	pCi/L			RA-05		07/25/23 16:56 / trs
Radium 226 + Radium 228	0.8	pCi/L	U		A7500-RA		08/02/23 14:45 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L			A7500-RA		08/02/23 14:45 / dmf
Radium 226 + Radium 228 MDC	1.4	pCi/L			A7500-RA		08/02/23 14:45 / 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)

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, August 16, 2023 11:23:25 AM



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 20727
Lab ID: C23070519-002
Client Sample ID: 20727002: Dup

Report Date: 08/14/23
Collection Date: 07/12/23 09:30
Date Received: 07/17/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.1	pCi/L	U		E903.0		08/01/23 12:25 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		08/01/23 12:25 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		08/01/23 12:25 / kdk
Radium 228	0.4	pCi/L	U		RA-05		07/25/23 16:56 / trs
Radium 228 precision (±)	0.8	pCi/L			RA-05		07/25/23 16:56 / trs
Radium 228 MDC	1.4	pCi/L			RA-05		07/25/23 16:56 / trs
Radium 226 + Radium 228	0.8	pCi/L	U		A7500-RA		08/02/23 14:45 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L			A7500-RA		08/02/23 14:45 / dmf
Radium 226 + Radium 228 MDC	1.4	pCi/L			A7500-RA		08/02/23 14:45 / 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)

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, August 16, 2023 11:23:25 AM



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23070519

Report Date: 08/03/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-10971										
Lab ID: LCS-RA226-10971	3	Laboratory Control Sample								
						Run: G542M-2_230720A				07/31/23 15:05
Radium 226		9.4	pCi/L	94		70	130			
Radium 226 precision (±)		1.8	pCi/L							
Radium 226 MDC		0.20	pCi/L							
Lab ID: MB-RA226-10971	3	Method Blank								
						Run: G542M-2_230720A				07/31/23 15:05
Radium 226		-0.04	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23070398-002BDUP	3	Sample Duplicate								
						Run: G542M-2_230720A				08/01/23 12:25
Radium 226		7.8	pCi/L					13	30	
Radium 226 precision (±)		1.5	pCi/L							
Radium 226 MDC		0.22	pCi/L							
- The RER result is 0.47.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, August 16, 2023 11:23:25 AM



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



Trust our People. Trust our Data.
www.mvttl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories Work Order: C23070519 Report Date: 08/03/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7150										
Lab ID: LCS-228-RA226-10971	3	Laboratory Control Sample								
		Run: TENNELEC-4_230720A								07/25/23 15:20
Radium 228		7.6	pCi/L	112		70	130			
Radium 228 precision (±)		1.7	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-10971	3	Method Blank								
		Run: TENNELEC-4_230720A								07/25/23 15:20
Radium 228		-0.5	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23070398-002BDUP	3	Sample Duplicate								
		Run: TENNELEC-4_230720A								07/25/23 15:20
Radium 228		11	pCi/L					15	30	
Radium 228 precision (±)		2.3	pCi/L							
Radium 228 MDC		1.1	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)

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, August 16, 2023 11:23:25 AM



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23070519

Login completed by: Selena J. Fowler

Date Received: 7/17/2023

Reviewed by: cjohnson

Received by: cns

Reviewed Date: 7/19/2023

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	25 9°C Blue 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 type="checkbox"/>	No <input checked="" 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.

Contact and Corrective Action Comments:

The samples for Radionuclides were received at pH 7, 2mL of HNO3 was added in the laboratory upon receipt-Chantel S. Johnson

BO#17473 7/19/2023 HJ

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, August 16, 2023 11:23:25 AM



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 Coope
WO: 20727



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 Myles Schettler	jerney.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 07-12-23
		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-2016-12	GW	7/12/2023	930	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228
002	Dup	GW	7/12/2023	930	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti, Ra226, Ra228

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
1.			<i>[Signature]</i>	12/12/23	1500	-4.7°C	Y/N	74920
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

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, August 16, 2023 11:23:25 AM



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

November 14, 2023

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

Work Order: C23100628 Quote ID: C15480

Project Name: 31096

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 10/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23100628-001	31096001; MW-2016-12	10/11/23 14:10	10/17/23	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, 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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 31096
Lab ID: C23100628-001
Client Sample ID: 31096001; MW-2016-12

Report Date: 11/14/23
Collection Date: 10/11/23 14:10
Date Received: 10/17/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	-0.003	pCi/L	U			E903.0	10/30/23 16:43 / kdk
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/30/23 16:43 / kdk
Radium 226 MDC	0.2	pCi/L				E903.0	10/30/23 16:43 / kdk
Radium 228	2.3	pCi/L				RA-05	10/24/23 13:01 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/24/23 13:01 / trs
Radium 228 MDC	1.6	pCi/L				RA-05	10/24/23 13:01 / trs
Radium 226 + Radium 228	2.4	pCi/L				A7500-RA	11/01/23 11:59 / dmf
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	11/01/23 11:59 / dmf
Radium 226 + Radium 228 MDC	1.6	pCi/L				A7500-RA	11/01/23 11:59 / 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)	

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, November 22, 2023 11:29:36 AM



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23100628

Report Date: 11/14/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11096										
Lab ID: LCS-RA226-11096	3	Laboratory Control Sample				Run: G542M-2_231018A			10/30/23 14:40	
Radium 226		9.3	pCi/L	93		70	130			
Radium 226 precision (±)		1.8	pCi/L							
Radium 226 MDC		0.19	pCi/L							
Lab ID: MB-RA226-11096	3	Method Blank				Run: G542M-2_231018A			10/30/23 14:40	
Radium 226		-0.02	pCi/L							U
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Lab ID: C23100598-001ADUP	3	Sample Duplicate				Run: G542M-2_231018A			10/30/23 14:40	
Radium 226		12	pCi/L					1.0	30	
Radium 226 precision (±)		2.3	pCi/L							
Radium 226 MDC		0.19	pCi/L							
- The RER result is 0.04.										
Lab ID: C23100079-001CDUP	3	Sample Duplicate				Run: G542M-2_231018A			10/30/23 16:43	
Radium 226		85	pCi/L					3.7	30	
Radium 226 precision (±)		16	pCi/L							
Radium 226 MDC		0.23	pCi/L							
- The RER result is 0.14.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, November 22, 2023 11:29:36 AM



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23100628

Report Date: 11/14/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7238										
Lab ID: LCS-228-RA226-11096	3	Laboratory Control Sample								
		Run: TENNELEC-4_231018C								10/24/23 13:01
Radium 228		8.1	pCi/L	122		70	130			
Radium 228 precision (±)		2.0	pCi/L							
Radium 228 MDC		1.7	pCi/L							
Lab ID: MB-RA226-11096	3	Method Blank								
		Run: TENNELEC-4_231018C								10/24/23 13:01
Radium 228		0.6	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C23100598-001ADUP	3	Sample Duplicate								
		Run: TENNELEC-4_231018C								10/24/23 13:01
Radium 228		17	pCi/L					12		30
Radium 228 precision (±)		3.4	pCi/L							
Radium 228 MDC		1.5	pCi/L							
- The RER result is 0.44.										
Lab ID: C23100079-001CDUP	3	Sample Duplicate								
		Run: TENNELEC-4_231018C								10/24/23 13:01
Radium 228		10	pCi/L					18		30
Radium 228 precision (±)		2.4	pCi/L							
Radium 228 MDC		1.9	pCi/L							
- The RER result is 0.56.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, November 22, 2023 11:29:36 AM



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



Trust our People. Trust our Data.
www.energy-lab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23100628

Login completed by: Manford E. Hurley

Date Received: 10/17/2023

Reviewed by: cjohnson

Received by: slr

Reviewed Date: 10/18/2023

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:	12.7°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

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, November 22, 2023 11:29:36 AM



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 Cooperative
WO: 31096



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)		Contact Mark Dihle	Emails mdihle@bepec.com aknutson@bepec.com
		Name of Sampler mls	jerney.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 10/11/2023
		Project Name/Number LOS CCR Wells SP 143	Purchase Order # 790708-04

Lab Use Only	Sample ID	Sample Matrix GW - Groundwater	Date Sampled	Time Sampled	Bottles	Y/N	Analysis Required
001 085 40 30-23	MW - 2016 - 12	GW	10/11/2023	1410	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. #
MILLENNIUM EXPRESS			<i>M. H. H. H. H.</i>	11/01/23	1555	2.9C	Y/N	MARCO
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.



