2025 Annual Groundwater Monitoring and Corrective Action Report

Milton R. Young Station
Coal Combustion Residuals (CCR) Disposal Facility
Center, ND

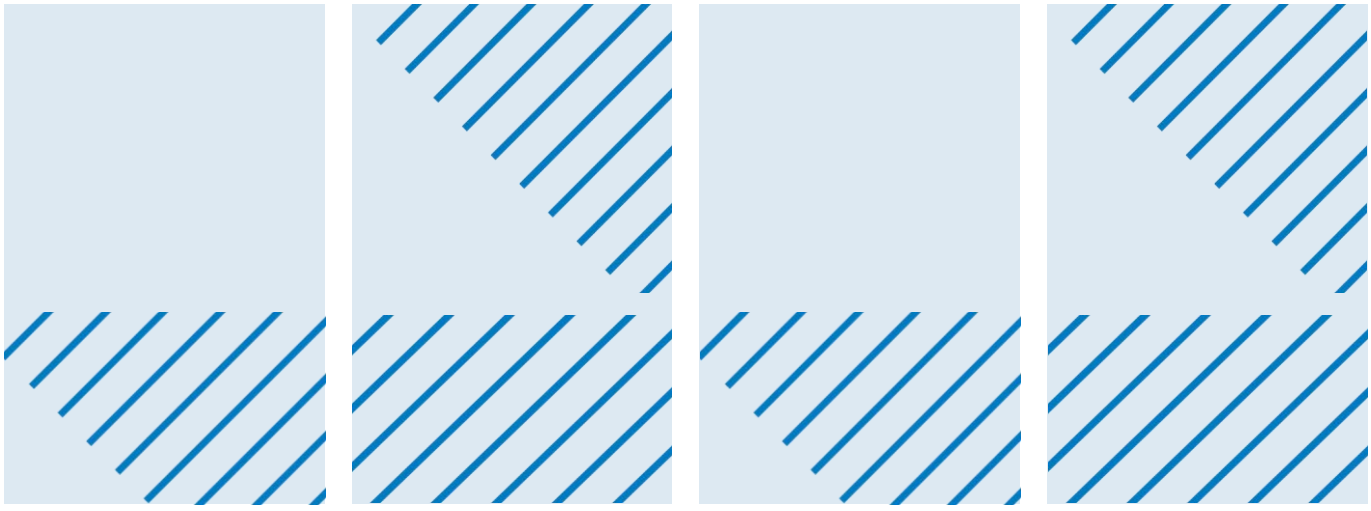
Prepared for
Minnkota Power Cooperative

Prepared by
Barr Engineering Co.

January 2026

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
952.832.2600

barr.com



2025 Annual Groundwater Monitoring and Corrective Action Report

January 2026

Contents

Tables

Figures

Appendices

1 Summary for CCR Unit 33.1-20-08-06

This report satisfies the annual reporting requirements of North Dakota Administrative Code 33.1-20-08-06 for annual groundwater monitoring and corrective action reporting. At the beginning, end, and throughout 2025, the CCR unit was operating under the detection monitoring program outlined in 33.1-20-08-06-04. There was one statistically significant increase for a constituent listed in appendix I to the CCR Rule. An alternate source demonstration (ASD) was completed, and is included in Appendix H; therefore, no assessment monitoring program (33.1-20-08-06-05), or related corrective or remedial measures (33.1-20-08-06-(06-08), were necessary.

2 Introduction

Minnkota Power Cooperative, Inc. (Minnkota) owns and operates Milton R. Young Station (Facility), which includes the Coal Combustion Residuals (CCR) cells shown on Figure 1**Error! Reference source not found.**. The Facility is located about five miles southeast of the town of Center in Oliver County in west-central North Dakota.

The CCR cells are shown in more detail on Figure 2**Error! Reference source not found.**, which also shows the Facility CCR groundwater monitoring well network. A special waste landfill, Cell 1, was closed prior to October 19, 2015; therefore, it is not subject to the CCR Rule requirements for groundwater monitoring. However, as required by North Dakota Administrative Code (NDAC) 33.1-20-13 and the North Dakota Department of Environmental Quality (NDDEQ), groundwater monitoring downgradient of Cell 1 has been conducted since 1992 and will be continued via two, non-CCR, unit wells. Cell 1 and these downgradient wells will be referred to as the "Non-CCR unit". Groundwater monitoring of the Non-CCR unit is summarized in Section 4.0. To be consistent with the CCR unit, the Non-CCR unit is monitored for constituents listed in Appendix I of NDAC 33.1-20-08. Landfill Cell 2 and Surface Impoundment Cells 3, 4, and 5 are each CCR units; therefore, they are required to comply with the provisions of NDAC 33.1-20-08 (Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, referred to herein as the "CCR Rule"); herein these cells will be referred to as the "CCR unit."

This 2025 Annual Groundwater Monitoring and Corrective Action Report (AGMCAR) is required by the CCR Rule. Specific Rule requirements for the AGMCAR and demonstration of compliance are summarized in **Error! Reference source not found.** and are described in more detail in Section 2.

Table 1 CCR Rule Requirements and Compliance

NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
33.1-20-08-06-01(e)	**Annual groundwater monitoring and corrective action report:** For existing CCR landfills and existing CCR surface impoundments, no later than January thirty-first of the year following July 1, 2020, and January thirty-first of each year thereafter, the owner or operator must prepare an annual ground water monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual ground water monitoring and corrective action report no later than January thirty-first of the year following the calendar year a ground water monitoring system has been established, and January thirty-first of each year thereafter. For the preceding calendar year, the annual report must document the status of the ground water monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record. The annual report must be submitted to the department for approval and placed on the facility's publicly accessible internet site by March first of each year. At a minimum, the annual ground water monitoring and corrective action report must contain the following information (subsequent rows in this table), to the extent available:	Yes. See Summary and Section 3.0.
33.1-20-08-06-01(e)(1)	**Map/Aerial Image:** A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;	Yes. See Section 3.1.1 and Figure 2.
33.1-20-08-06-01(e)(2)	**New/Decommissioned Wells:** Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;	No wells were installed or decommissioned in 2025.
33.1-20-08-06-01(e)(3)	**Sampling Summary:** In addition to all the monitoring data obtained under this section, a summary including the number of ground water samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;	Yes. See Section 3.2.1, Table 3, Table 4, Table 5, Figure 3, Figure 4, and Appendix G.

33.1-20-08-06-01(e)(4)	**Transition Between Programs:** A narrative discussion of any transition between monitoring programs (*e.g.,* the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase (SSI) over background levels; and	No transition to assessment monitoring was necessary. See Section 3.2.2.
33.1-20-08-06-01(e)(5)	**Other Information:** Other information required to be included in the annual report as specified in this section.	See the responses below for the other information required in 33.1-20-08-06.
33.1-20-08-06-01(e)(6)	**Summary:** A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following: • **(a)** At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in subsection 4 or the assessment monitoring program in subsection 5; • **(b)** At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in subsection 4 or the assessment monitoring program in subsection 5; • **(c)** If it was determined that there was an SSI over background for one or more constituents for one or more constituents listed in appendix I to this chapter pursuant to subdivision e of subsection 4: o **[1]** Identify those constituents listed in appendix I to this chapter and the names of the monitoring wells associated with such an increase; and o **[2]** Provide the date when the assessment monitoring program was initiated for the CCR unit. • **(d)** If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix II to this chapter pursuant to subdivision g of subsection 5 include all of the following: o **[1]** Identify those constituents listed in appendix II to this chapter and the names of the monitoring wells associated with such an increase; o **[2]** Provide the date when the assessment of corrective measures was initiated for the CCR unit; o **[3]** Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and o **[4]** Provide the date when the assessment of corrective measures was completed for the CCR unit. • **(e)** Whether a remedy was selected pursuant to subsection 7 during the current annual reporting period, and if so, the date of remedy selection; and • **(f)** Whether remedial activities were initiated or are ongoing pursuant to subsection 8 during the current annual reporting period.	Yes. See Summary page iii.

3 CCR Unit Groundwater Monitoring and Corrective Action Program

Section 3.0 documents the status of the groundwater monitoring and corrective action program for the CCR unit for 2025, throughout the duration of 2025 the CCR unit operated under the detection monitoring program. This section has two major divisions: (3.1) Groundwater Monitoring System and (3.2) Analytical Results and Statistical Evaluation. Documentation for each division is included, as well as summaries of key actions completed/problems encountered, with resolutions, if necessary; and key activities planned for 2026.

3.1 Groundwater Monitoring System

Documentation of the CCR unit groundwater monitoring system and discussion of key actions completed in 2025 and planned for 2026 are discussed below.

3.1.1 Documentation of Monitoring System

Error! Reference source not found. shows the three upgradient (2015-1, 2015-2, and 2018-2) and the s ix downgradient (2015-3, 2015-4, 2015-5, 2016-1, 2018-1, and 2023-1) monitoring wells for the CCR unit groundwater monitoring system. **Error! Reference source not found.** provides the construction details, i ncluding location coordinates, for each well. Further details on the monitoring system, the water table aquifer, site conceptual model, release conceptual model, geologic cross sections, and boring logs for the CCR unit monitoring wells are included in the *Groundwater Monitoring System Certification Report* (Barr, 2025).

3.1.2 Key Actions Completed/Problems Encountered

The following key actions for the monitoring system were completed in 2025:

- Two sets of semiannual detection monitoring groundwater samples were collected from each of the nine monitoring wells and were analyzed for the constituents listed in appendix I of the CCR Rule [33.1-20-08-06-04(a-b)]
- During resampling for the first detection monitoring event, the bladder pump in MW-2018-2 was found to be inoperative. The bladder pump was subsequently replaced, and the resampling was completed after the rest of the wells in the CCR groundwater monitoring unit.
- During resampling of the second detection monitoring event, MW-2023-1's bladder pump became obstructed. The bladder pump was removed to clear the obstruction and reinstalled in the well. After reinstalling the well turbidity levels did not meet stabilization criteria, and the resample was collected with elevated turbidity of 52.61 NTU. The sample confirmed the potential SSI for Calcium in MW 2023-1 and an ASD was developed.

No other significant problems were encountered for the CCR unit groundwater monitoring system in 2025.

3.1.3 Key Activities for Upcoming Year

The following key activities for the groundwater monitoring system are planned for 2026:

- Wells in the CCR groundwater monitoring system and dedicated bladder pumps will be operated and maintained so that they perform to their design specifications [§33.1-20-08-02(e)(2)].

- Sampling events for semiannual detection monitoring are scheduled for April and August of 2026.
- Installation of additional downgradient monitoring well, identified as 2026-1 on Figure 2.

3.2 Analytical Results and Statistical Evaluation

Documentation of the analytical results and their associated statistical evaluation for the CCR unit groundwater system are provided below, followed by a discussion of key actions completed in 2025 and planned for 2026.

3.2.1 Documentation of Results and Evaluation

Error! Reference source not found. provides a summary of the dates and analytical results for the two s emiannual sampling events completed in 2025 for the nine wells in the CCR unit groundwater monitoring system. **Error! Reference source not found.** shows the field blank results for the same sampling period. A ll samples were collected under the CCR detection monitoring program.

The CCR Rule requires that groundwater elevations be measured in each well immediately prior to purging, and that the rate and direction of groundwater flow be determined each time groundwater is sampled [§33.1-20-08-03(c)]. All groundwater elevations are shown on **Error! Reference source not f ound.**. **Error! Reference source not found.** and **Error! Reference source not found.** show contours of the groundwater elevations for the two semiannual detection monitoring sampling events. Both figures show that the groundwater gradient is generally from west to east beneath the CCR unit and toward the downgradient wells in the monitoring system; there is a local groundwater depression around wells 2015-4 and 2015-5. Attached to each of these figures are calculations for the rate of groundwater flow for each semiannual sampling event. Given the natural variation in hydraulic conductivities at the Facility (Barr, 2025), the estimated average horizontal groundwater flow velocity in the water table aquifer for the groundwater contours shown on these figures is approximately 0.05 feet/year.

3.2.2 Key Actions Completed/Problems Encountered

The following key actions were completed with respect to analytical results and statistical evaluation in 2025:

- Analytical results for the first semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (**Error! Reference source not found.**), as d escribed in the *Groundwater Statistical Analysis Plan* (Barr, 2022). No SSIs were identified; therefore, there was no transition to assessment monitoring.

- Samples collected in April indicated elevated Fluoride concentrations across all wells in the monitoring network, resulting in multiple potential SSIs. Per the *Groundwater Statistical Analysis Plan* (Barr, 2022), SSI verification resampling should be performed to confirm any SSIs. All wells in the CCR unit groundwater monitoring system were resampled for Fluoride. The resampled Fluoride values returned closer to historical values, and no potential SSIs were confirmed. The elevated Fluoride values from the original sampling were attributed to laboratory error.

  Analytical results for the second semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (**Error! Reference source not found.**), as d escribed in the *Groundwater Statistical Analysis Plan* (Barr, 2022). Time-series graphs for the appendix I constituents for both upgradient and downgradient wells are provided in Appendix C. One SSI was identified for Calcium in MW-2023-1. Resampling confirmed the SSI, and an ASD

was developed and is included in Appendix H. Therefore, there was no transition to assessment monitoring.

No other significant problems were encountered during sampling, analysis, and statistical evaluation of the results for the CCR unit groundwater monitoring system in 2025.

3.2.3 Key Activities for Upcoming Year

The following key activities for analytical results and statistical evaluation are planned for 2026:

- Evaluate analytical results from the 2026 semiannual detection monitoring events for SSIs for appendix I constituents according to the *Groundwater Statistical Analysis Plan* (Barr, 2022).
- Begin background sampling of future well 2026-1, planned to be installed in 2026, for appendix I and II constituents.

4 Non-CCR Unit Groundwater Monitoring and Corrective Action Program

Section 4.0 documents the status of the groundwater monitoring and corrective action program for the Non-CCR unit for 2025. The NDDEQ regulates the operation of Minnkota's CCR disposal facility under NDAC 33.1-20, special waste permit No. 0159 located at 3401 24th St SW, Center, ND 58530. This section satisfies the groundwater monitoring requirements for the Non-CCR unit under NDAC 33.1-20-13 and the general performance standards under 33.1-20-04.1 for the calendar year of 2025.

4.1 Groundwater Monitoring System

Documentation of the Non-CCR unit groundwater monitoring system and discussion of key actions completed in 2025 and planned for 2026 are discussed below.

4.1.1 Documentation of Monitoring System

Figure 2 shows the two downgradient (92-3 and 95-4) monitoring wells for the Non-CCR unit. The Non-CCR unit shares upgradient (2015-1 and 2015-2) monitoring wells with the CCR Unit. Table 2 provides construction details and location coordinates for the Non-CCR unit wells. Further information on the monitoring system, the water table aquifer, site conceptual model, release conceptual model, geologic cross sections, and boring logs for the Non-CCR unit are included in the *Groundwater Monitoring System Certification Report (Barr, 2025).*

4.1.2 Key Actions Completed

Two sets of semiannual ground water quality (detection) monitoring groundwater samples were collected from each of the four monitoring wells and were analyzed for the constituents listed in Appendix I of the CCR Rule (33.1-20-08).

No significant problems were encountered for the Non-CCR unit groundwater monitoring system, and no monitoring wells were installed or decommissioned in 2025.

4.1.3 Key Activities for Upcoming Year

The following key activities for the groundwater monitoring system are planned for 2026:

- Wells in the Non-CCR unit groundwater monitoring system and dedicated bladder pumps will be operated and maintained so that they perform to their design specifications.
- Sampling events for semiannual ground water quality (detection) monitoring are scheduled for April and August of 2026.

4.2 Analytical Results and Statistical Evaluation

Documentation of the analytical results and their associated statistical evaluation for the Non-CCR unit groundwater monitoring system are provided below, followed by a discussion of key actions completed in 2025 and planned for 2026. To be consistent with the CCR unit, the Non-CCR unit is monitored for constituents listed in Appendix I of NDAC 33.1-20-08.

4.2.1 Documentation of Results and Evaluations

Table 6 provides a summary of the dates and analytical results for the two semiannual sampling events completed in 2025 as well as historic sampling events that comprise the background dataset for the two downgradient wells in the Non-CCR unit groundwater monitoring system. Analytical results for the upgradient wells in the Non-CCR unit groundwater monitoring system are shown in Table 3. All samples were collected under the ground water quality (detection) monitoring program.

4.2.2 Key Actions Completed/Problems Encountered

The following key actions were completed with respect to analytical results and statistical evaluation in 2025:

- Analytical results for the first semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (**Error! Reference source not found.**), as d escribed in the *Groundwater Statistical Analysis Plan* (Barr, 2022). No SSIs were identified; therefore, there was no transition to assessment monitoring.

- Detection samples collected in April indicated elevated Fluoride concentrations across all wells in the monitoring network, resulting in multiple potential SSIs. Per the *Groundwater Statistical Analysis Plan* (Barr, 2022), SSI verification resampling should be performed to confirm any SSIs. All wells in the Non-CCR unit groundwater monitoring system were resampled for Fluoride. The resampled Fluoride values returned closure to historical values, and no potential SSIs were confirmed. The elevated Fluoride values from the original sampling were attributed to laboratory error.

- Analytical results for the second semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (**Error! Reference source not found.**), as d escribed in the *Groundwater Statistical Analysis Plan* (Barr, 2022). Time-series graphs for the appendix I constituents for upgradient wells and for downgradient wells are provided in **Error! R eference source not found.**. No SSIs were identified; therefore, there was no transition to assessment monitoring.

No other significant problems were encountered during sampling, analysis, and statistical evaluation of the results for the Non-CCR unit groundwater monitoring system in 2025, and there were no conditions that prevented compliance with the permit.

4.2.3 Key Activities for Upcoming Year

The following key activities for analytical results and statistical evaluation are planned for 2026:

- Evaluate analytical results from the 2026 semiannual ground water quality (detection) monitoring events for SSIs for Appendix I constituents according to the *Groundwater Statistical Analysis Plan* (Barr, 2022).

5 References

Barr, 2025, *Groundwater Monitoring System Certification Report*, Revision 6, December 2025.

Barr, 2022, *Groundwater Statistical Analysis Plan*, Revision 2, June 2022.

NDDEQ, 2024, Solid Waste Management and Land Protection Rules, NDAC Article 33.1-20

US EPA, 2009, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance*, EPA 530-R-09-007.

Tables

Table 2
Monitoring Well Construction Details
M. R. Young Station
Minnkota Power Cooperative, Inc.

Well Number	Location Coordinates (Latitude/Longitude)*	Orientation to CCR unit	Completion Date (Month/Day/Year)	Ground Surface Elevation (feet, MSL)	TOC Elevation (feet above MSL)	Casing/Screen Size and Material	Screen Slot Size (inches)	Screen Interval (feet BGS)	Sand Pack Interval (feet BGS)	Sandpack	Borehole Diameter (inches)	Pump Intake from Top of Screen (feet)
92-3	47.060775/-101.214750	Non-CCR Downgradient	9/8/1992	1991.3	1992.8	2-inch PVC Sch 80	0.010	142.5 to 152.5	137 to 153.5	20-40 silica sand	4.75	8.3
95-4	47.060047/-101.214706	Non-CCR Downgradient	8/1/1995	1992.4	1994.1	2-inch PVC Sch 80	0.010	135 to 145	130 to 151	20-40 silica sand	5.25	7.8
2015-1	47.057713/-101.224316	Upgradient	10/8/2015	2045.6	2047.7	2-inch PVC Sch 80	0.006	183 to 193	181 to 195	35-50 silica sand	6	8.5
2015-2	47.057735/-101.224324	Upgradient	10/9/2015	2045.4	2047.6	2-inch PVC Sch 80	0.006	130 to 150	128 to 150	35-50 silica sand	6	19
2015-3	47.057881/-101.214560	Downgradient	10/21/2015	2010.5	2012.8	2-inch PVC Sch 80	0.006	112 to 132	110 to 132	35-50 silica sand	6	19
2015-4	47.055212/-101.214471	Downgradient	10/20/2015	2014.9	2016.9	2-inch PVC Sch 80	0.006	116 to 136	114 to 136	35-50 silica sand	6	19
2015-5	47.053790/-101.214440	Downgradient	10/13/2015	2048.2	2050.2	2-inch PVC Sch 80	0.006	148 to 168	146 to 170	35-50 silica sand	6	19
2016-1	47.056441/-101.214409	Downgradient	10/6/2016	2026.4	2028.9	2-inch PVC Sch 80	0.006	133 to 153	131 to 153	35-50 silica sand	6	19
2018-1	47.052204/-101.214871	Downgradient	4/9/2018	2072.3	2074.8	2-inch PVC Sch 80	0.006	168 to 188	165 to 191	35-50 silica sand	6	19
2018-2	47.048810/-101.224848	Upgradient	4/6/2018	2050.8	2053.4	2-inch PVC Sch 80	0.006	196 to 216	194 to 216	35-50 silica sand	6	19
2023-1	47.050700/-101.214610	Downgradient	7/29/2023	2104.6	2107.6	2-inch PVC Sch 80	0.006	211 to 231	207.5 to 234	35-50 silica sand	6	19

* WGS84 Datum

BGS - Below ground surface.
MSL - Mean sea level.
PVC - Polyvinyl chloride.
Sch - Schedule.

Table 3
Water Quality Results
Detection Monitoring Program
Minnkota Power Cooperative, Inc.

			Upgradient Background						Downgradient SSI Evaluation																				
		Location	2015-1	2015-1	2015-1	2015-2	2015-2	2015-2	2015-3	2015-3	2015-3	2015-4	2015-4	2015-4	2015-5	2015-5	2015-5	2016-1	2016-1	2016-1	2018-1	2018-1	2018-1	2018-2	2018-2	2018-2	2023-1	2023-1	2023-1	2023-1
		Date	4/8/25	6/19/25	9/23/25	4/8/25	6/19/25	9/232/5	4/8/25	6/19/25	9/23/25	4/8/25	6/19/25	9/23/25	4/8/25	6/19/25	9/23/25	4/8/25	6/19/25	9/23/25	4/8/25	6/19/25	9/23/25	4/9/25	6/19/25	9/22/25	4/8/25	6/19/25	9/24/25	12/18/25
Parameter	Total or Dissolved	Units																											
Appendix I Constituents																													
Boron	Total	mg/l	0.46	-	0.42	0.50	-	0.46	0.50	-	0.47	0.54	-	0.48	0.52	-	0.48	0.52	-	0.47	0.53	-	0.48	0.47	-	0.42	0.53	-	0.49	-
Calcium	Total	mg/l	2.77	-	2.61	3.89	-	3.99	3.82	-	3.78	3.19	-	2.99	4.36	-	4.08	2.76	-	2.8	3.88	-	3.79	3.04	-	2.94	3.3	-	4.28	4.14
Chloride	NA	mg/l	2.4	-	2.3	2.4	-	2.5	5.0	-	5.1	5.2	-	5.4	3.3	-	3.4	3.7	-	4.0	4.2	-	4.3	7.2	-	7.9	14.5	-	17.6	-
Fluoride	NA	mg/l	-	2.43	2.62	-	1.76	1.92	-	1.85	1.92	-	1.91	2.09	-	1.92	2.10	-	2.22	2.46	-	1.87	2.08	-	1.43	1.65	-	1.85	2.01	-
pH, field	NA	pH units	8.5	-	8.4	8.4	-	8.4	8.2	-	8.2	8.5	-	8.4	8.4	-	8.4	8.5	-	8.5	8.4	-	8.4	8.5	-	8.5	8.4	-	8.5	-
Sulfate, as SO4	NA	mg/l	263	-	263	245	-	248	85.2	-	81.3	94.4	-	82.6	342	-	339	147	-	134	367	-	348	190	-	187	85.9	-	89.3	-
Solids, total dissolved	NA	mg/l	1310	-	1250	1350	-	1340	1480	-	1470	1400	-	1410	1600	-	1600	1190	-	1210	1690	-	1670	1340	-	1330	1430	-	1490	-
Other Constituents																													
Temperature, field	NA	deg C	6.59	16.42	11.38	6.15	14.05	10.90	9.65	14.58	14.42	8.68	11.74	12.44	7.74	13.59	11.35	9.38	13.20	13.51	9.61	12.29	11.53	9.81	15.25	13.85	6.22	14.23	12.35	12.83
Turbidity, field	NA	NTU	4.06	1.47	1.07	1.03	0.03	0.59	1.83	0.32	0.07	0.92	1.35	0.99	0.23	0.00	0.00	2.84	1.90	1.34	0.00	0.00	0.76	2.26	0.00	0.00	13.65	10.53	8.42	52.61
Specific conductance @ 25 °C, field	NA	umhos/cm	1987	2017	1915	2051	2057	1951	2295	2132	2158	2207	2034	2171	2505	1339	2438	1883	1682	1849	2604	1539	2523	2013	2065	2033	2196	2060	2161	1925

Table 4
Field Blank Results
Detection Monitoring Program
Minnkota Power Cooperative, Inc.

		Location	QC	QC
		Date	4/09/2025	9/24/2025
		Sample Type	Field Blank	Field Blank
Parameter	Total or Dissolved	Units		
Appendix I Constituents				
Boron	Total	mg/l	< 0.1 U	< 0.1 U
Calcium	Total	mg/l	< 1 U	< 1 U
Chloride	NA	mg/l	< 2.0 U	< 2.0 U
Fluoride	NA	mg/l	< 0.1 U	< 0.1 U
pH	NA	pH units	**6.9 H**	**6.0 H**
Solids, total dissolved	NA	mg/l	<10 U	< 10 U
Sulfate, as SO4	NA	mg/l	< 5 U	< 5 U

H - Recommended sample preservation, extraction or analysis holding time was exceeded.

NA (not applicable) - Indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.

QC - Quality Control

U - The analyte was analyzed for, but was not detected.

Table 5
Water Level Results
Detection Monitoring Program
Minnkota Power Cooperative, Inc.

Location		Sample Type	Purge Date	Water Level Before Purge (feet)	Top of Casing Elevation (feet)	Groundwater Elevation (feet)
2015-1	Upgradient	Background	4/7/2025	134.48	2047.7	1913.22
2015-1			9/22/2025	134.10	2047.7	1913.60
2015-2	Upgradient	Background	4/7/2025	128.34	2047.6	1919.26
2015-2			9/22/2025	128.06	2047.6	1919.54
2018-2	Upgradient	Background	4/9/2025	152.69	2053.4	1900.71
2018-2			9/22/2025	152.51	2053.4	1900.89
2015-3	Downgradient	SSI Evaluation	4/7/2025	110.08	2012.8	1902.72
2015-3			9/22/2025	109.85	2012.8	1902.95
2015-4	Downgradient	SSI Evaluation	4/7/2025	120.98	2016.9	1895.92
2015-4			9/22/2025	120.78	2016.9	1896.12
2015-5	Downgradient	SSI Evaluation	4/7/2025	150.58	2050.2	1899.62
2015-5			9/22/2025	150.28	2050.2	1899.92
2016-1	Downgradient	SSI Evaluation	4/7/2025	127.83	2028.9	1901.07
2016-1			9/22/2025	127.58	2028.9	1901.32
2018-1	Downgradient	SSI Evaluation	4/8/2025	174.16	2074.8	1900.64
2018-1			9/23/2025	174.56	2074.8	1900.24
2023-1	Downgradient	SSI Evaluation	4/7/2025	207.55	2107.6	1900.05
2023-1			9/22/2025	207.17	2107.6	1900.43
92-3	Downgradient Non CCR	SSI Evaluation	4/9/2025	91.09	1992.8	1901.71
92-3			9/24/2025	91.02	1992.8	1901.78
95-4	Downgradient Non CCR	SSI Evaluation	4/9/2025	92.82	1994.1	1901.28
95-4			9/24/2025	92.77	1994.1	1901.33

Table 6
Non-CCR Unit Quality Results
Minnkota Power Cooperative, Inc.

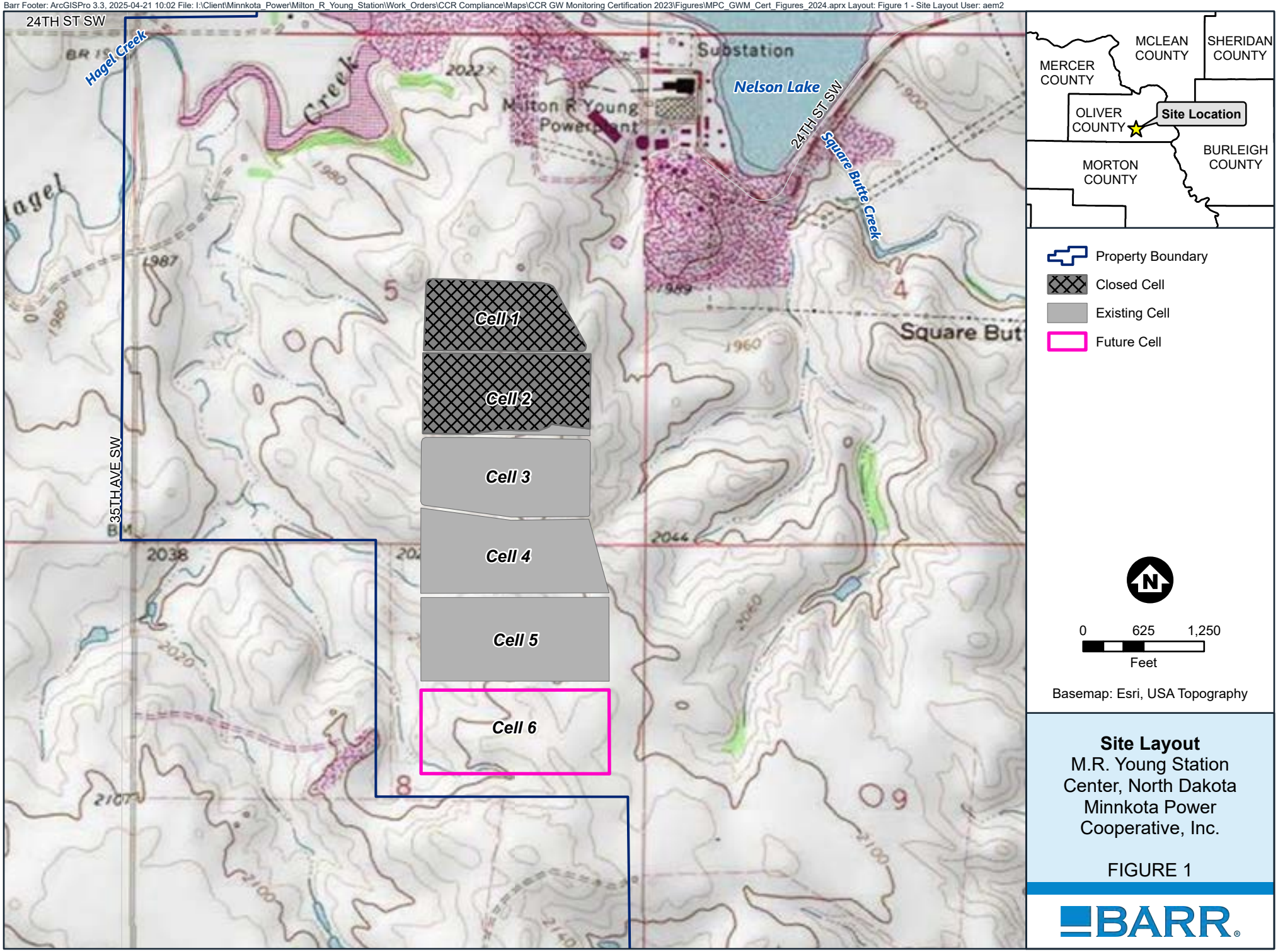
		Location	92-3	92-3	92-3
		Date	4/09/2025	6/19/2025	9/24/2025
		Sample Type	N	N	N
		Data Status	Validated	Validated	Validated
Parameter	Total or Dissolved	Units			
Appendix I Constituents					
Boron	Total	mg/l	0.50	--	0.45
Calcium	Total	mg/l	2.66	--	2.49
Chloride	NA	mg/l	5.5	--	6.3
Fluoride	NA	mg/l	--	1.58	1.69
pH	NA	pH units	8.6 H	--	8.6
pH, field	NA	pH units	8.59	8.44	8.57
Sulfate, as SO4	NA	mg/l	123	--	120
Solids, total dissolved	NA	mg/l	1220	--	1190
Specific conductance @ 25 ºC, field	NA	umhos/cm	1791	1897	1848
Temperature, field	NA	deg C	10.45	16.47	10.89
Turbidity, field	NA	NTU	0.00	0.00	0.00