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

Workorder Summary

Workorder Comments

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

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, September 8, 2023 4:15:34 PM

Page 2 of 10



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

September 08, 2023

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

Work Order: C23080495 Quote ID: C15480

Project Name: 22235

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 8/9/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23080495-001	22235001; MW-2016-12	07/27/23 8:15	08/09/23	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, 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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 22235
Lab ID: C23080495-001
Client Sample ID: 22235001; MW-2016-12

Report Date: 09/08/23
Collection Date: 07/27/23 08:15
Date Received: 08/09/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.07	pCi/L	U		E903.0		08/28/23 12:52 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		08/28/23 12:52 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		08/28/23 12:52 / kdk
Radium 228	1.8	pCi/L			RA-05		08/22/23 14:31 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		08/22/23 14:31 / trs
Radium 228 MDC	1	pCi/L			RA-05		08/22/23 14:31 / trs
Radium 226 + Radium 228	1.9	pCi/L			A7500-RA		08/29/23 11:36 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L			A7500-RA		08/29/23 11:36 / dmf
Radium 226 + Radium 228 MDC	1.0	pCi/L			A7500-RA		08/29/23 11:36 / dmf

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

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, September 8, 2023 4:15:34 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23080495

Report Date: 08/31/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11003										
Lab ID: LCS-RA226-11003	3	Laboratory Control Sample								
		Run: TENNELEC-3_230816E								08/28/23 11:17
Radium 226		11	pCi/L	106		70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.21	pCi/L							
Lab ID: MB-RA226-11003	3	Method Blank								
		Run: TENNELEC-3_230816E								08/28/23 11:17
Radium 226		-0.1	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Lab ID: C23080438-001EDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230816E								08/28/23 11:17
Radium 226		3.1	pCi/L					3.5	30	
Radium 226 precision (±)		0.69	pCi/L							
Radium 226 MDC		0.22	pCi/L							
- The RER result is 0.11.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, September 8, 2023 4:15:34 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories **Work Order:** C23080495 **Report Date:** 08/31/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7170										
Lab ID: LCS-228-RA226-11003	3	Laboratory Control Sample								
		Run: TENNELEC-3_230816B								08/22/23 14:31
Radium 228		6.0	pCi/L	88		70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-11003	3	Method Blank								
		Run: TENNELEC-3_230816B								08/22/23 14:31
Radium 228		0.03	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23080438-001EDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230816B								08/22/23 14:31
Radium 228		1.5	pCi/L					110	30	R
Radium 228 precision (±)		0.72	pCi/L							
Radium 228 MDC		0.99	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 1.10.

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)

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, September 8, 2023 4:15:34 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energy-lab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23080495

Login completed by: Manford E. Hurley

Date Received: 8/9/2023

Reviewed by: cjohnson

Received by: drmf

Reviewed Date: 8/14/2023

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.2°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.

Contact and Corrective Action Comments:

None

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, September 8, 2023 4:15:34 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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 Coope
WO: 22235



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@bepc.com aknutson@bepc.com
		Name of Sampler Myles Schettler	jermey.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted
		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-2016-12	GW	7/26/2023	815	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.			<i>[Signature]</i>	7/26/23	1509	53°C	Y100	7m 920
2.							YIN	

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

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, September 8, 2023 4:15:34 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylabs.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

September 24, 2023

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

Work Order: C23081143 Quote ID: C15480

Project Name: 25641

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 8/28/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23081143-001	25641001: LOS LANDFILL MW 2016-12	08/23/23 8:10	08/28/23	Groundwater	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, 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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 25641
Lab ID: C23081143-001
Client Sample ID: 25641001; LOS LANDFILL MW 2016-12

Report Date: 09/24/23
Collection Date: 08/23/23 08:10
Date Received: 08/28/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L			E903.0		09/13/23 16:05 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		09/13/23 16:05 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		09/13/23 16:05 / kdk
Radium 228	1.1	pCi/L			RA-05		09/07/23 16:40 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		09/07/23 16:40 / trs
Radium 228 MDC	1.1	pCi/L			RA-05		09/07/23 16:40 / trs

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

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

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: Monday, October 16, 2023 3:34:48 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23081143

Report Date: 09/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11021										
Lab ID: LCS-RA226-11021	3	Laboratory Control Sample								
		Run: G542M-2_230829C								09/12/23 16:36
Radium 226		10	pCi/L	100		70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.24	pCi/L							
Lab ID: MB-RA226-11021	3	Method Blank								
		Run: G542M-2_230829C								09/12/23 16:37
Radium 226		-0.06	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23080376-004CDUP	3	Sample Duplicate								
		Run: G542M-2_230829C								09/13/23 16:05
Radium 226		1.3	pCi/L					6.0	30	
Radium 226 precision (±)		0.34	pCi/L							
Radium 226 MDC		0.21	pCi/L							
- The RER result is 0.16.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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: Monday, October 16, 2023 3:34:48 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23081143

Report Date: 09/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7184										
Lab ID: LCS-228-RA226-11021	3	Laboratory Control Sample								
		Run: TENNELEC-4_230829A								09/07/23 14:55
Radium 228		7.1	pCi/L	105		70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		0.93	pCi/L							
Lab ID: MB-RA226-11021	3	Method Blank								
		Run: TENNELEC-4_230829A								09/07/23 14:55
Radium 228		0.3	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C23080376-004CDUP	3	Sample Duplicate								
		Run: TENNELEC-4_230829A								09/07/23 14:55
Radium 228		3.8	pCi/L					.37	30	R
Radium 228 precision (±)		1.1	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 0.81.

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)

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: Monday, October 16, 2023 3:34:48 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energy.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23081143

Login completed by: Selena J. Fowler

Date Received: 8/28/2023

Reviewed by: cjohnson

Received by: drj

Reviewed Date: 8/31/2023

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:	21.7°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.

Contact and Corrective Action Comments:

None

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: Monday, October 16, 2023 3:34:48 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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: 25641



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 mls	jermey.hurshman@aecom.com jason.lach@aecom.com
		Quote Number	Date Submitted 8/23/2023
		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	LOS LANDFILL MW 2016-12	GW	8/23/2023	810	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			<i>[Signature]</i>	23 Aug 23	1549	6.1 °C	01N	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

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: Monday, October 16, 2023 3:34:48 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTTL.com



Account #: 2040

Client: Basin Electric Power Cooperative

Analytical Results

Lab ID: 28211001 **Date Collected:** 09/14/2023 08:00 **Matrix:** Groundwater
Sample ID: LOS Landfill MW **Date Received:** 09/14/2023 16:12 **Collector:** Client
2016-12

Temp @ Receipt (C): 5.4 **Received on Ice:** Yes

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

Method: Contracted Result

Radium 226	See Attached			1	10/23/2023 08:32	10/23/2023 08:32	SUBv	
Radium 228	See Attached			1	10/23/2023 08:32	10/23/2023 08:32	SUBv	

MVTTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTTL 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 MVTTL. 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, October 24, 2023 9:15:51 AM



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



Trust our People. Trust our Data.
www.energylabs.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

October 17, 2023

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

Work Order: C23090703 Quote ID: C15480

Project Name: 28211

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 9/19/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23090703-001	28211001; LOS Landfill MW 2016-1	09/14/23 8:00	09/19/23	Groundwater	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, 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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 28211
Lab ID: C23090703-001
Client Sample ID: 28211001; LOS Landfill MW 2016-1

Report Date: 10/17/23
Collection Date: 09/14/23 08:00
Date Received: 09/19/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		10/09/23 15:07 / trs
Radium 226 precision (±)	0.1	pCi/L			E903.0		10/09/23 15:07 / trs
Radium 226 MDC	0.2	pCi/L			E903.0		10/09/23 15:07 / trs
Radium 228	1.0	pCi/L	U		RA-05		10/04/23 14:30 / trs
Radium 228 precision (±)	0.9	pCi/L			RA-05		10/04/23 14:30 / trs
Radium 228 MDC	1.4	pCi/L			RA-05		10/04/23 14:30 / trs

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)

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, October 24, 2023 9:15:51 AM



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23090703

Report Date: 10/12/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11061										
Lab ID: LCS-RA226-11061	3	Laboratory Control Sample								
		Run: TENNELEC-3_230925B								10/09/23 13:02
Radium 226		10	pCi/L	100		70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-11061	3	Method Blank								
		Run: TENNELEC-3_230925B								10/09/23 13:02
Radium 226		0.02	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23090572-040EDUP	3	Sample Duplicate								
		Run: TENNELEC-3_230925B								10/09/23 15:07
Radium 226		1.2	pCi/L					9.3	30	
Radium 226 precision (±)		0.30	pCi/L							
Radium 226 MDC		0.23	pCi/L							
- The RER result is 0.26.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, October 24, 2023 9:15:51 AM



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



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23090703

Report Date: 10/12/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7215										
Lab ID: LCS-228-RA226-11061	3	Laboratory Control Sample								
		Run: TENNELEC-4_230925A								10/04/23 12:54
Radium 228		4.9	pCi/L	73		70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.4	pCi/L							
Lab ID: MB-RA226-11061	3	Method Blank								
		Run: TENNELEC-4_230925A								10/04/23 12:54
Radium 228		0.5	pCi/L							U
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23090572-040EDUP	3	Sample Duplicate								
		Run: TENNELEC-4_230925A								10/04/23 12:54
Radium 228		2.5	pCi/L					12	30	
Radium 228 precision (±)		0.96	pCi/L							
Radium 228 MDC		1.2	pCi/L							
- The RER result is 0.21.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, October 24, 2023 9:15:51 AM



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23090703

Login completed by: Taylor K. Jones

Date Received: 9/19/2023

Reviewed by: adegnan

Received by: DF

Reviewed Date: 9/21/2023

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:	21.1°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.