Ssource: Data has not undergone Standard Barr QA/QC
Validated: Data has undergone Standard Barr QA/QC
-- Not analyzed/Not available.
N Sample Type: Normal
N Sample Type: Field Duplicate
NA (not applicable) indicates that a fractional portion of the
H Recommended sample preservation, extraction or
J Estimated detected value. Either certain QC criteria were

		Location	95-4	95-4	95-4
		Date	4/09/2025	6/19/2025	9/24/2025
		Sample Type	N	N	N
		Data Status	Validated	Validated	Validated
Parameter	Total or Dissolved	Units			
Appendix I Constituents					
Boron	Total	mg/l	0.49	--	0.43
Calcium	Total	mg/l	2.30	--	2.17
Chloride	NA	mg/l	5.2	--	5.4
Fluoride	NA	mg/l	--	1.09	1.20
pH	NA	pH units	8.6 H	--	8.6
pH, field	NA	pH units	8.57	8.57	8.59
Sulfate, as SO4	NA	mg/l	113	--	113
Solids, total dissolved	NA	mg/l	1170	--	1120
Specific conductance @ 25 ºC, field	NA	umhos/cm	1677	1692	1831
Temperature, field	NA	deg C	9.01	10.42	12.04
Turbidity, field	NA	NTU	1.06	2.05	0.35

Ssource: Data has not undergone Standard Barr QA/QC
Validated: Data has undergone Standard Barr QA/QC
-- Not analyzed/Not available.
N Sample Type: Normal
N Sample Type: Field Duplicate
NA (not applicable) indicates that a fractional portion of the
H Recommended sample preservation, extraction or
J Estimated detected value. Either certain QC criteria were

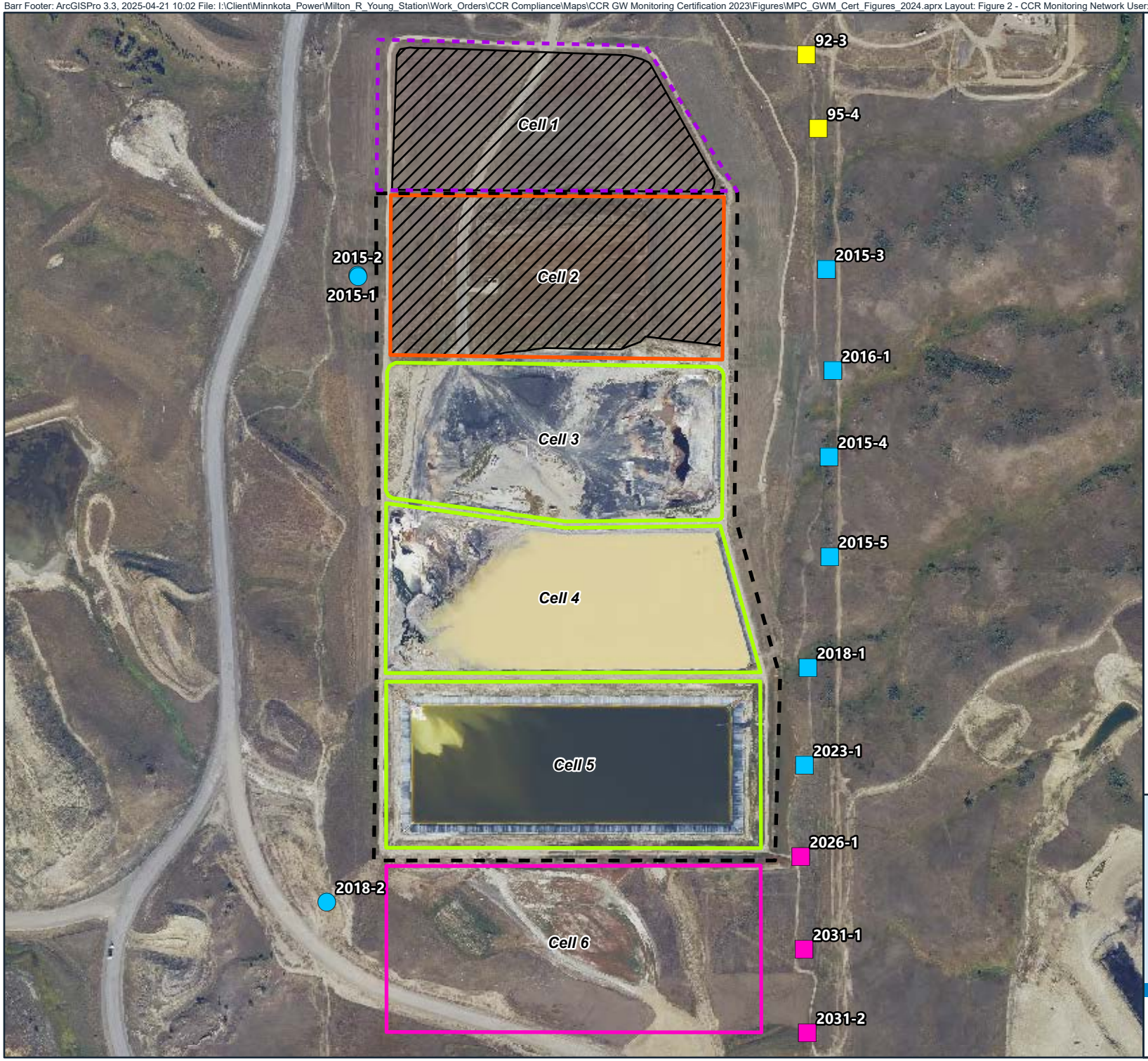
Figures



Site Layout
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 1

BARR



- CCR Unit Downgradient Monitoring Well
- Non-CCR Unit Groundwater Monitoring Well
- Upgradient Monitoring Well
- Future Groundwater Monitoring Well*
- Closed Landfill
- Landfill Area
- Surface Impoundment - Existing
- Future Cell
- CCR Monitoring Unit
- Non-CCR Unit

*Actual locations of future groundwater monitoring wells may vary and will be determined at the time of installation: 2026-1, 2031-1, 2031-2.

N

0 350 700
Feet

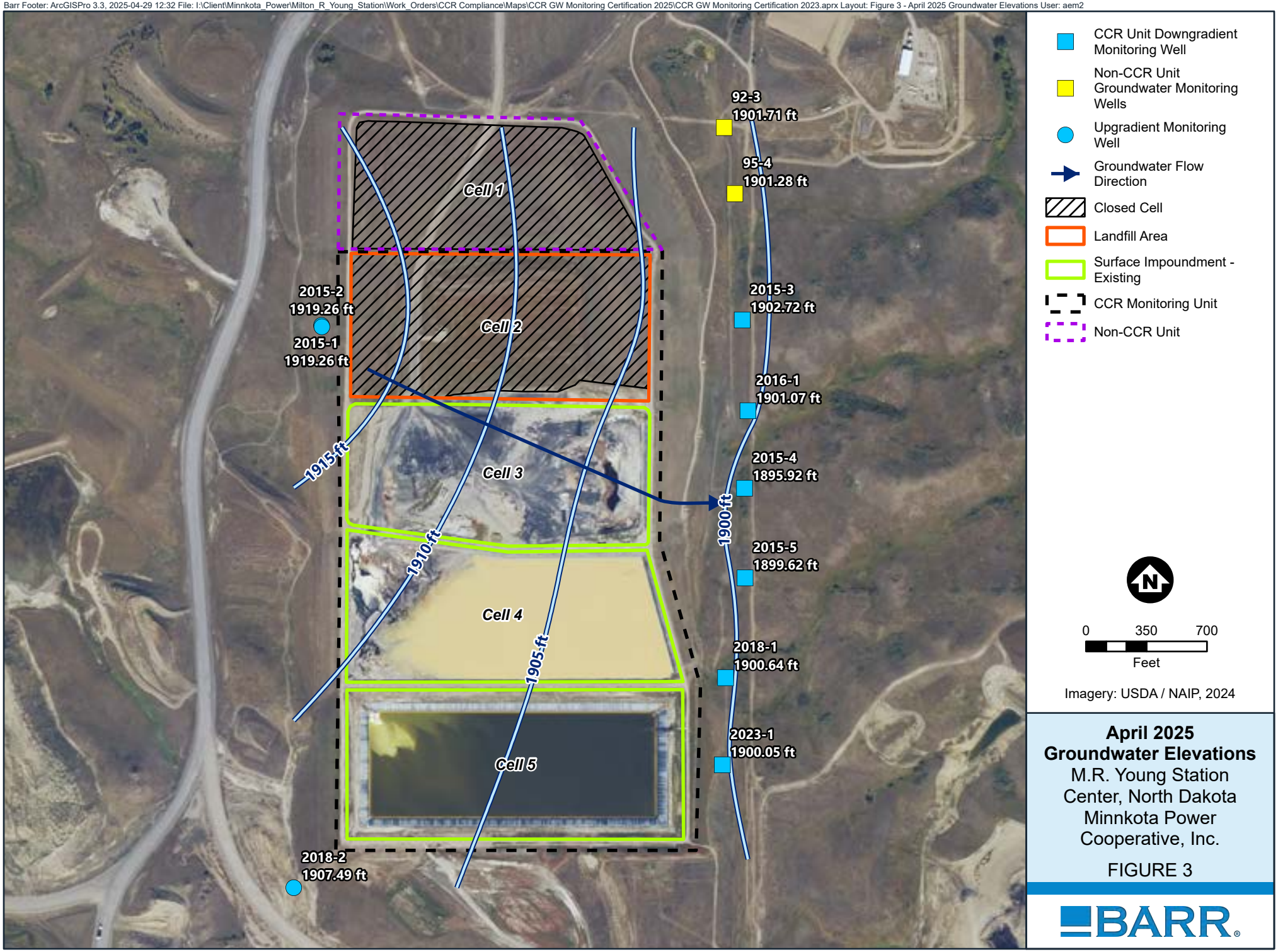
Imagery: USDA / NAIP, 2024

CCR Monitoring Network
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 2

BARR

Barr Footer: ArcGISPro 3.3, 2025-04-29 12:32 File: I:\Client\Minnkota_Power\Milton_R_Young_Station\Work_Orders\CCR Compliance\Maps\CCR GW Monitoring Certification 2025\CCR GW Monitoring Certification 2023.aprx Layout: Figure 3 - April 2025 Groundwater Elevations User: aem2



April 2025
Groundwater Elevations
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 3

BARR

"The owner or operator of the CCR unit must determine the rate and direction of groundwater flow each time groundwater is sampled [33.1-20-08-03(c)]."

Figure 3 shows the approximate contour elevations for the water table aquifer based on water level measurements taken in the monitoring wells in April 2025. Flow directions may be estimated as being perpendicular to the contour lines on this figure. The general flow direction is to the southeast toward the groundwater depression near wells 2015-4 and 2015-5. Using well 2015-2 for reference, the perpendicular distance between contour 1915 ft and contour 1905 ft is approximately 1,230 ft.

The horizontal average linear flow velocity (rate) under the CCR unit can be estimated as follows (Barr, 2025):

$$V = K * i/n_e$$

Where: V = horizontal average linear flow velocity

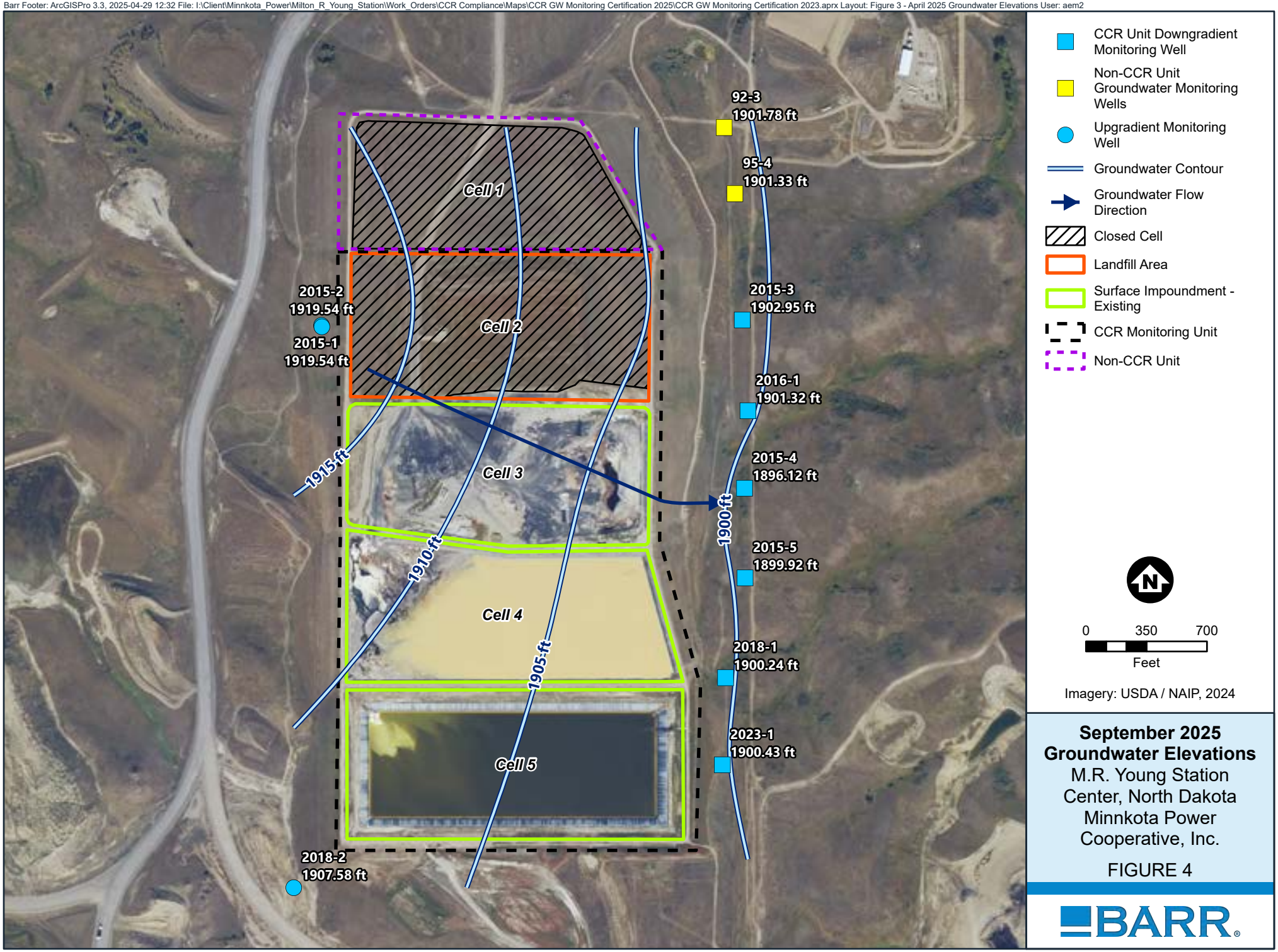
K = hydraulic conductivity

i = gradient = 10 ft/1,230 ft = 0.0081 for April 2025

n_e = effective porosity = 0.15 (estimated for silty-clayey sandstone)

The geometric mean of the K values measured for the monitoring wells at the Facility is 2.5×10^{-3} ft/day (Barr, 2025). Therefore, the groundwater flow rate for April 2025 is estimated to be 1.35×10^{-4} ft/day, or 0.049 ft/year.

Barr Footer: ArcGISPro 3.3, 2025-04-29 12:32 File: I:\Client\Minnkota_Power\Milton_R_Young_Station\Work_Orders\CCR Compliance\Maps\CCR GW Monitoring Certification 2025\CCR GW Monitoring Certification 2023.aprx Layout: Figure 3 - April 2025 Groundwater Elevations User: aem2



September 2025 Groundwater Elevations
M.R. Young Station
Center, North Dakota
Minnkota Power Cooperative, Inc.

FIGURE 4

BARR

"The owner or operator of the CCR unit must determine the rate and direction of groundwater flow each time groundwater is sampled [33.1-20-08-03(c)]."

Figure 3 shows the approximate contour elevations for the water table aquifer based on water level measurements taken in the monitoring wells in September 2025. Flow directions may be estimated as being perpendicular to the contour lines on this figure. The general flow direction is to the southeast toward the groundwater depression near wells 2015-4 and 2015-5. Using well 2015-2 for reference, the perpendicular distance between contour 1915 ft and contour 1905 ft is approximately 1,220 ft.

The horizontal average linear flow velocity (rate) under the CCR unit can be estimated as follows (Barr, 2025):

$$V = K * i/n_e$$

Where: V = horizontal average linear flow velocity

K = hydraulic conductivity

i = gradient = 10 ft/1,220 ft = 0.0082 for September 2025

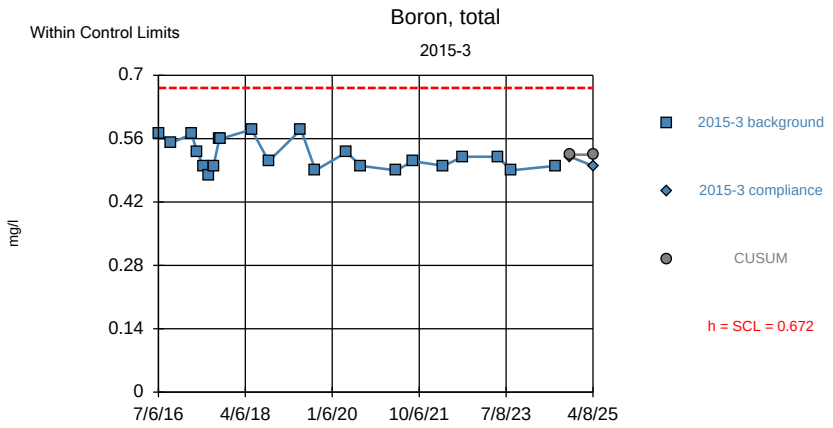
n_e = effective porosity = 0.15 (estimated for silty-clayey sandstone)

The geometric mean of the K values measured for the monitoring wells at the Facility is 2.5×10^{-3} ft/day (Barr, 2025). Therefore, the groundwater flow rate for September 2025 is estimated to be 1.37×10^{-4} ft/day, or 0.050 ft/year.

Appendices

Appendix A

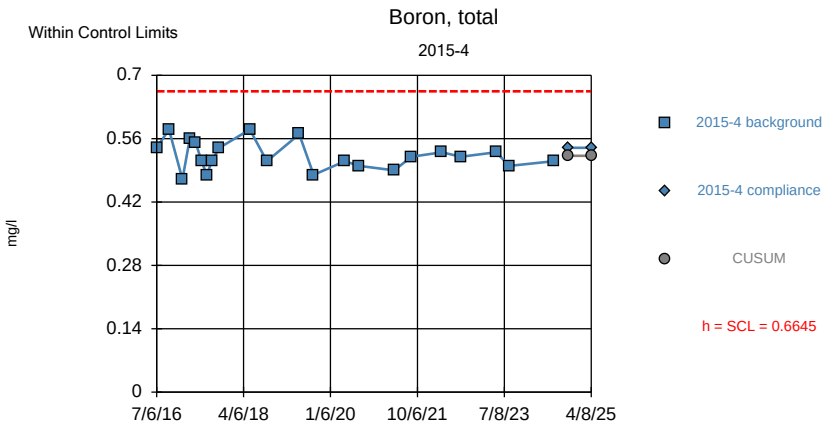
CCR Unit Statistical Review for SSIs: Event 1



Background Data Summary: Mean=0.5245, Std. Dev.=0.03277, n=22. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8559, critical = 0.911 (non-normal: user chose to continue). Report alpha = 0.00022. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

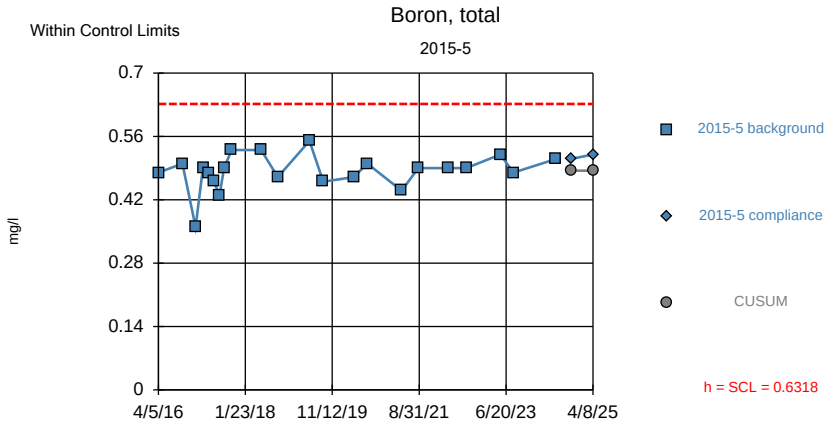
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=0.5223, Std. Dev.=0.03161, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9558, critical = 0.911. Report alpha = 0.00022. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

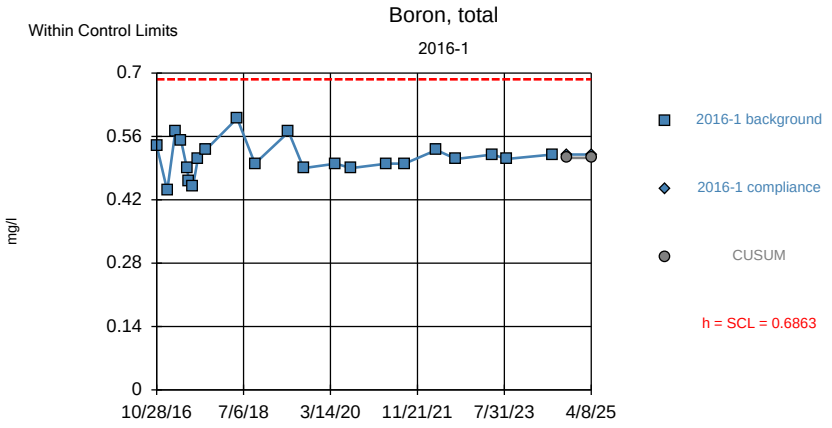
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary (based on square transformation): Mean=0.2345, Std. Dev.=0.03659, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9396, critical = 0.911. Report alpha = 0.00022. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

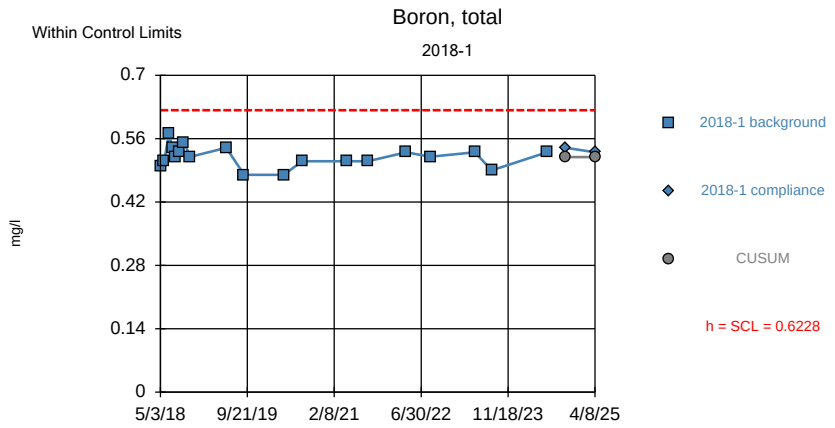
Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=0.5127, Std. Dev.=0.03857, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9668, critical = 0.911. Report alpha = 0.00022. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

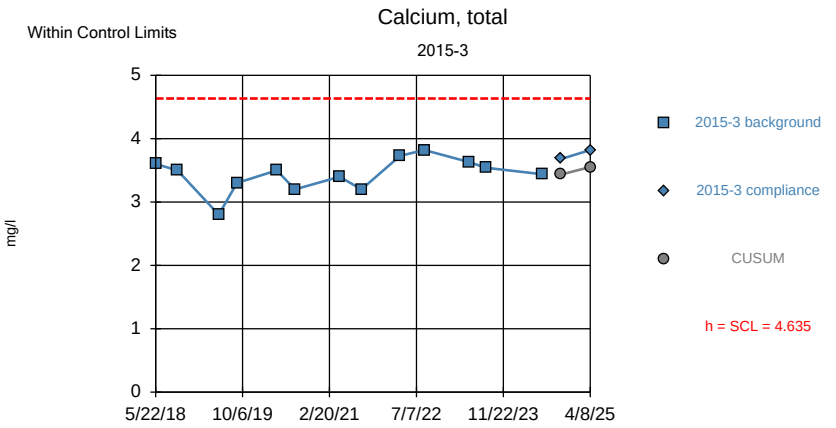
Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=0.5195, Std. Dev.=0.02297, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9676, critical = 0.901. Report alpha = 0.000342. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

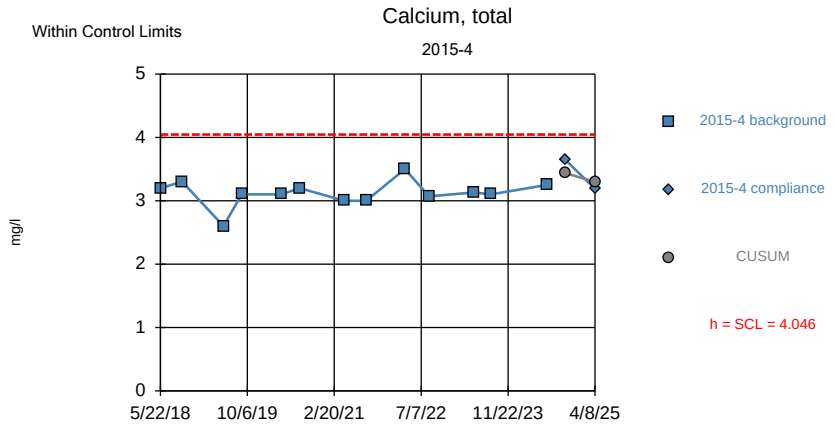
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=3.435, Std. Dev.=0.2666, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9418, critical = 0.866. Report alpha = 0.00085. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

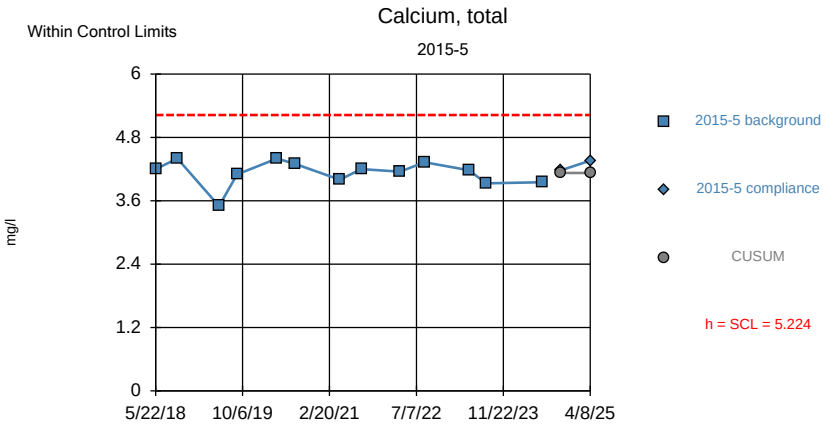
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=3.119, Std. Dev.=0.2061, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9, critical = 0.866. Report alpha = 0.00085. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

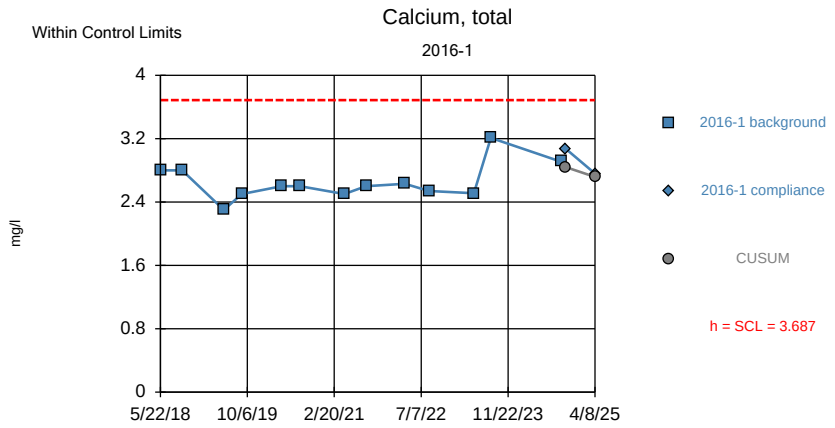
Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=4.126, Std. Dev.=0.244, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8851, critical = 0.866. Report alpha = 0.00085. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