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:

The samples for radionuclides were received at pH ~3. 4 mL of HN03 per 1 gallon was added to preserve these samples below pH 2. This was done within the (5) day recommended time frame to preserve radionuclide samples per method.
tj 9/20/23

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, October 24, 2023 9:15:51 AM



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: 28211



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 mls	jermey.hurshman@aecom.com
		Quote Number	Date Submitted 9/14/2023
		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	LOS LANDFILL MW 2016 - 12	GW	9/14/2023	800	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	9/14/2023	NOON	<i>[Signature]</i>	14 Sep 23	1602	5.4°C	Y/N	7M920
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

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, October 24, 2023 9:15:51 AM



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

November 28, 2023

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

Work Order: C23101039 Quote ID: C15480

Project Name: 32040

Energy Laboratories, Inc. Casper WY received the following 1 sample for Minnesota Valley Testing Laboratories on 10/30/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23101039-001	32040001; MW-2016-12	10/24/23 8:24	10/30/23	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, 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:

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.



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



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories
Project: 32040
Lab ID: C23101039-001
Client Sample ID: 32040001; MW-2016-12

Report Date: 11/28/23
Collection Date: 10/24/23 08:24
Date Received: 10/30/23
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226	0.2	pCi/L	U		E903.0		11/14/23 14:52 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		11/14/23 14:52 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		11/14/23 14:52 / kdk
Radium 228	0.6	pCi/L	U		RA-05		11/10/23 13:59 / trs
Radium 228 precision (±)	0.6	pCi/L			RA-05		11/10/23 13:59 / trs
Radium 228 MDC	1	pCi/L			RA-05		11/10/23 13:59 / trs
Radium 226 + Radium 228	0.6	pCi/L	U		A7500-RA		11/15/23 17:01 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L			A7500-RA		11/15/23 17:01 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L			A7500-RA		11/15/23 17:01 / 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)

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, November 29, 2023 5:10:56 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvttl.com

Billings, MT 406.252.6325 + Casper, WY 307.235.0515
Gillette, WY 307.686.7175 + Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23101039

Report Date: 11/20/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										
Batch: RA226-11122R										
Lab ID: LCS-RA226-11122	3	Laboratory Control Sample								
		Run: TENNELEC-3_231103B								11/14/23 12:52
Radium 226		9.9	pCi/L	99		70	130			
Radium 226 precision (±)		1.8	pCi/L							
Radium 226 MDC		0.21	pCi/L							
Lab ID: MB-RA226-11122	3	Method Blank								
		Run: TENNELEC-3_231103B								11/14/23 12:52
Radium 226		-0.003	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C23101043-001EDUP	3	Sample Duplicate								
		Run: TENNELEC-3_231103B								11/14/23 14:52
Radium 226		0.53	pCi/L					8.0	30	
Radium 226 precision (±)		0.20	pCi/L							
Radium 226 MDC		0.26	pCi/L							
- The RER result is 0.15.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, November 29, 2023 5:10:56 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.mvtl.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Minnesota Valley Testing Laboratories

Work Order: C23101039

Report Date: 11/20/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										
Batch: RA228-7254										
Lab ID: LCS-228-RA226-11122	3	Laboratory Control Sample								
		Run: TENNELEC-4_231103A								11/10/23 13:59
Radium 228		6.3	pCi/L	95		70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.0	pCi/L							
Lab ID: MB-RA226-11122	3	Method Blank								
		Run: TENNELEC-4_231103A								11/10/23 13:59
Radium 228		-0.05	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C23101043-001EDUP	3	Sample Duplicate								
		Run: TENNELEC-4_231103A								11/10/23 13:59
Radium 228		1.8	pCi/L					68	30	R
Radium 228 precision (±)		0.80	pCi/L							
Radium 228 MDC		1.1	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 0.89.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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, November 29, 2023 5:10:56 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



Trust our People. Trust our Data.
www.energylab.com

Billing, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Minnesota Valley Testing Laboratories

C23101039

Login completed by: Dakota R. Sawyer

Date Received: 10/30/2023

Reviewed by: cjohnson

Received by: drmf

Reviewed Date: 10/31/2023

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:	1.7°C On 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:

Container temperature for Cooler 1 was 0.4°C and Cooler 2 was 1.7 °C. 10/31/23 DR

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, November 29, 2023 5:10:56 PM



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.MVTL.com



Account #: 2040

Client: Basin Electric Power Cooperative



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 Coope
WO: 32040



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 jermey.hurshman@aecom.com jason.lach@aecom.com
		Name of Sampler mls	Quote Number
		Project Name/Number LOS CCR Wells SP 143	Date Submitted 10/24/2023
			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 - 2016 - 12	GW	10/24/2023	824	3	N	B, Ca, Cl, F, SO ₄ , Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl, Ra226, Ra228, TDS
		pH of 7.88						

Comments:

Transferred by	Date	Time	Received by	Date	Time	Temp	ROI	Therm. #
MILLENNIUM EXPRESS	10/24/2023		<i>[Signature]</i>	10/24/2023	1645	2.8°C	Y/N	TM9130
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

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, November 29, 2023 5:10:56 PM