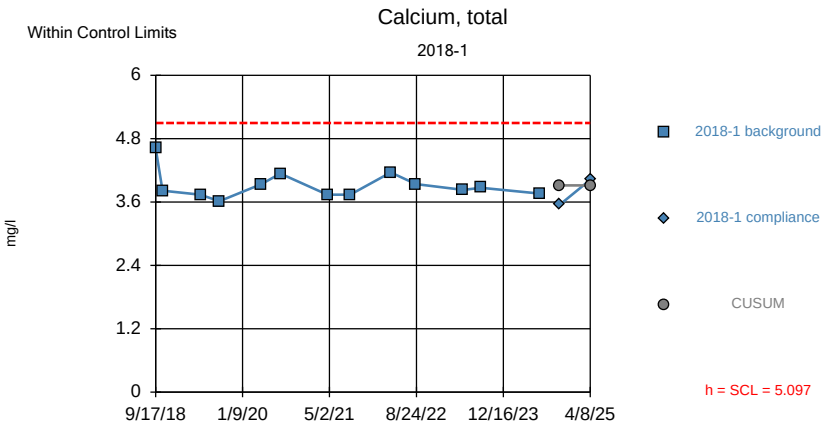
Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=2.654, Std. Dev.=0.2297, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9021, critical = 0.866. Report alpha = 0.00085. Dates ending 9/24/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

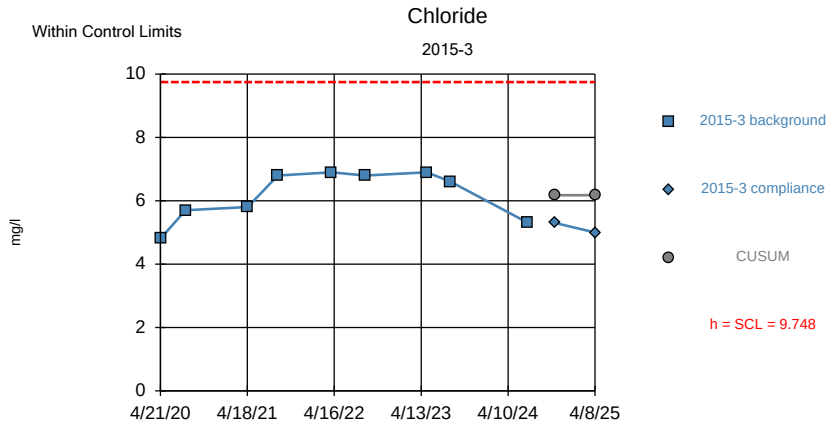
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=3.916, Std. Dev.=0.2626, n=13. Seasonality was detected with 95% confidence and data were deseasonalized. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.695, critical = 0.866 (non-normal: user chose to continue). Report alpha = 0.00085. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

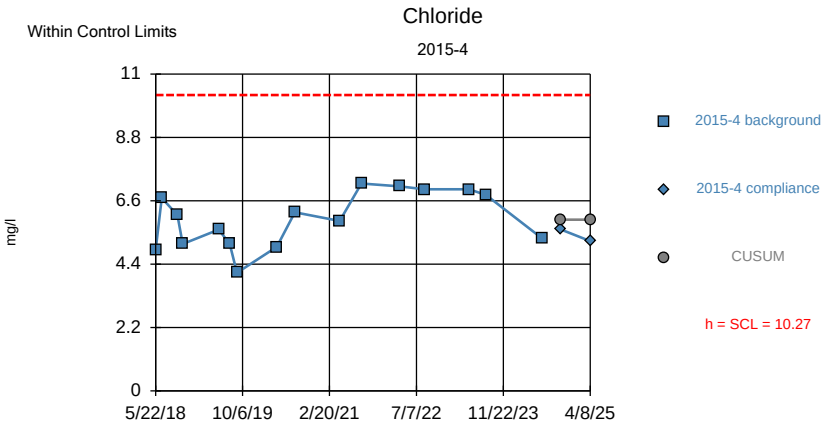
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=6.178, Std. Dev.=0.7934, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8489, critical = 0.829. Report alpha = 0.002088. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

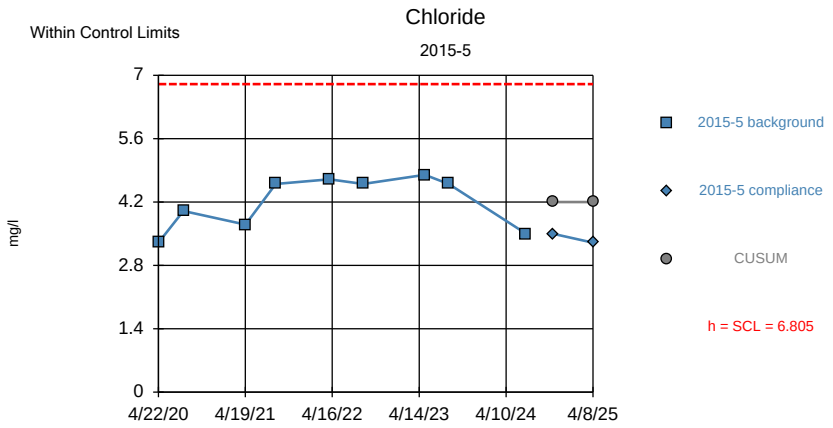
Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



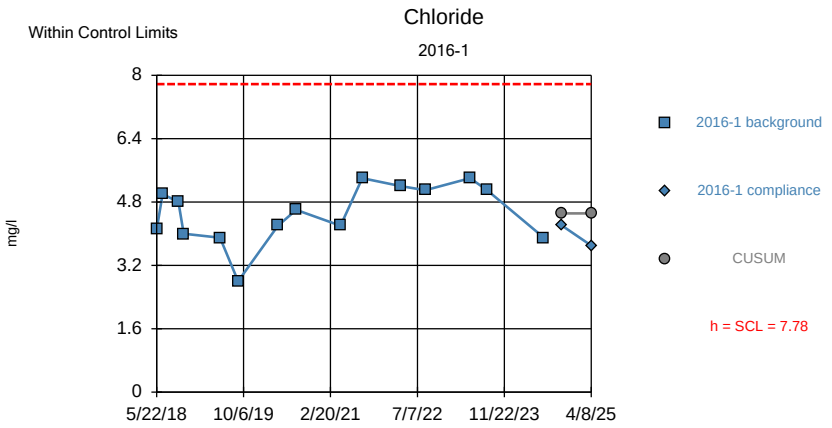
Background Data Summary: Mean=5.944, Std. Dev.=0.9619, n=16. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9286, critical = 0.887. Report alpha = 0.000456. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



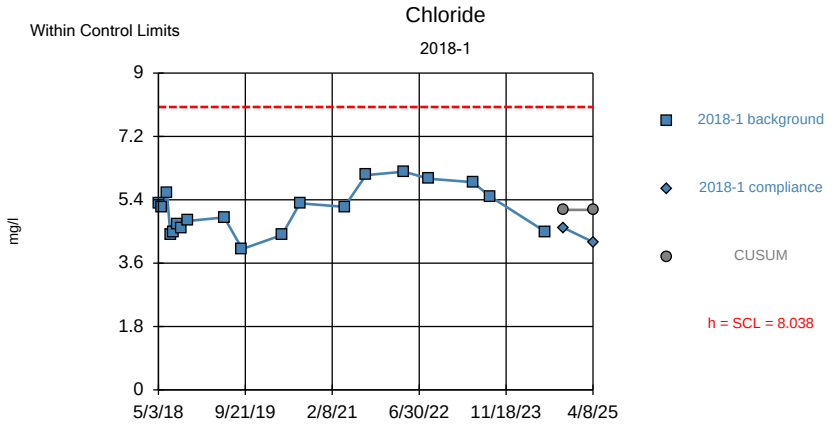
Background Data Summary: Mean=4.2, Std. Dev.=0.5788, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8476, critical = 0.829. Report alpha = 0.002264. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:47 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



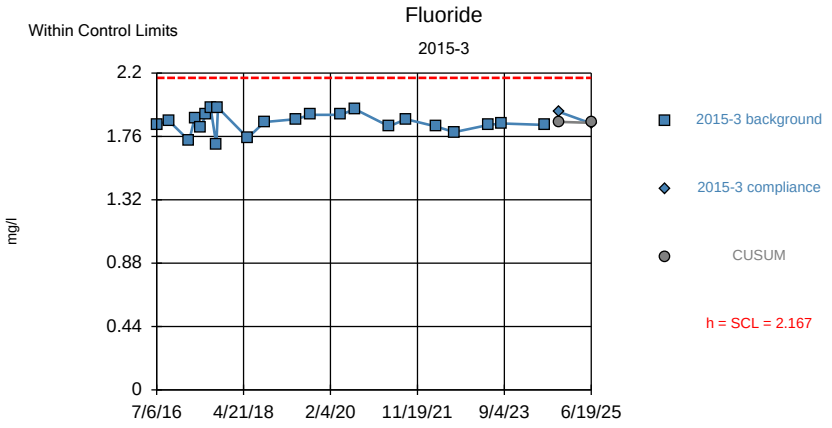
Background Data Summary: Mean=4.513, Std. Dev.=0.7259, n=15. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9146, critical = 0.881. Report alpha = 0.000624. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



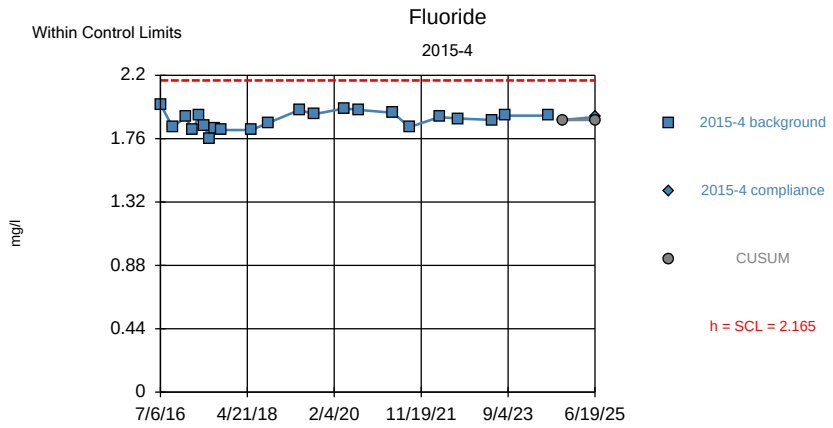
Background Data Summary: Mean=5.111, Std. Dev.=0.6506, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9539, critical = 0.901. Report alpha = 0.00033. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1.855, Std. Dev.=0.06933, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9548, critical = 0.911. Report alpha = 0.000206. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

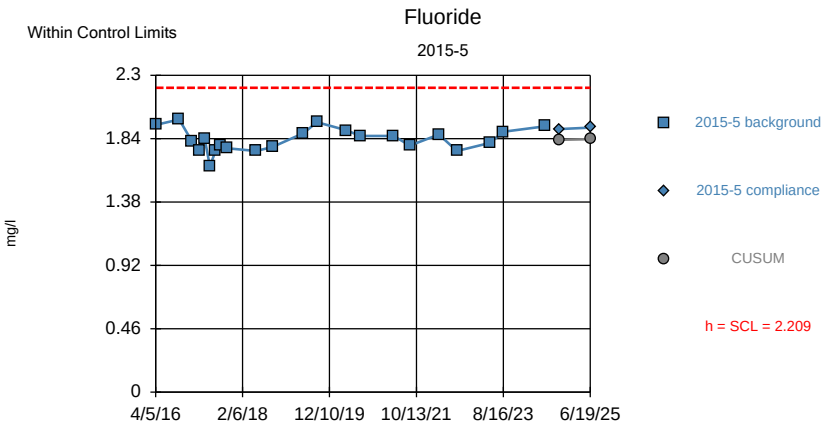
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1.89, Std. Dev.=0.06102, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9672, critical = 0.911. Report alpha = 0.000206. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

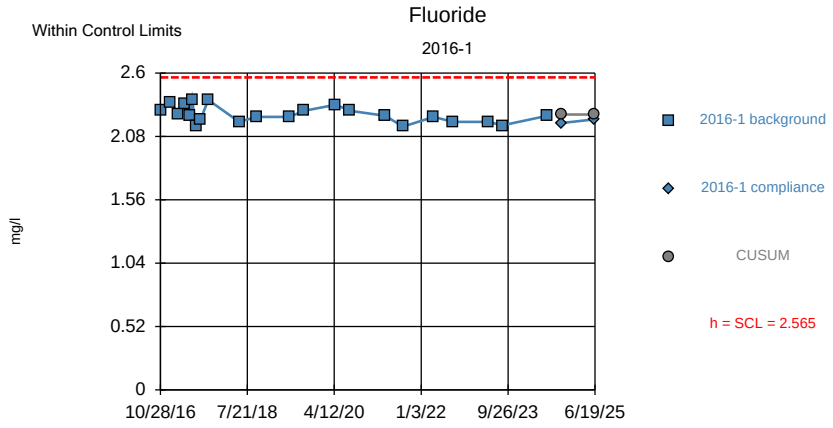
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1.832, Std. Dev.=0.08378, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9708, critical = 0.911. Report alpha = 0.000206. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

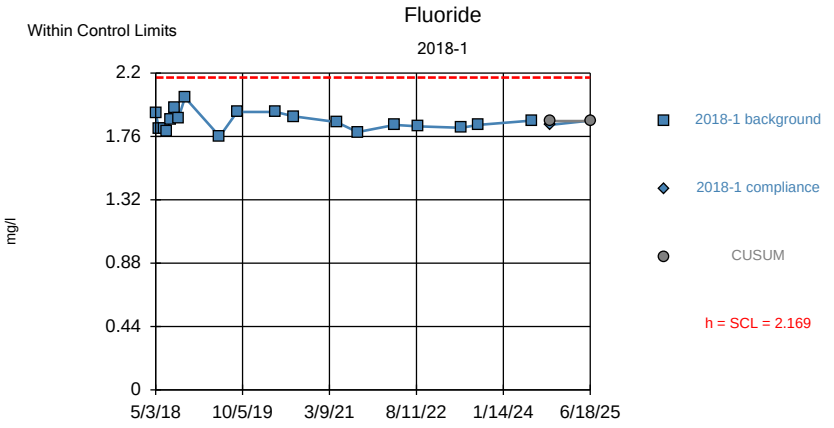
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=2.26, Std. Dev.=0.06765, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9353, critical = 0.911. Report alpha = 0.000206. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

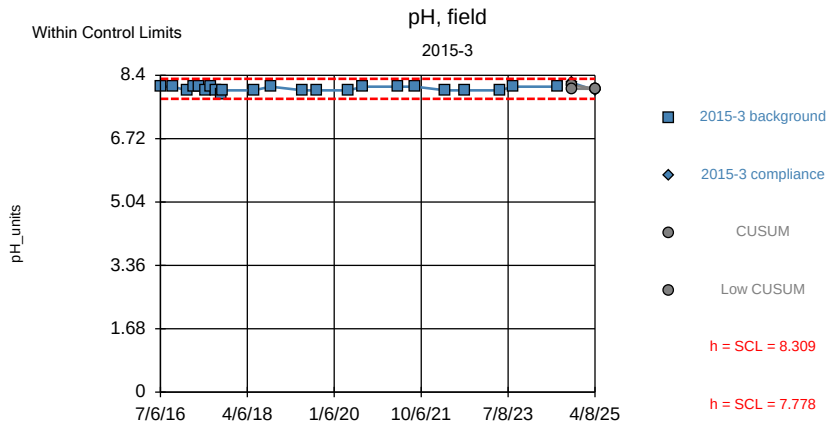
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



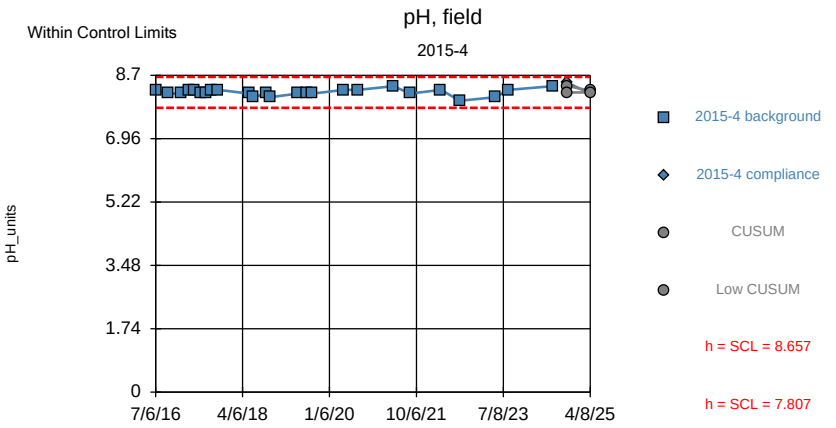
Background Data Summary: Mean=1.867, Std. Dev.=0.06717, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9649, critical = 0.901. Report alpha = 0.000334. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



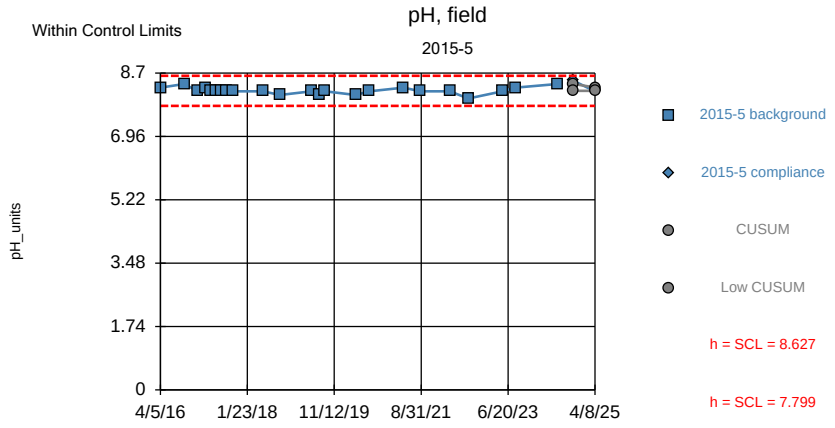
Background Data Summary: Mean=8.043, Std. Dev.=0.05898, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7337, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000236. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



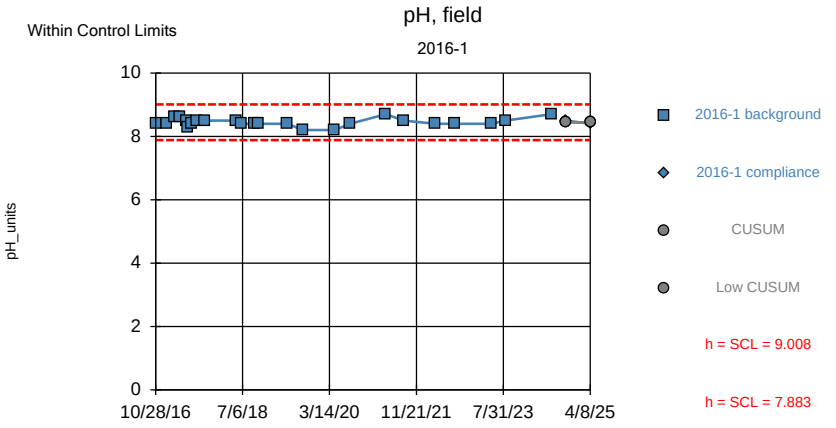
Background Data Summary: Mean=8.232, Std. Dev.=0.09452, n=25. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9029, critical = 0.918 (non-normal: user chose to continue). Report alpha = 0.00017. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



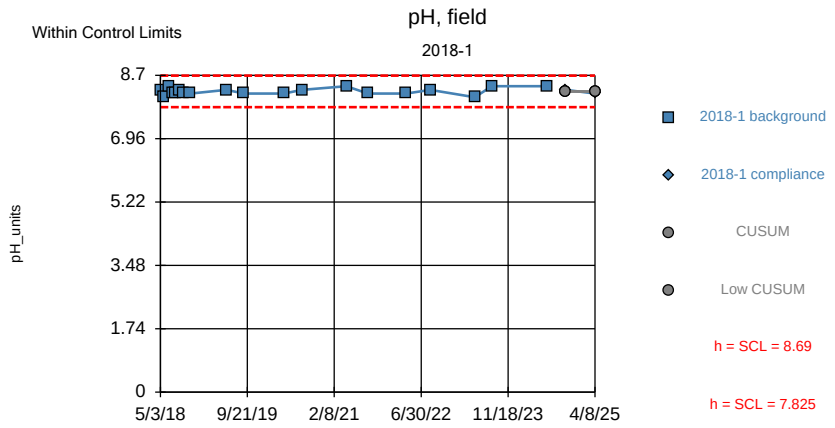
Background Data Summary: Mean=8.213, Std. Dev.=0.09197, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8656, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000198. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

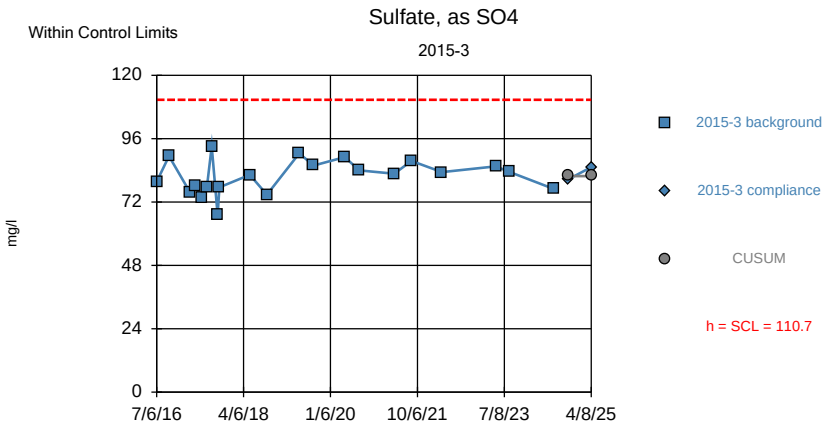


Background Data Summary: Mean=8.446, Std. Dev.=0.125, n=24. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8914, critical = 0.916 (non-normal: user chose to continue). Report alpha = 0.000182. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

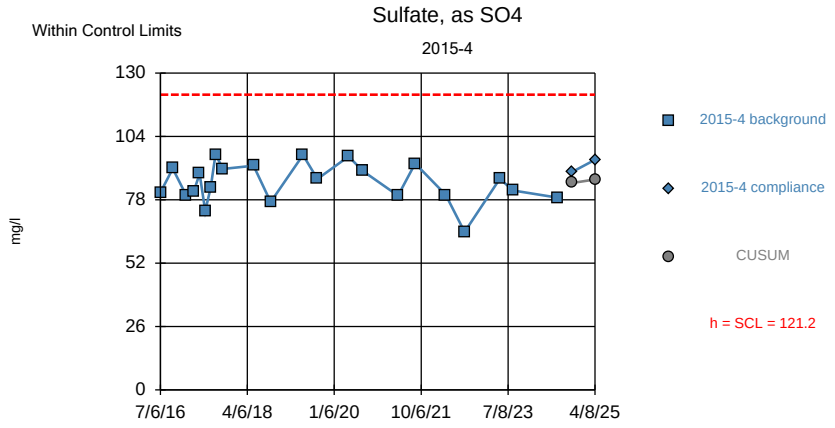
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



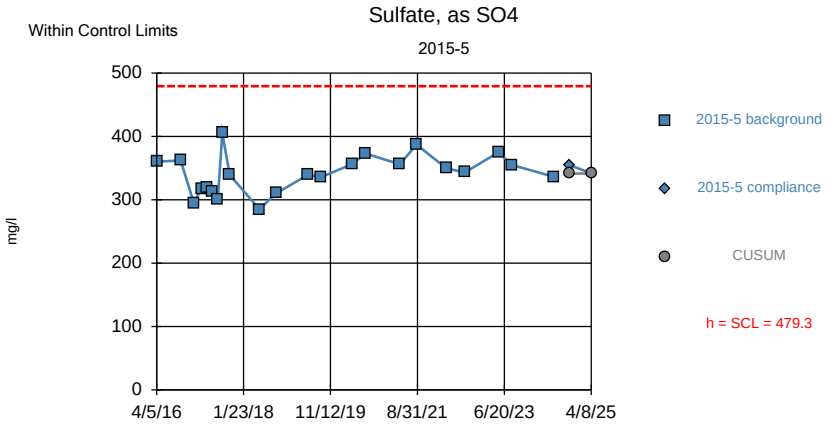
Background Data Summary: Mean=8.258, Std. Dev.=0.09612, n=19. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8698, critical = 0.901 (non-normal: user chose to continue). Report alpha = 0.00033. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.



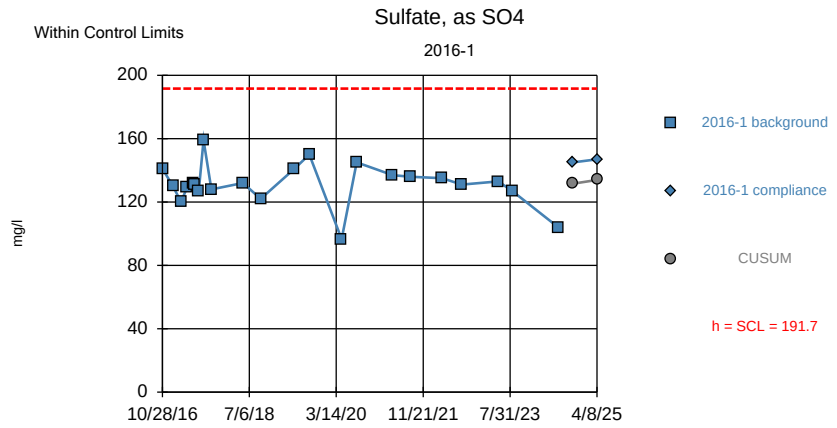
Background Data Summary: Mean=81.82, Std. Dev.=6.424, n=21. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9807, critical = 0.908. Report alpha = 0.000254. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.



Background Data Summary: Mean=84.88, Std. Dev.=8.061, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.952, critical = 0.911. Report alpha = 0.000212. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.



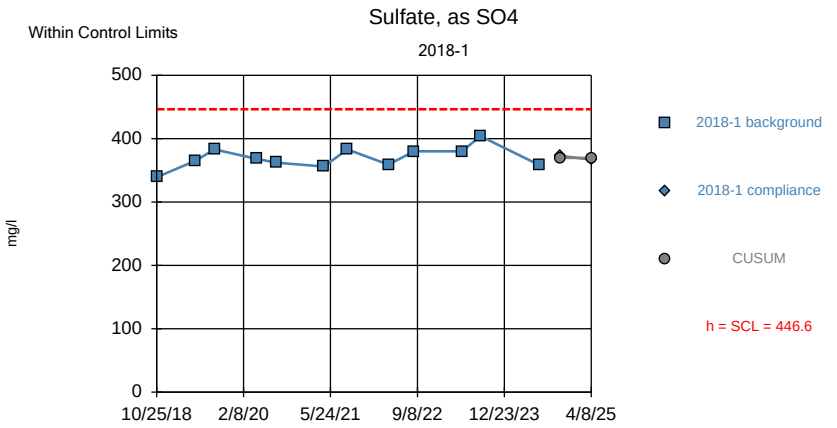
Background Data Summary: Mean=341.4, Std. Dev.=30.65, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9844, critical = 0.911. Report alpha = 0.000212. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.



Background Data Summary: Mean=131.2, Std. Dev.=13.43, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.927, critical = 0.911. Report alpha = 0.000212. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

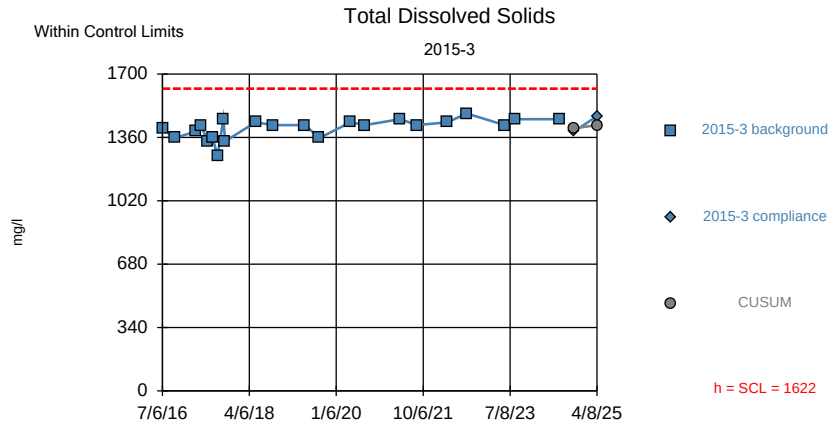
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=369.8, Std. Dev.=17.08, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9606, critical = 0.859. Report alpha = 0.000984. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

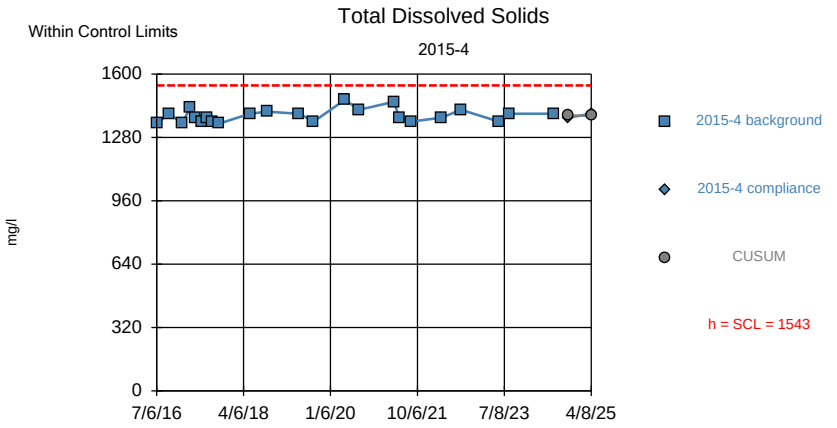
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary (based on cube transformation): Mean=2.8e9, Std. Dev.=3.3e8, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9169, critical = 0.911. Report alpha = 0.000248. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