Attachment B

Data Input and Output Files for Calculation of Upper and Lower Prediction Limits

Attachment B

Data Input Files for Calculation of Upper and Lower Prediction Limits

Background wells: MW-2016-3, MW-2016-4, MW-2016-5, MW-2016-6, MW-2016-8

CCR Landfill, Leland Olds Station, Stanton, ND

sys_loc_code	sample_date	sample_type_code	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
MW-2016-3	9/29/2016	N	0.27	1	23	1	35	1	0.5	0	7.42	1	100	1	1400	1
MW-2016-3	2/16/2017	N	0.22	1	22	1	37	1	0.5	1	7.59	1	74	1	1500	1
MW-2016-3	3/17/2017	N	0.26	1	15	1	36	1	0.56	1	7.83	1	59	1	1500	1
MW-2016-3	4/12/2017	N	0.29	1	12	1	39	1	0.57	1	7.58	1	59	1	1500	1
MW-2016-3	5/19/2017	N	0.26	1	13	1	33	1	0.5	0	7.46	1	78	1	1800	1
MW-2016-3	6/22/2017	N	0.25	1	10	1					7.63	1			1500	1
MW-2016-3	7/20/2017	N	0.24	1	9.7	1					7.54	1			1600	1
MW-2016-3	8/23/2017	N	0.25	1	8.4	1	37	1	0.6	1	7.41	1	51	1	1400	1
MW-2016-3	10/9/2017	N					41	1	0.54	1	7.54	1	47	1		
MW-2016-3	10/12/2017	N					40	1	0.58	1	7.54	1	50	1		
MW-2016-3	4/19/2018	N	0.28	1	7.3	1	37	1	0.64	1	7.89	1	34	1	1500	1
MW-2016-3	10/11/2018	N	0.257	1	6.53	1	37.6	1	0.548	1	8.24	1	33.5	1	1490	1
MW-2016-3	5/20/2019	N	0.244	1	5.6	1	37.3	1	0.314	1	7.66	1	47.6	1	1510	1
MW-2016-3	10/8/2019	N	0.263	1	5.38	1	36.7	1	0.622	1	8	1	47.2	1	1520	1
MW-2016-3	6/10/2020	N	0.246	1	5.41	1	29.8	1	0.512	1	7.9	1	31.6	1	1510	1
MW-2016-3	10/1/2020	N	0.254	1	5	1	31.6	1	0.5	0	7.92	1	42.2	1	1590	1
MW-2016-4	9/29/2016	N	0.24	1	11	1	18	1	0.58	1	7.49	1	370	1	1700	1
MW-2016-4	2/15/2017	N	0.23	1	9.9	1	19	1	0.63	1	7.61	1	370	1	1700	1
MW-2016-4	3/16/2017	N	0.22	1	10	1	20	1	0.58	1	7.59	1	360	1	1700	1
MW-2016-4	4/12/2017	N	0.25	1	9.5	1	20	1	0.6	1	7.41	1	370	1	1700	1
MW-2016-4	5/19/2017	N	0.23	1	8.5	1	17	1	0.54	1	7.36	1	350	1	1700	1
MW-2016-4	6/21/2017	N	0.24	1	8.1	1					7.31	1			1700	1
MW-2016-4	7/20/2017	N	0.22	1	10	1					7.27	1			1700	1
MW-2016-4	8/23/2017	N	0.25	1	9.7	1	19	1	0.58	1	7.24	1	360	1	1600	1
MW-2016-4	10/9/2017	N					18	1	0.56	1	7.61	1	360	1		
MW-2016-4	10/12/2017	N					18	1	0.57	1	7.69	1	320	1		
MW-2016-4	4/18/2018	N	0.25	1	7.6	1	20	1	0.62	1	8.14	1	350	1	1700	1
MW-2016-4	10/11/2018	N	0.248	1	6.67	1	20.9	1	0.567	1	8.43	1	358	1	1730	1
MW-2016-4	5/20/2019	N	0.237	1	5.8	1	20.2	1	0.31	1	7.83	1	377	1	1770	1
MW-2016-4	10/8/2019	N	0.232	1	5.36	1	20.5	1	0.641	1	8.22	1	337	1	1760	1
MW-2016-4	6/9/2020	N	0.234	1	5.37	1	13.2	1	0.516	1	8.13	1	366	1	1710	1
MW-2016-4	9/30/2020	N	0.246	1	5.39	1	30	0	0.5	0	8.08	1	363	1	1860	1
MW-2016-4	10/1/2020	N	0.246	1	5.39	1	30	0	0.5	0			368	1	1650	1
MW-2016-5	9/28/2016	N	0.24	1	23	1	7.9	1	0.5	0	7.93	1	600	1	1700	1
MW-2016-5	2/14/2017	N	0.24	1	18	1	8.8	1	0.52	1	7.51	1	600	1	1900	1
MW-2016-5	3/16/2017	N	0.25	1	13	1	8.2	1	0.5	0	7.53	1	590	1	1800	1
MW-2016-5	4/12/2017	N	0.25	1	12	1	7.9	1	0.55	1	7.32	1	610	1	1700	1
MW-2016-5	5/18/2017	N	0.25	1	11	1	6.2	1	0.5	0	7.22	1	590	1	1900	1
MW-2016-5	6/21/2017	N	0.25	1	9.9	1					7.32	1			1900	1
MW-2016-5	7/19/2017	N	0.23	1	9.8	1					7.36	1			1900	1
MW-2016-5	8/23/2017	N	0.24	1	9.9	1	7.3	1	0.56	1	7.45	1	630	1	1700	1
MW-2016-5	10/9/2017	N					7.2	1	0.5	0	7.37	1	620	1		
MW-2016-5	10/12/2017	N					6.5	1	0.54	1	7.44	1	610	1		
MW-2016-5	4/19/2018	N	0.27	1	7.8	1	6.7	1	0.56	1	7.79	1	620	1	1900	1
MW-2016-5	10/11/2018	N	0.265	1	9.58	1	8.4	1	0.518	1	8.18	1	606	1	1950	1
MW-2016-5	5/20/2019	N	0.246	1	9.09	1	8.35	1	2.5	0	7.53	1	607	1	1890	1
MW-2016-5	10/8/2019	N	0.255	1	7.35	1	7.28	1	0.584	1	7.69	1	615	1	1890	1
MW-2016-5	6/9/2020	N									7.01	1				
MW-2016-5	6/10/2020	N	0.237	1	6.5	1	5.31	1	0.451	1	7.91	1	623	1	1890	1
MW-2016-5	10/1/2020	N	0.263	1	6.8	1	30	0	0.5	0	8.13	1	588	1	1860	1
MW-2016-6	9/28/2016	N	0.21	1	43	1	9.1	1	0.5	0	7.69	1	520	1	1500	1
MW-2016-6	2/15/2017	N	0.27	1	16	1	6.3	1	0.5	0	7.55	1	730	1	2100	1
MW-2016-6	3/16/2017	N	0.29	1	13	1	15	0	2.5	0	7.58	1	740	1	2100	1
MW-2016-6	4/12/2017	N	0.29	1	12	1	5.8	1	0.5	0	7.67	1	770	1	2200	1
MW-2016-6	5/19/2017	N	0.27	1	13	1	4.7	1	0.5	0	7.39	1	730	1	2100	1
MW-2016-6	6/22/2017	N	0.27	1	12	1					7.52	1			2100	1
MW-2016-6	7/20/2017	N	0.24	1	11	1					7.53	1			2100	1
MW-2016-6	8/23/2017	N	0.27	1	11	1	5.9	1	0.5	0	7.49	1	750	1	2000	1
MW-2016-6	10/10/2017	N					5.9	1	0.5	0	7.37	1	710	1		
MW-2016-6	10/11/2017	N					5.1	1	0.5	0	7.51	1	720	1		
MW-2016-6	4/19/2018	N	0.27	1	9.6	1	5.6	1	0.48	1	8.39	1	710	1	2100	1
MW-2016-6	10/11/2018	N	0.287	1	9.78	1	6.03	1	0.401	1	7.95	1	716	1	1890	1
MW-2016-6	5/20/2019	N	0.27	1	8.49	1	6.77	1	2.5	0	7.46	1	734	1	2030	1
MW-2016-6	10/8/2019	N	0.266	1	7.93	1	6.38	1	0.428	1	7.87	1	688	1	2040	1
MW-2016-6	6/9/2020	N									8.05	1				
MW-2016-6	6/10/2020	N	0.265	1	8.35	1	4.85	1	0.325	1	7.93	1	667	1	2040	1
MW-2016-6	10/1/2020	N	0.279	1	8.37	1	30	0	0.884	1	7.9	1	659	1	2100	1
MW-2016-8	9/27/2016	N	0.25	1	20	1	9	1	0.5	0	7.82	1	700	1	2200	1
MW-2016-8	2/13/2017	N	0.26	1	22	1	9.2	1	0.5	0	7.52	1	730	1	2200	1
MW-2016-8	3/16/2017	N	0.27	1	15	1	8.7	1	0.5	0	7.52	1	710	1	2200	1
MW-2016-8	4/11/2017	N	0.27	1	14	1	8.7	1	0.5	0	7.25	1	740	1	2200	1
MW-2016-8	5/18/2017	N	0.25	1	13	1	8	1	0.5	0	7.87	1	710	1	2200	1
MW-2016-8	6/22/2017	N	0.25	1	13	1					7.51	1			2200	1
MW-2016-8	7/19/2017	N	0.24	1	13	1					7.36	1			2300	1
MW-2016-8	8/22/2017	N	0.26	1	16	1					7.49	1	720	1	2100	1
MW-2016-8	10/9/2017	N					8.8	1	0.5	0	7.46	1	700	1		
MW-2016-8	10/12/2017	N					7.9	1	0.5	0	7.59	1	700	1		
MW-2016-8	4/18/2018	N	0.26	1	13	1	8.2	1	0.41	1	8.06	1	720	1	2200	1
MW-2016-8	10/11/2018	N	0.267	1	13.4	1	8.22	1	0.372	1	8.43	1	717	1	2320	1
MW-2016-8	5/20/2019	N	0.254	1	12.4	1	9.6	1	2.5	0	7.94	1	742	1	1910	1
MW-2016-8	10/8/2019	N	0.259	1	12.2	1	9.13	1	0.353	1	8.08	1	691	1	2200	1
MW-2016-8	6/9/2020	N									7.93	1				
MW-2016-8	6/10/2020	N	0.23	1			6.67	1	0.221	1	7.9	1	678	1	2180	1
MW-2016-8	9/30/2020	N	0.266	1	12.1	1	30	0			7.92	1	675	1	2090	1