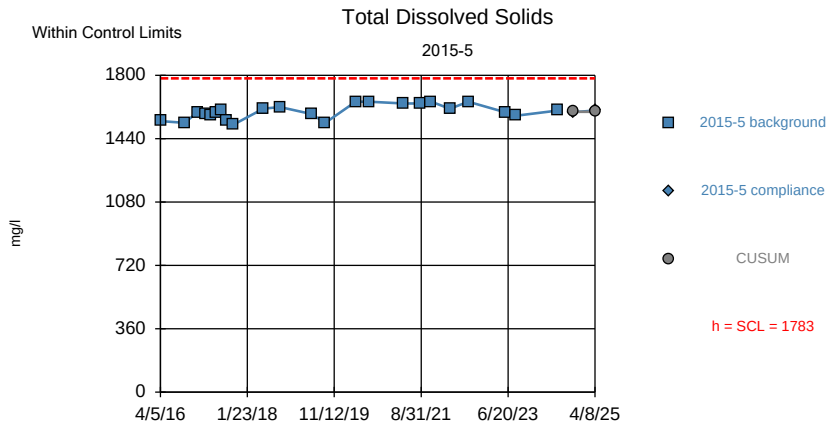
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1390, Std. Dev.=33.91, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8865, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000182. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

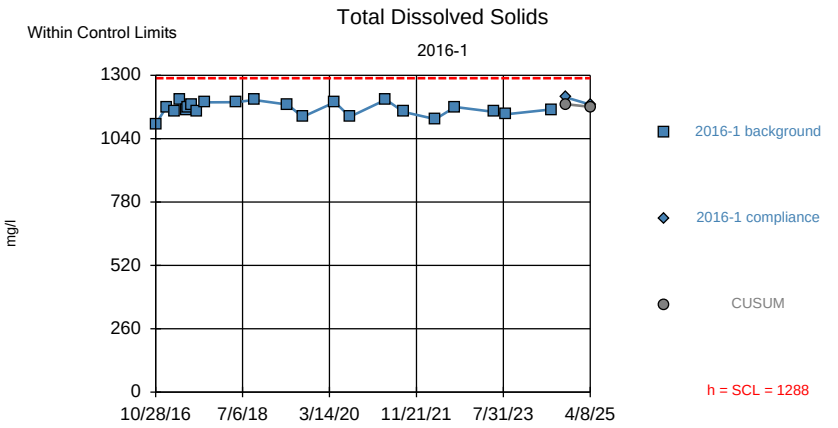
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1593, Std. Dev.=42.17, n=23. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9293, critical = 0.914. Report alpha = 0.000182. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

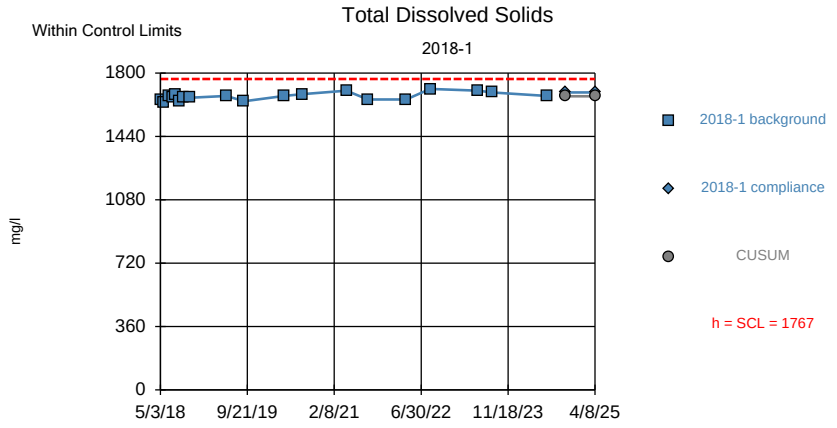
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1163, Std. Dev.=27.88, n=22. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9546, critical = 0.911. Report alpha = 0.000206. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

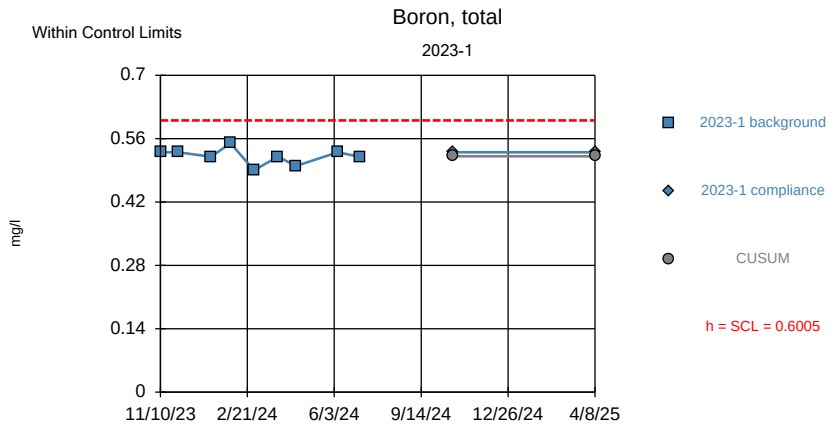
Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



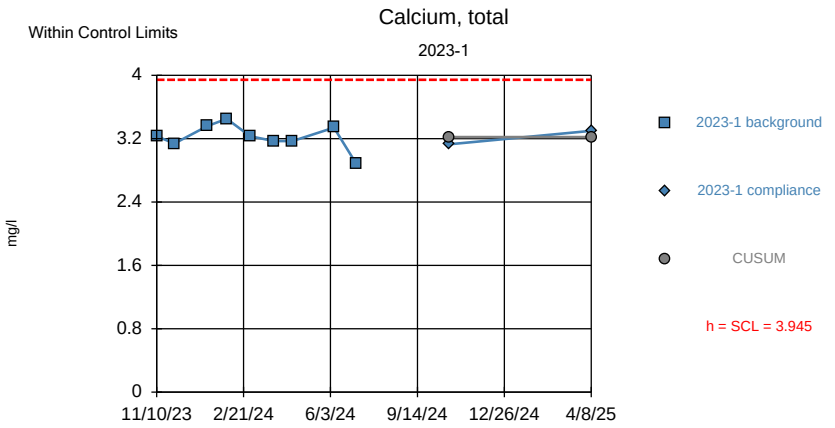
Background Data Summary: Mean=1667, Std. Dev.=22.07, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9661, critical = 0.901. Report alpha = 0.000304. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 12:48 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



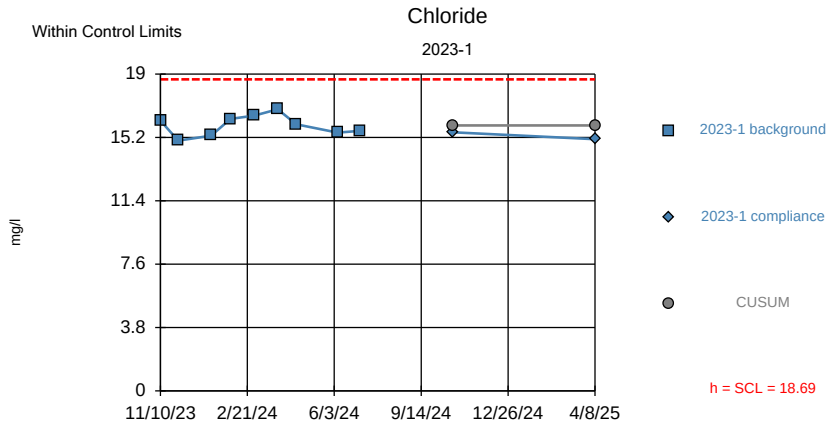
Background Data Summary: Mean=0.5211, Std. Dev.=0.01764, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9251, critical = 0.829. Report alpha = 0.00229. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



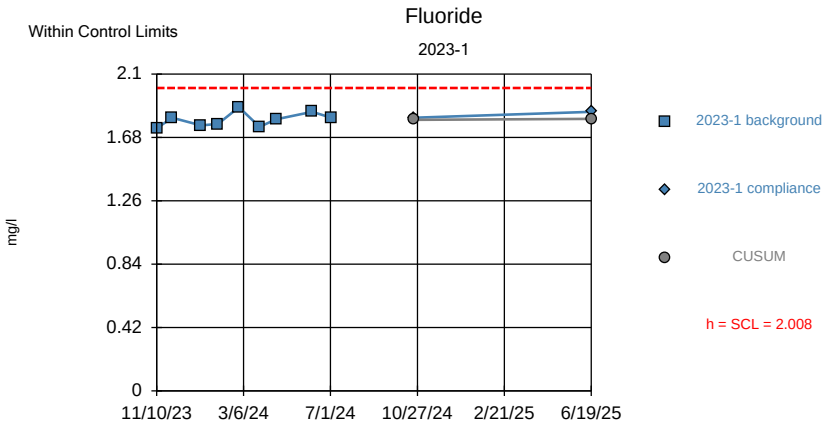
Background Data Summary: Mean=3.22, Std. Dev.=0.161, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.935, critical = 0.829. Report alpha = 0.00229. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



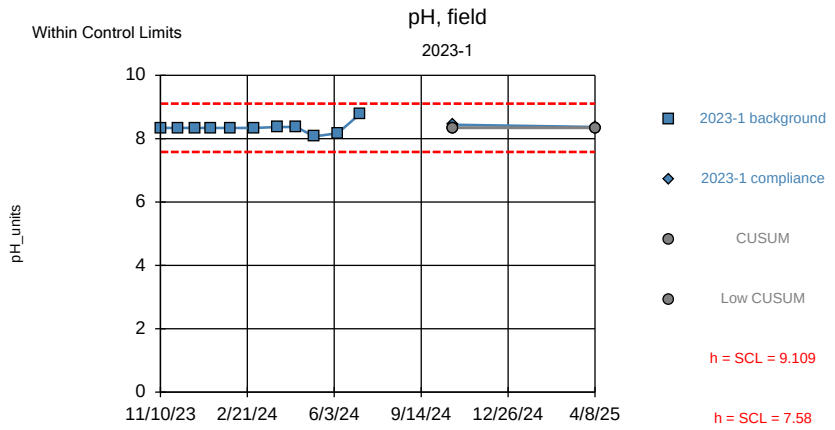
Background Data Summary: Mean=15.92, Std. Dev.=0.6148, n=9. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9749, critical = 0.829. Report alpha = 0.00229. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1.797, Std. Dev.=0.0469, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9388, critical = 0.829. Report alpha = 0.00229. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

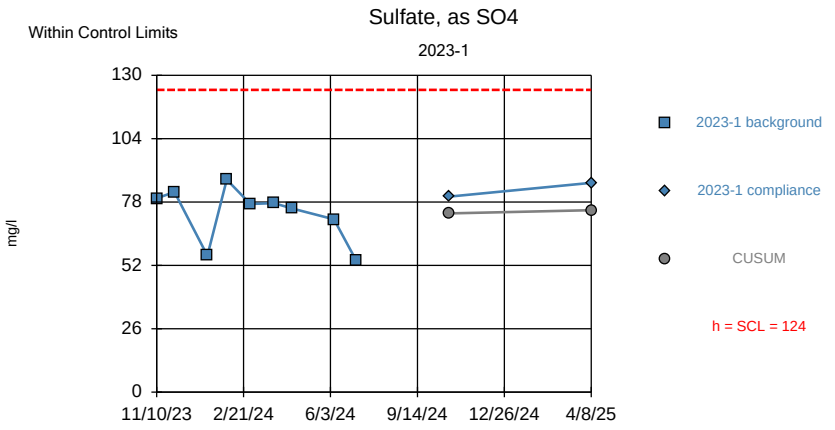
Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=8.345, Std. Dev.=0.1698, n=11. Seasonality was detected with 95% confidence and data were deseasonalized. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7153, critical = 0.85 (non-normal: user chose to continue). Report alpha = 0.001338. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

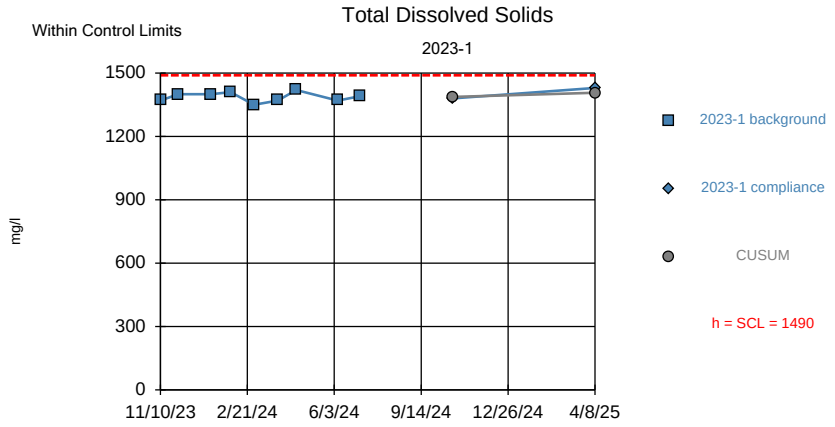
Sanitas™ v.10.1.03a Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=73.32, Std. Dev.=11.27, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8745, critical = 0.829. Report alpha = 0.002166. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.03a Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1387, Std. Dev.=22.91, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9438, critical = 0.829. Report alpha = 0.002166. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:24 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 7/11/2025, 12:49 PM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron, total (mg/l)	2015-3	No	0.672	0.672	22	0	No	No	Param Intra
Boron, total (mg/l)	2015-4	No	0.6645	0.6645	22	0	No	No	Param Intra
Boron, total (mg/l)	2015-5	No	0.6318	0.6318	22	0	No	x^2	Param Intra
Boron, total (mg/l)	2016-1	No	0.6863	0.6863	22	0	No	No	Param Intra
Boron, total (mg/l)	2018-1	No	0.6228	0.6228	19	0	No	No	Param Intra
Calcium, total (mg/l)	2015-3	No	4.635	4.635	13	0	No	No	Param Intra
Calcium, total (mg/l)	2015-4	No	4.046	4.046	13	0	No	No	Param Intra
Calcium, total (mg/l)	2015-5	No	5.224	5.224	13	0	No	No	Param Intra
Calcium, total (mg/l)	2016-1	No	3.687	3.687	13	0	No	No	Param Intra
Calcium, total (mg/l)	2018-1	No	5.097	5.097	13	0	Yes	No	Param Intra
Chloride (mg/l)	2015-3	No	9.748	9.748	9	0	No	No	Param Intra
Chloride (mg/l)	2015-4	No	10.27	10.27	16	0	No	No	Param Intra
Chloride (mg/l)	2015-5	No	6.805	6.805	9	0	No	No	Param Intra
Chloride (mg/l)	2016-1	No	7.78	7.78	15	0	No	No	Param Intra
Chloride (mg/l)	2018-1	No	8.038	8.038	19	0	No	No	Param Intra
Fluoride (mg/l)	2015-3	No	2.167	2.167	22	0	No	No	Param Intra
Fluoride (mg/l)	2015-4	No	2.165	2.165	22	0	No	No	Param Intra
Fluoride (mg/l)	2015-5	No	2.209	2.209	22	0	No	No	Param Intra
Fluoride (mg/l)	2016-1	No	2.565	2.565	22	0	No	No	Param Intra
Fluoride (mg/l)	2018-1	No	2.169	2.169	19	0	No	No	Param Intra
pH, field (pH_units)	2015-3	No	8.3...	8.3...	23	0	No	No	Param Intra
pH, field (pH_units)	2015-4	No	8.6...	8.6...	25	0	No	No	Param Intra
pH, field (pH_units)	2015-5	No	8.6...	8.6...	23	0	No	No	Param Intra
pH, field (pH_units)	2016-1	No	9.0...	9.0...	24	0	No	No	Param Intra
pH, field (pH_units)	2018-1	No	8.6...	8.6...	19	0	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-3	No	110.7	110.7	21	0	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-4	No	121.2	121.2	22	0	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-5	No	479.3	479.3	22	0	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2016-1	No	191.7	191.7	22	0	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2018-1	No	446.6	446.6	12	0	No	No	Param Intra
Total Dissolved Solids (mg/l)	2015-3	No	1622	1622	22	0	No	x^3	Param Intra
Total Dissolved Solids (mg/l)	2015-4	No	1543	1543	23	0	No	No	Param Intra
Total Dissolved Solids (mg/l)	2015-5	No	1783	1783	23	0	No	No	Param Intra
Total Dissolved Solids (mg/l)	2016-1	No	1288	1288	22	0	Yes	No	Param Intra
Total Dissolved Solids (mg/l)	2018-1	No	1767	1767	19	0	No	No	Param Intra