A	B	C	D	E	F	G	H	I	J	K	L
1	Background Statistics for Data Sets with Non-Detects										
2	User Selected Options										
3	Date/Time of Computation	1/11/2022 9:50:18 PM									
4	From File	LOS Landfill ProUCL Input Oct 2021_b.xls									
5	Full Precision	OFF									
6	Confidence Coefficient	95%									
7	Coverage	95%									
8	Different or Future K Observations	1									
9	Number of Bootstrap Operations	2000									
10											
11	Boron										
12											
13	General Statistics										
14	Total Number of Observations			71		Number of Distinct Observations			25		
15							Number of Missing Observations			13	
16	Minimum			0.21		First Quartile			0.24		
17	Second Largest			0.29		Median			0.25		
18	Maximum			0.29		Third Quartile			0.266		
19	Mean			0.253		SD			0.0174		
20	Coefficient of Variation			0.0687		Skewness			5.2405E-4		
21	Mean of logged Data			-1.376		SD of logged Data			0.0691		
22											
23	Critical Values for Background Threshold Values (BTVs)										
24	Tolerance Factor K (For UTL)			1.983		d2max (for USL)			3.089		
25											
26	Normal GOF Test										
27	Shapiro Wilk Test Statistic			0.972		Normal GOF Test					
28	5% Shapiro Wilk P Value			0.303		Data appear Normal at 5% Significance Level					
29	Lilliefors Test Statistic			0.108		Lilliefors GOF Test					
30	5% Lilliefors Critical Value			0.105		Data Not Normal at 5% Significance Level					
31	Data appear Approximate Normal at 5% Significance Level										
32											
33	Background Statistics Assuming Normal Distribution										
34	95% UTL with 95% Coverage		0.288		90% Percentile (z)		0.275				
35	95% UPL (t)		0.282		95% Percentile (z)		0.282				
36	95% USL		0.307		99% Percentile (z)		0.294				
37											
38	Gamma GOF Test										
39	A-D Test Statistic		0.493		Anderson-Darling Gamma GOF Test						
40	5% A-D Critical Value		0.749		Detected data appear Gamma Distributed at 5% Significance Level						
41	K-S Test Statistic		0.0994		Kolmogrov-Smirnoff Gamma GOF Test						
42	5% K-S Critical Value		0.105		Detected data appear Gamma Distributed at 5% Significance Level						
43	Detected data appear Gamma Distributed at 5% Significance Level										
44											
45	Gamma Statistics										
46	k hat (MLE)		213.5		k star (bias corrected MLE)		204.5				
47	Theta hat (MLE)		0.00119		Theta star (bias corrected MLE)		0.00124				
48	nu hat (MLE)		30324		nu star (bias corrected)		29044				
49	MLE Mean (bias corrected)		0.253		MLE Sd (bias corrected)		0.0177				
50											
51	Background Statistics Assuming Gamma Distribution										
52	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.283		90% Percentile		0.276				

A	B	C	D	E	F	G	H	I	J	K	L
53	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.283	95% Percentile					0.283
54	95% WH Approx. Gamma UTL with 95% Coverage		95% Coverage		0.289	99% Percentile					0.296
55	95% HW Approx. Gamma UTL with 95% Coverage		95% Coverage		0.289						
56	95% WH USL				0.311	95% HW USL					0.311
57											
58	Lognormal GOF Test										
59	Shapiro Wilk Test Statistic				0.972	Shapiro Wilk Lognormal GOF Test					
60	5% Shapiro Wilk P Value				0.29	Data appear Lognormal at 5% Significance Level					
61	Lilliefors Test Statistic				0.0945	Lilliefors Lognormal GOF Test					
62	5% Lilliefors Critical Value				0.105	Data appear Lognormal at 5% Significance Level					
63	Data appear Lognormal at 5% Significance Level										
64											
65	Background Statistics assuming Lognormal Distribution										
66	95% UTL with 95% Coverage		95% Coverage		0.29	90% Percentile (z)					0.276
67	95% UPL (t)				0.284	95% Percentile (z)					0.283
68	95% USL				0.313	99% Percentile (z)					0.297
69											
70	Nonparametric Distribution Free Background Statistics										
71	Data appear Approximate Normal at 5% Significance Level										
72											
73	Nonparametric Upper Limits for Background Threshold Values										
74	Order of Statistic, r			70		95% UTL with 95% Coverage					0.29
75	Approximate f				1.842	Confidence Coefficient (CC) achieved by UTL					0.876
76	95% Percentile Bootstrap UTL with 95% Coverage		95% Coverage		0.29	95% BCA Bootstrap UTL with 95% Coverage					0.29
77	95% UPL				0.288	90% Percentile					0.27
78	90% Chebyshev UPL				0.306	95% Percentile					0.284
79	95% Chebyshev UPL				0.33	99% Percentile					0.29
80	95% USL				0.29						
81											
82	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background										
83	data set free of outliers and consists of observations collected from clean unimpacted locations.										
84	The use of USL tends to provide a balance between false positives and false negatives provided the data										
85	represents a background data set and when many onsite observations need to be compared with the BTV.										
86											
87	Calcium										
88											
89	General Statistics										
90	Total Number of Observations				70	Number of Distinct Observations					47
91						Number of Missing Observations					14
92	Minimum				5	First Quartile					7.973
93	Second Largest				23	Median					9.95
94	Maximum				43	Third Quartile					13
95	Mean				11.33	SD					5.767
96	Coefficient of Variation				0.509	Skewness					2.796
97	Mean of logged Data				2.334	SD of logged Data					0.417
98											
99	Critical Values for Background Threshold Values (BTVs)										
100	Tolerance Factor K (For UTL)				1.985	d2max (for USL)					3.084
101											
102	Normal GOF Test										
103	Shapiro Wilk Test Statistic				0.782	Normal GOF Test					
104	5% Shapiro Wilk P Value				3.708E-14	Data Not Normal at 5% Significance Level					

A	B	C	D	E	F	G	H	I	J	K	L	
105	Lilliefors Test Statistic				0.2	Lilliefors GOF Test						
106	5% Lilliefors Critical Value				0.106	Data Not Normal at 5% Significance Level						
107	Data Not Normal at 5% Significance Level											
108												
109	Background Statistics Assuming Normal Distribution											
110	95% UTL with 95% Coverage				22.78	90% Percentile (z)				18.72		
111	95% UPL (t)				21.01	95% Percentile (z)				20.81		
112	95% USL				29.11	99% Percentile (z)				24.74		
113												
114	Gamma GOF Test											
115	A-D Test Statistic				1.024	Anderson-Darling Gamma GOF Test						
116	5% A-D Critical Value				0.754	Data Not Gamma Distributed at 5% Significance Level						
117	K-S Test Statistic				0.133	Kolmogrov-Smirnoff Gamma GOF Test						
118	5% K-S Critical Value				0.107	Data Not Gamma Distributed at 5% Significance Level						
119	Data Not Gamma Distributed at 5% Significance Level											
120												
121	Gamma Statistics											
122	k hat (MLE)				5.511	k star (bias corrected MLE)				5.284		
123	Theta hat (MLE)				2.055	Theta star (bias corrected MLE)				2.144		
124	nu hat (MLE)				771.6	nu star (bias corrected)				739.8		
125	MLE Mean (bias corrected)				11.33	MLE Sd (bias corrected)				4.928		
126												
127	Background Statistics Assuming Gamma Distribution											
128	95% Wilson Hilferty (WH) Approx. Gamma UPL				20.48	90% Percentile				17.92		
129	95% Hawkins Wixley (HW) Approx. Gamma UPL				20.52	95% Percentile				20.46		
130	95% WH Approx. Gamma UTL with 95% Coverage				22.77	99% Percentile				25.8		
131	95% HW Approx. Gamma UTL with 95% Coverage				22.91							
132	95% WH USL				32.34	95% HW USL				33.25		
133												
134	Lognormal GOF Test											
135	Shapiro Wilk Test Statistic				0.959	Shapiro Wilk Lognormal GOF Test						
136	5% Shapiro Wilk P Value				0.0644	Data appear Lognormal at 5% Significance Level						
137	Lilliefors Test Statistic				0.104	Lilliefors Lognormal GOF Test						
138	5% Lilliefors Critical Value				0.106	Data appear Lognormal at 5% Significance Level						
139	Data appear Lognormal at 5% Significance Level											
140												
141	Background Statistics assuming Lognormal Distribution											
142	95% UTL with 95% Coverage				23.63	90% Percentile (z)				17.61		
143	95% UPL (t)				20.79	95% Percentile (z)				20.5		
144	95% USL				37.37	99% Percentile (z)				27.24		
145												
146	Nonparametric Distribution Free Background Statistics											
147	Data appear Lognormal at 5% Significance Level											
148												
149	Nonparametric Upper Limits for Background Threshold Values											
150	Order of Statistic, r				69	95% UTL with 95% Coverage				23		
151	Approximate f				1.816	Confidence Coefficient (CC) achieved by UTL				0.871		
152	95% Percentile Bootstrap UTL with 95% Coverage				23	95% BCA Bootstrap UTL with 95% Coverage				23		
153	95% UPL				22.45	90% Percentile				16.2		
154	90% Chebyshev UPL				28.75	95% Percentile				22		
155	95% Chebyshev UPL				36.64	99% Percentile				29.2		
156	95% USL				43							

A	B	C	D	E	F	G	H	I	J	K	L
157											
158	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background										
159	data set free of outliers and consists of observations collected from clean unimpacted locations.										
160	The use of USL tends to provide a balance between false positives and false negatives provided the data										
161	represents a background data set and when many onsite observations need to be compared with the BTV.										
162											
163	Chloride										
164											
165	General Statistics										
166	Total Number of Observations			71		Number of Missing Observations			13		
167	Number of Distinct Observations			53							
168	Number of Detects			65		Number of Non-Detects			6		
169	Number of Distinct Detects			51		Number of Distinct Non-Detects			2		
170	Minimum Detect			4.7		Minimum Non-Detect			15		
171	Maximum Detect			41		Maximum Non-Detect			30		
172	Variance Detected			139.8		Percent Non-Detects			8.451%		
173	Mean Detected			15.86		SD Detected			11.82		
174	Mean of Detected Logged Data			2.513		SD of Detected Logged Data			0.697		
175											
176	Critical Values for Background Threshold Values (BTVs)										
177	Tolerance Factor K (For UTL)			1.983		d2max (for USL)			3.089		
178											
179	Normal GOF Test on Detects Only										
180	Shapiro Wilk Test Statistic			0.77		Normal GOF Test on Detected Observations Only					
181	5% Shapiro Wilk P Value			1.518E-13		Data Not Normal at 5% Significance Level					
182	Lilliefors Test Statistic			0.286		Lilliefors GOF Test					
183	5% Lilliefors Critical Value			0.11		Data Not Normal at 5% Significance Level					
184	Data Not Normal at 5% Significance Level										
185											
186	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution										
187	Mean			15.37		SD			11.45		
188	95% UTL95% Coverage			38.08		95% KM UPL (t)			34.6		
189	90% KM Percentile (z)			30.05		95% KM Percentile (z)			34.21		
190	99% KM Percentile (z)			42.01		95% KM USL			50.75		
191											
192	DL/2 Substitution Background Statistics Assuming Normal Distribution										
193	Mean			15.68		SD			11.35		
194	95% UTL95% Coverage			38.19		95% UPL (t)			34.74		
195	90% Percentile (z)			30.23		95% Percentile (z)			34.36		
196	99% Percentile (z)			42.09		95% USL			50.75		
197	DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons										
198											
199	Gamma GOF Tests on Detected Observations Only										
200	A-D Test Statistic			3.957		Anderson-Darling GOF Test					
201	5% A-D Critical Value			0.762		Data Not Gamma Distributed at 5% Significance Level					
202	K-S Test Statistic			0.258		Kolmogrov-Smirnoff GOF					
203	5% K-S Critical Value			0.112		Data Not Gamma Distributed at 5% Significance Level					
204	Data Not Gamma Distributed at 5% Significance Level										
205											
206	Gamma Statistics on Detected Data Only										
207	k hat (MLE)			2.144		k star (bias corrected MLE)			2.055		
208	Theta hat (MLE)			7.4		Theta star (bias corrected MLE)			7.72		

A	B	C	D	E	F	G	H	I	J	K	L	
209				nu hat (MLE)	278.7					nu star (bias corrected)	267.1	
210				MLE Mean (bias corrected)	15.86							
211				MLE Sd (bias corrected)	11.07					95% Percentile of Chisquare (2k)	9.665	
212												
213	Gamma ROS Statistics using Imputed Non-Detects											
214	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
215	GROS may not be used when kstar of detected data is small such as < 0.1											
216	For such situations, GROS method tends to yield inflated values of UCLs and BTVs											
217	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
218				Minimum	4.391					Mean	15.42	
219				Maximum	41					Median	8.8	
220				SD	11.48					CV	0.744	
221				k hat (MLE)	2.202					k star (bias corrected MLE)	2.119	
222				Theta hat (MLE)	7.003					Theta star (bias corrected MLE)	7.28	
223				nu hat (MLE)	312.7					nu star (bias corrected)	300.8	
224				MLE Mean (bias corrected)	15.42					MLE Sd (bias corrected)	10.6	
225				95% Percentile of Chisquare (2k)	9.87					90% Percentile	29.59	
226				95% Percentile	35.93					99% Percentile	49.92	
227	The following statistics are computed using Gamma ROS Statistics on Imputed Data											
228	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods											
229				WH	HW					WH	HW	
230				95% Approx. Gamma UTL with 95% Coverage	41.94	42.85				95% Approx. Gamma UPL	36.03	36.41
231				95% Gamma USL	68.84	73.75						
232												
233	The following statistics are computed using gamma distribution and KM estimates											
234	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods											
235				k hat (KM)	1.802					nu hat (KM)	255.9	
236				WH	HW					WH	HW	
237				95% Approx. Gamma UTL with 95% Coverage	41.66	42.53				95% Approx. Gamma UPL	35.8	36.14
238				95% Gamma USL	68.36	73.13						
239												
240	Lognormal GOF Test on Detected Observations Only											
241				Lilliefors Test Statistic	0.233					Lilliefors GOF Test		
242				5% Lilliefors Critical Value	0.11					Data Not Lognormal at 5% Significance Level		
243	Data Not Lognormal at 5% Significance Level											
244												
245	Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects											
246				Mean in Original Scale	15.4					Mean in Log Scale	2.493	
247				SD in Original Scale	11.46					SD in Log Scale	0.677	
248				95% UTL95% Coverage	46.33					95% BCA UTL95% Coverage	39.5	
249				95% Bootstrap (%) UTL95% Coverage	40					95% UPL (t)	37.71	
250				90% Percentile (z)	28.82					95% Percentile (z)	36.86	
251				99% Percentile (z)	58.48					95% USL	98.02	
252												
253	Background DL/2 Statistics Assuming Lognormal Distribution											
254				Mean in Original Scale	15.68					Mean in Log Scale	2.52	
255				SD in Original Scale	11.35					SD in Log Scale	0.671	
256				95% UTL95% Coverage	47.01					95% UPL (t)	38.33	
257				90% Percentile (z)	29.37					95% Percentile (z)	37.47	
258				99% Percentile (z)	59.21					95% USL	98.79	
259	DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.											
260												

A	B	C	D	E	F	G	H	I	J	K	L	
261	Nonparametric Distribution Free Background Statistics											
262	Data do not follow a Discernible Distribution (0.05)											
263												
264	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)											
265	Order of Statistic, r	70	95% UTL with 95% Coverage							40		
266	Approximate f	1.842	Confidence Coefficient (CC) achieved by UTL							0.876		
267	95% UPL	38.16	95% USL							41		
268	95% KM Chebyshev UPL	65.64										
269												
270	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background											
271	data set free of outliers and consists of observations collected from clean unimpacted locations.											
272	The use of USL tends to provide a balance between false positives and false negatives provided the data											
273	represents a background data set and when many onsite observations need to be compared with the BTV.											
274												
275	Fluoride											
276												
277	General Statistics											
278	Total Number of Observations	70	Number of Missing Observations							13		
279	Number of Distinct Observations	32										
280	Number of Detects	41	Number of Non-Detects							29		
281	Number of Distinct Detects	31	Number of Distinct Non-Detects							2		
282	Minimum Detect	0.221	Minimum Non-Detect							0.5		
283	Maximum Detect	0.884	Maximum Non-Detect							2.5		
284	Variance Detected	0.0137	Percent Non-Detects							41.43%		
285	Mean Detected	0.523	SD Detected							0.117		
286	Mean of Detected Logged Data	-0.677	SD of Detected Logged Data							0.252		
287												
288	Critical Values for Background Threshold Values (BTVs)											
289	Tolerance Factor K (For UTL)	1.985	d2max (for USL)							3.084		
290												
291	Normal GOF Test on Detects Only											
292	Shapiro Wilk Test Statistic	0.917	Shapiro Wilk GOF Test									
293	5% Shapiro Wilk Critical Value	0.941	Data Not Normal at 5% Significance Level									
294	Lilliefors Test Statistic	0.17	Lilliefors GOF Test									
295	5% Lilliefors Critical Value	0.138	Data Not Normal at 5% Significance Level									
296	Data Not Normal at 5% Significance Level											
297												
298	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution											
299	Mean	0.465	SD							0.125		
300	95% UTL 95% Coverage	0.714	95% KM UPL (t)							0.675		
301	90% KM Percentile (z)	0.626	95% KM Percentile (z)							0.671		
302	99% KM Percentile (z)	0.757	95% KM USL							0.852		
303												
304	DL/2 Substitution Background Statistics Assuming Normal Distribution											
305	Mean	0.467	SD							0.25		
306	95% UTL 95% Coverage	0.963	95% UPL (t)							0.886		
307	90% Percentile (z)	0.787	95% Percentile (z)							0.878		
308	99% Percentile (z)	1.048	95% USL							1.237		
309	DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons											
310												
311	Gamma GOF Tests on Detected Observations Only											
312	A-D Test Statistic	2.067	Anderson-Darling GOF Test									

A	B	C	D	E	F	G	H	I	J	K	L
313			5% A-D Critical Value		0.747	Data Not Gamma Distributed at 5% Significance Level					
314			K-S Test Statistic		0.203	Kolmogrov-Smirnoff GOF					
315			5% K-S Critical Value		0.138	Data Not Gamma Distributed at 5% Significance Level					
316	Data Not Gamma Distributed at 5% Significance Level										
317											
318	Gamma Statistics on Detected Data Only										
319			k hat (MLE)		17.94				k star (bias corrected MLE)		16.64
320			Theta hat (MLE)		0.0291				Theta star (bias corrected MLE)		0.0314
321			nu hat (MLE)		1471				nu star (bias corrected)		1365
322			MLE Mean (bias corrected)		0.523						
323			MLE Sd (bias corrected)		0.128				95% Percentile of Chisquare (2k)		47.75
324											
325	Gamma ROS Statistics using Imputed Non-Detects										
326	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs										
327	GROS may not be used when kstar of detected data is small such as < 0.1										
328	For such situations, GROS method tends to yield inflated values of UCLs and BTVs										
329	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates										
330			Minimum		0.221				Mean		0.469
331			Maximum		0.884				Median		0.458
332			SD		0.119				CV		0.253
333			k hat (MLE)		15.44				k star (bias corrected MLE)		14.78
334			Theta hat (MLE)		0.0304				Theta star (bias corrected MLE)		0.0317
335			nu hat (MLE)		2161				nu star (bias corrected)		2070
336			MLE Mean (bias corrected)		0.469				MLE Sd (bias corrected)		0.122
337			95% Percentile of Chisquare (2k)		43.25				90% Percentile		0.63
338			95% Percentile		0.686				99% Percentile		0.798
339	The following statistics are computed using Gamma ROS Statistics on Imputed Data										
340	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods										
341					WH				WH		HW
342			95% Approx. Gamma UTL with 95% Coverage		0.736				95% Approx. Gamma UPL		0.688
343			95% Gamma USL		0.93						0.691
344											
345	The following statistics are computed using gamma distribution and KM estimates										
346	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods										
347			k hat (KM)		13.73				nu hat (KM)		1922
348					WH				WH		HW
349			95% Approx. Gamma UTL with 95% Coverage		0.754				95% Approx. Gamma UPL		0.701
350			95% Gamma USL		0.967						0.706
351											
352	Lognormal GOF Test on Detected Observations Only										
353			Shapiro Wilk Test Statistic		0.871	Shapiro Wilk GOF Test					
354			5% Shapiro Wilk Critical Value		0.941	Data Not Lognormal at 5% Significance Level					
355			Lilliefors Test Statistic		0.219	Lilliefors GOF Test					
356			5% Lilliefors Critical Value		0.138	Data Not Lognormal at 5% Significance Level					
357	Data Not Lognormal at 5% Significance Level										
358											
359	Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects										
360			Mean in Original Scale		0.466				Mean in Log Scale		-0.797
361			SD in Original Scale		0.12				SD in Log Scale		0.264
362			95% UTL95% Coverage		0.761				95% BCA UTL95% Coverage		0.641
363			95% Bootstrap (%) UTL95% Coverage		0.641				95% UPL (t)		0.702
364			90% Percentile (z)		0.632				95% Percentile (z)		0.696

A	B	C	D	E	F	G	H	I	J	K	L
365			99% Percentile (z)		0.833					95% USL	1.018
366											
367			Background DL/2 Statistics Assuming Lognormal Distribution								
368			Mean in Original Scale		0.467					Mean in Log Scale	-0.879
369			SD in Original Scale		0.25					SD in Log Scale	0.474
370			95% UTL95% Coverage		1.065					95% UPL (t)	0.921
371			90% Percentile (z)		0.763					95% Percentile (z)	0.906
372			99% Percentile (z)		1.251					95% USL	1.792
373			DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.								
374											
375			Nonparametric Distribution Free Background Statistics								
376			Data do not follow a Discernible Distribution (0.05)								
377											
378			Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)								
379			Order of Statistic, r		69					95% UTL with95% Coverage	2.5
380			Approximate f		1.816					Confidence Coefficient (CC) achieved by UTL	0.871
381			95% UPL		2.5					95% USL	2.5
382			95% KM Chebyshev UPL		1.016						
383											
384			Note: The use of USL to estimate a BTV is recommended only when the data set represents a background								
385			data set free of outliers and consists of observations collected from clean unimpacted locations.								
386			The use of USL tends to provide a balance between false positives and false negatives provided the data								
387			represents a background data set and when many onsite observations need to be compared with the BTV.								
388											
389			pH								
390											
391			General Statistics								
392			Total Number of Observations		83					Number of Distinct Observations	50
393										Number of Missing Observations	1
394			Minimum		7.01					First Quartile	7.46
395			Second Largest		8.43					Median	7.59
396			Maximum		8.43					Third Quartile	7.915
397			Mean		7.684					SD	0.308
398			Coefficient of Variation		0.0401					Skewness	0.498
399			Mean of logged Data		2.038					SD of logged Data	0.0397
400											
401			Critical Values for Background Threshold Values (BTVs)								
402			Tolerance Factor K (For UTL)		1.954					d2max (for USL)	3.145
403											
404			Normal GOF Test								
405			Shapiro Wilk Test Statistic		0.95					Normal GOF Test	
406			5% Shapiro Wilk P Value		0.00715					Data Not Normal at 5% Significance Level	
407			Lilliefors Test Statistic		0.138					Lilliefors GOF Test	
408			5% Lilliefors Critical Value		0.0973					Data Not Normal at 5% Significance Level	
409			Data Not Normal at 5% Significance Level								
410											
411			Background Statistics Assuming Normal Distribution								
412			95% UTL with 95% Coverage		8.285					90% Percentile (z)	8.078
413			95% UPL (t)		8.199					95% Percentile (z)	8.19
414			95% USL		8.652					99% Percentile (z)	8.4
415											
416			Gamma GOF Test								

A	B	C	D	E	F	G	H	I	J	K	L
417	A-D Test Statistic			1.345	Anderson-Darling Gamma GOF Test						
418	5% A-D Critical Value			0.749	Data Not Gamma Distributed at 5% Significance Level						
419	K-S Test Statistic			0.135	Kolmogrov-Smirnoff Gamma GOF Test						
420	5% K-S Critical Value			0.0977	Data Not Gamma Distributed at 5% Significance Level						
421	Data Not Gamma Distributed at 5% Significance Level										
422											
423	Gamma Statistics										
424	k hat (MLE)			638.2	k star (bias corrected MLE)			615.1			
425	Theta hat (MLE)			0.012	Theta star (bias corrected MLE)			0.0125			
426	nu hat (MLE)			105938	nu star (bias corrected)			102110			
427	MLE Mean (bias corrected)			7.684	MLE Sd (bias corrected)			0.31			
428											
429	Background Statistics Assuming Gamma Distribution										
430	95% Wilson Hilferty (WH) Approx. Gamma UPL			8.203	90% Percentile			8.083			
431	95% Hawkins Wixley (HW) Approx. Gamma UPL			8.204	95% Percentile			8.2			
432	95% WH Approx. Gamma UTL with 95% Coverage			8.293	99% Percentile			8.423			
433	95% HW Approx. Gamma UTL with 95% Coverage			8.294							
434	95% WH USL			8.683	95% HW USL			8.687			
435											
436	Lognormal GOF Test										
437	Shapiro Wilk Test Statistic			0.955	Shapiro Wilk Lognormal GOF Test						
438	5% Shapiro Wilk P Value			0.0181	Data Not Lognormal at 5% Significance Level						
439	Lilliefors Test Statistic			0.132	Lilliefors Lognormal GOF Test						
440	5% Lilliefors Critical Value			0.0973	Data Not Lognormal at 5% Significance Level						
441	Data Not Lognormal at 5% Significance Level										
442											
443	Background Statistics assuming Lognormal Distribution										
444	95% UTL with 95% Coverage			8.297	90% Percentile (z)			8.079			
445	95% UPL (t)			8.206	95% Percentile (z)			8.196			
446	95% USL			8.699	99% Percentile (z)			8.421			
447											
448	Nonparametric Distribution Free Background Statistics										
449	Data do not follow a Discernible Distribution (0.05)										
450											
451	Nonparametric Upper Limits for Background Threshold Values										
452	Order of Statistic, r			81	95% UTL with 95% Coverage			8.39			
453	Approximate f			1.421	Confidence Coefficient (CC) achieved by UTL			0.791			
454	95% Percentile Bootstrap UTL with 95% Coverage			8.39	95% BCA Bootstrap UTL with 95% Coverage			8.39			
455	95% UPL			8.236	90% Percentile			8.12			
456	90% Chebyshev UPL			8.613	95% Percentile			8.216			
457	95% Chebyshev UPL			9.033	99% Percentile			8.43			
458	95% USL			8.43							
459											
460	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background										
461	data set free of outliers and consists of observations collected from clean unimpacted locations.										
462	The use of USL tends to provide a balance between false positives and false negatives provided the data										
463	represents a background data set and when many onsite observations need to be compared with the BTV.										
464											
465	Sulfate										
466											
467	General Statistics										
468	Total Number of Observations			71	Number of Distinct Observations			51			

A	B	C	D	E	F	G	H	I	J	K	L
469										Number of Missing Observations	13
470				Minimum	31.6					First Quartile	354
471				Second Largest	750					Median	606
472				Maximum	770					Third Quartile	705
473				Mean	484.8					SD	253.2
474				Coefficient of Variation	0.522					Skewness	-0.721
475				Mean of logged Data	5.868					SD of logged Data	1.01
476											
477	Critical Values for Background Threshold Values (BTVs)										
478				Tolerance Factor K (For UTL)	1.983					d2max (for USL)	3.089
479											
480	Normal GOF Test										
481				Shapiro Wilk Test Statistic	0.811					Normal GOF Test	
482				5% Shapiro Wilk P Value	2.033E-12					Data Not Normal at 5% Significance Level	
483				Lilliefors Test Statistic	0.236					Lilliefors GOF Test	
484				5% Lilliefors Critical Value	0.105					Data Not Normal at 5% Significance Level	
485	Data Not Normal at 5% Significance Level										
486											
487	Background Statistics Assuming Normal Distribution										
488				95% UTL with 95% Coverage	986.8					90% Percentile (z)	809.3
489				95% UPL (t)	909.8					95% Percentile (z)	901.3
490				95% USL	1267					99% Percentile (z)	1074
491											
492	Gamma GOF Test										
493				A-D Test Statistic	7.522					Anderson-Darling Gamma GOF Test	
494				5% A-D Critical Value	0.766					Data Not Gamma Distributed at 5% Significance Level	
495				K-S Test Statistic	0.274					Kolmogrov-Smirnoff Gamma GOF Test	
496				5% K-S Critical Value	0.107					Data Not Gamma Distributed at 5% Significance Level	
497	Data Not Gamma Distributed at 5% Significance Level										
498											
499	Gamma Statistics										
500				k hat (MLE)	1.733					k star (bias corrected MLE)	1.669
501				Theta hat (MLE)	279.8					Theta star (bias corrected MLE)	290.5
502				nu hat (MLE)	246.1					nu star (bias corrected)	237
503				MLE Mean (bias corrected)	484.8					MLE Sd (bias corrected)	375.2
504											
505	Background Statistics Assuming Gamma Distribution										
506				95% Wilson Hilferty (WH) Approx. Gamma UPL	1235					90% Percentile	984.4
507				95% Hawkins Wixley (HW) Approx. Gamma UPL	1334					95% Percentile	1219
508				95% WH Approx. Gamma UTL with 95% Coverage	1454					99% Percentile	1745
509				95% HW Approx. Gamma UTL with 95% Coverage	1606						
510				95% WH USL	2467					95% HW USL	2959
511											
512	Lognormal GOF Test										
513				Shapiro Wilk Test Statistic	0.693					Shapiro Wilk Lognormal GOF Test	
514				5% Shapiro Wilk P Value	0					Data Not Lognormal at 5% Significance Level	
515				Lilliefors Test Statistic	0.271					Lilliefors Lognormal GOF Test	
516				5% Lilliefors Critical Value	0.105					Data Not Lognormal at 5% Significance Level	
517	Data Not Lognormal at 5% Significance Level										
518											
519	Background Statistics assuming Lognormal Distribution										
520				95% UTL with 95% Coverage	2620					90% Percentile (z)	1291

A	B	C	D	E	F	G	H	I	J	K	L
521				95% UPL (t)	1928					95% Percentile (z)	1863
522				95% USL	8014					99% Percentile (z)	3708
523											
524	Nonparametric Distribution Free Background Statistics										
525	Data do not follow a Discernible Distribution (0.05)										
526											
527	Nonparametric Upper Limits for Background Threshold Values										
528				Order of Statistic, r	70					95% UTL with 95% Coverage	750
529				Approximate f	1.842					Confidence Coefficient (CC) achieved by UTL	0.876
530				95% Percentile Bootstrap UTL with 95% Coverage	750					95% BCA Bootstrap UTL with 95% Coverage	745
531				95% UPL	740.8					90% Percentile	730
532				90% Chebyshev UPL	1250					95% Percentile	740
533				95% Chebyshev UPL	1596					99% Percentile	756
534				95% USL	770						
535											
536	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background										
537	data set free of outliers and consists of observations collected from clean unimpacted locations.										
538	The use of USL tends to provide a balance between false positives and false negatives provided the data										
539	represents a background data set and when many onsite observations need to be compared with the BTV.										
540											
541	TDS										
542											
543	General Statistics										
544				Total Number of Observations	71					Number of Distinct Observations	28
545										Number of Missing Observations	13
546				Minimum	1400					First Quartile	1700
547				Second Largest	2300					Median	1890
548				Maximum	2320					Third Quartile	2100
549				Mean	1856					SD	253.3
550				Coefficient of Variation	0.136					Skewness	-0.0015
551				Mean of logged Data	7.517					SD of logged Data	0.138
552											
553	Critical Values for Background Threshold Values (BTVs)										
554				Tolerance Factor K (For UTL)	1.983					d2max (for USL)	3.089
555											
556	Normal GOF Test										
557				Shapiro Wilk Test Statistic	0.928					Normal GOF Test	
558				5% Shapiro Wilk P Value	5.1391E-4					Data Not Normal at 5% Significance Level	
559				Lilliefors Test Statistic	0.118					Lilliefors GOF Test	
560				5% Lilliefors Critical Value	0.105					Data Not Normal at 5% Significance Level	
561	Data Not Normal at 5% Significance Level										
562											
563	Background Statistics Assuming Normal Distribution										
564				95% UTL with 95% Coverage	2358					90% Percentile (z)	2181
565				95% UPL (t)	2281					95% Percentile (z)	2273
566				95% USL	2639					99% Percentile (z)	2445
567											
568	Gamma GOF Test										
569				A-D Test Statistic	1.296					Anderson-Darling Gamma GOF Test	
570				5% A-D Critical Value	0.749					Data Not Gamma Distributed at 5% Significance Level	
571				K-S Test Statistic	0.12					Kolmogrov-Smirnoff Gamma GOF Test	
572				5% K-S Critical Value	0.105					Data Not Gamma Distributed at 5% Significance Level	

A	B	C	D	E	F	G	H	I	J	K	L
573	Data Not Gamma Distributed at 5% Significance Level										
574											
575	Gamma Statistics										
576	k hat (MLE)		53.67		k star (bias corrected MLE)		51.41				
577	Theta hat (MLE)		34.59		Theta star (bias corrected MLE)		36.1				
578	nu hat (MLE)		7621		nu star (bias corrected)		7300				
579	MLE Mean (bias corrected)		1856		MLE Sd (bias corrected)		258.9				
580											
581	Background Statistics Assuming Gamma Distribution										
582	95% Wilson Hilferty (WH) Approx. Gamma UPL		2305		90% Percentile		2195				
583	95% Hawkins Wixley (HW) Approx. Gamma UPL		2308		95% Percentile		2301				
584	95% WH Approx. Gamma UTL with 95% Coverage		2396		99% Percentile		2511				
585	95% HW Approx. Gamma UTL with 95% Coverage		2401								
586	95% WH USL		2746		95% HW USL		2763				
587											
588	Lognormal GOF Test										
589	Shapiro Wilk Test Statistic		0.927		Shapiro Wilk Lognormal GOF Test						
590	5% Shapiro Wilk P Value		4.1511E-4		Data Not Lognormal at 5% Significance Level						
591	Lilliefors Test Statistic		0.118		Lilliefors Lognormal GOF Test						
592	5% Lilliefors Critical Value		0.105		Data Not Lognormal at 5% Significance Level						
593	Data Not Lognormal at 5% Significance Level										
594											
595	Background Statistics assuming Lognormal Distribution										
596	95% UTL with 95% Coverage		2419		90% Percentile (z)		2196				
597	95% UPL (t)		2320		95% Percentile (z)		2309				
598	95% USL		2819		99% Percentile (z)		2537				
599											
600	Nonparametric Distribution Free Background Statistics										
601	Data do not follow a Discernible Distribution (0.05)										
602											
603	Nonparametric Upper Limits for Background Threshold Values										
604	Order of Statistic, r		70		95% UTL with 95% Coverage		2300				
605	Approximate f		1.842		Confidence Coefficient (CC) achieved by UTL		0.876				
606	95% Percentile Bootstrap UTL with 95% Coverage		2300		95% BCA Bootstrap UTL with 95% Coverage		2100				
607	95% UPL		2200		90% Percentile		2200				
608	90% Chebyshev UPL		2621		95% Percentile		2200				
609	95% Chebyshev UPL		2968		99% Percentile		2306				
610	95% USL		2320								
611											
612	Note: The use of USL to estimate a BTV is recommended only when the data set represents a background										
613	data set free of outliers and consists of observations collected from clean unimpacted locations.										
614	The use of USL tends to provide a balance between false positives and false negatives provided the data										
615	represents a background data set and when many onsite observations need to be compared with the BTV.										
616											