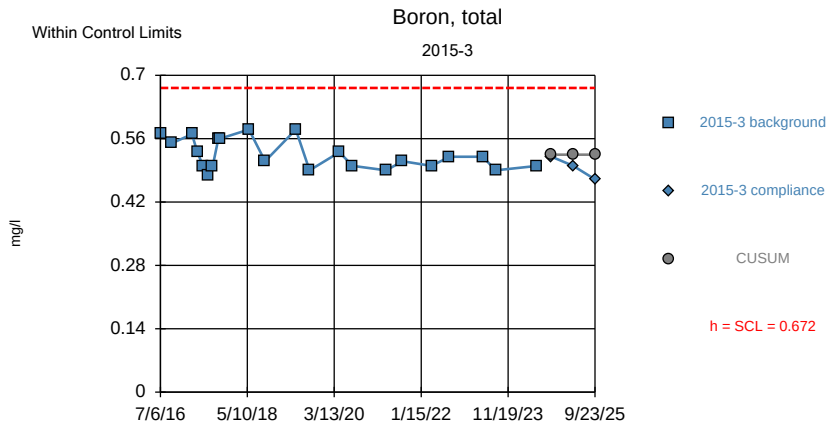
Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 1/19/2026, 12:26 PM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron, total (mg/l)	2023-1	No	0.6005	0.6005	9	0	No	No	Param Intra
Calcium, total (m...	2023-1	No	3.945	3.945	9	0	No	No	Param Intra
Chloride (mg/l)	2023-1	No	18.69	18.69	9	0	Yes	No	Param Intra
Fluoride (mg/l)	2023-1	No	2.008	2.008	9	0	No	No	Param Intra
pH, field (pH_units)	2023-1	No	9.109&7.58	9.1...	11	0	Yes	No	Param Intra
Sulfate, as SO4 (...	2023-1	No	124	124	9	0	No	No	Param Intra
Total Dissolved S...	2023-1	No	1490	1490	9	0	No	No	Param Intra

Appendix B

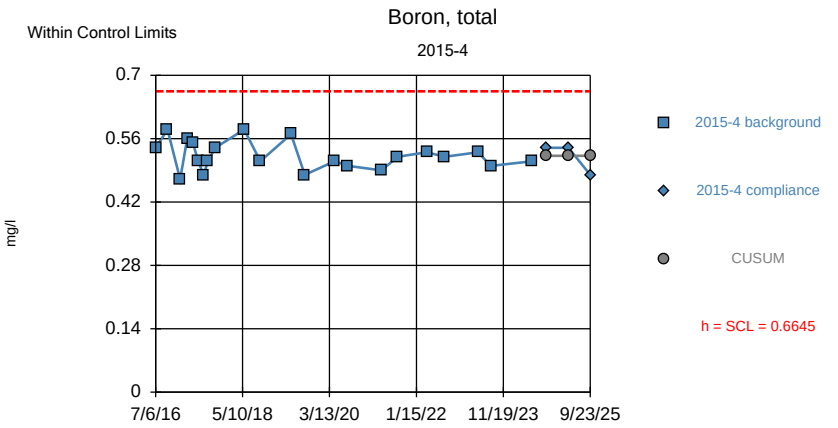
CCR Unit Statistical Review for SSIs: Event 2



Background Data Summary: Mean=0.5245, Std. Dev.=0.03277, n=22. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8559, critical = 0.911 (non-normal: user chose to continue). Report alpha = 0.000402. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:02 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

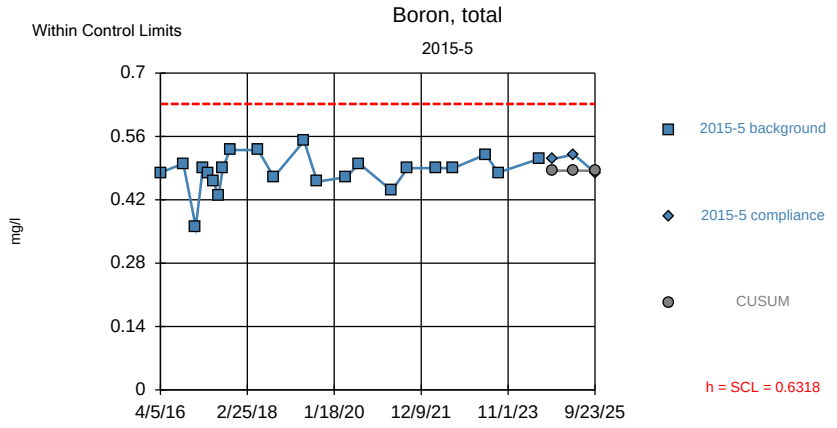
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=0.5223, Std. Dev.=0.03161, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9558, critical = 0.911. Report alpha = 0.000402. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:02 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

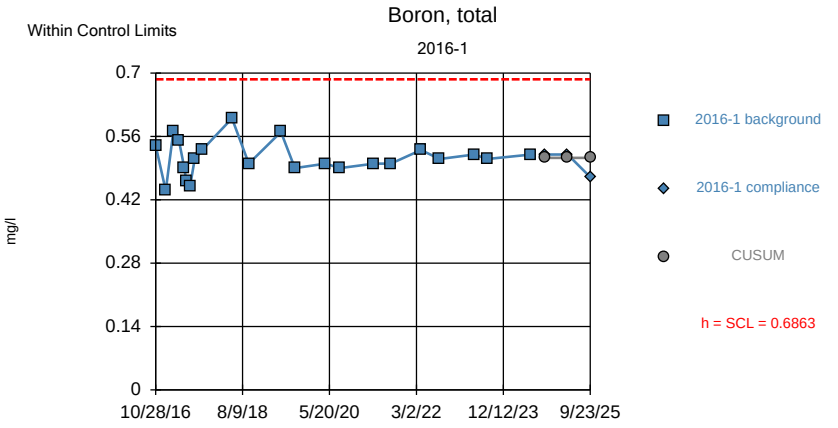
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary (based on square transformation): Mean=0.2345, Std. Dev.=0.03659, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9396, critical = 0.911. Report alpha = 0.000402. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

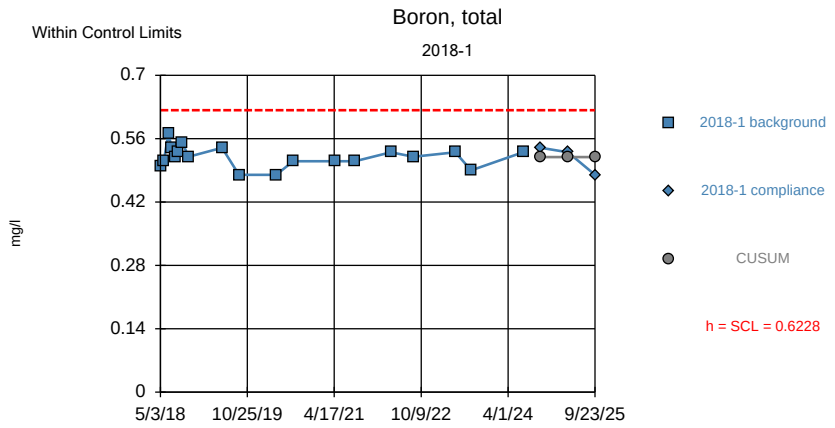
Control Chart Analysis Run 11/17/2025 5:02 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



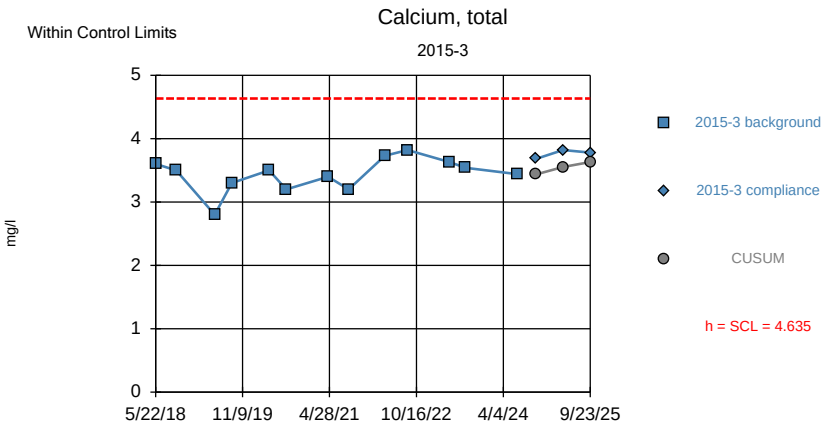
Background Data Summary: Mean=0.5127, Std. Dev.=0.03857, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9668, critical = 0.911. Report alpha = 0.000402. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:02 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



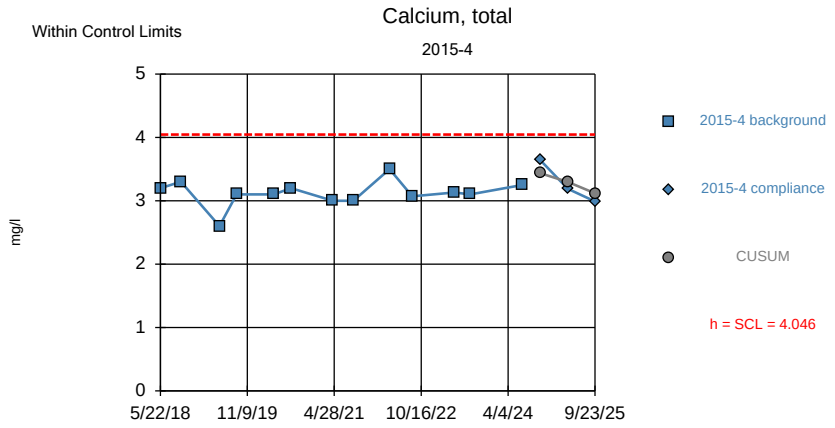
Background Data Summary: Mean=0.5195, Std. Dev.=0.02297, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9676, critical = 0.901. Report alpha = 0.000554. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



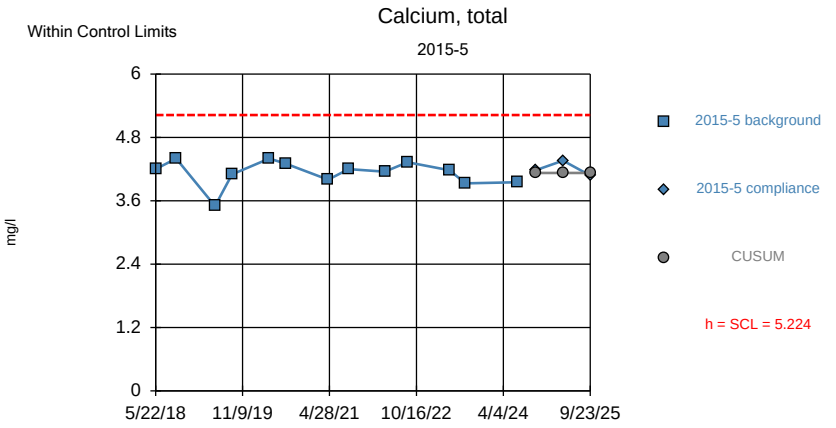
Background Data Summary: Mean=3.435, Std. Dev.=0.2666, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9418, critical = 0.866. Report alpha = 0.001332. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



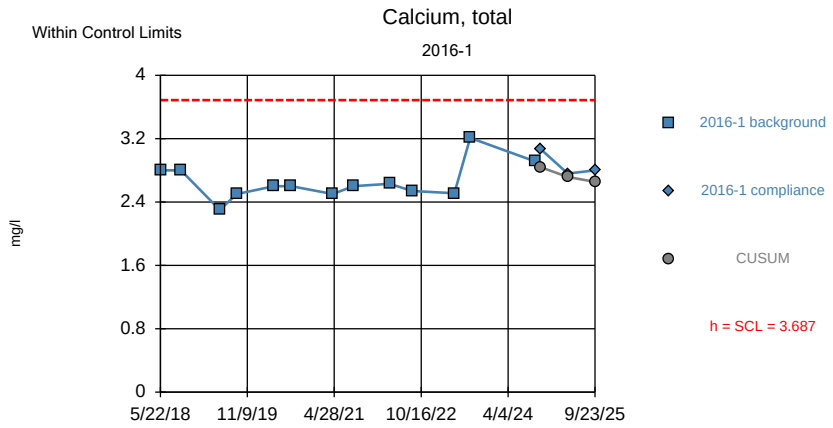
Background Data Summary: Mean=3.119, Std. Dev.=0.2061, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9, critical = 0.866. Report alpha = 0.001332. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=4.126, Std. Dev.=0.244, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8851, critical = 0.866. Report alpha = 0.001332. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

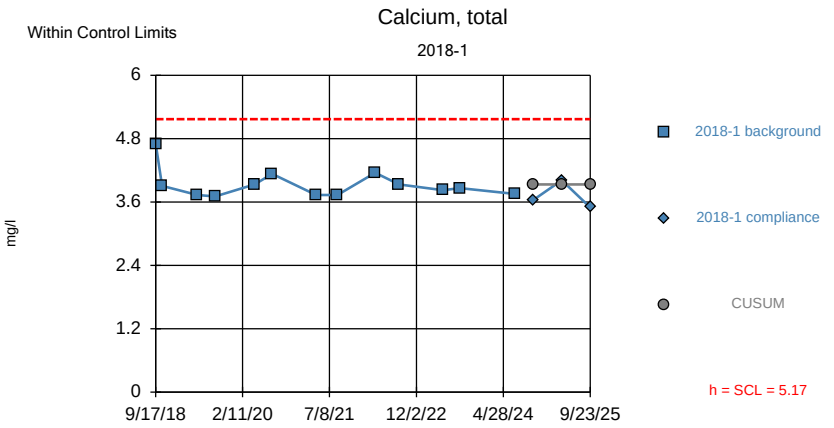
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=2.654, Std. Dev.=0.2297, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9021, critical = 0.866. Report alpha = 0.001332. Dates ending 9/24/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

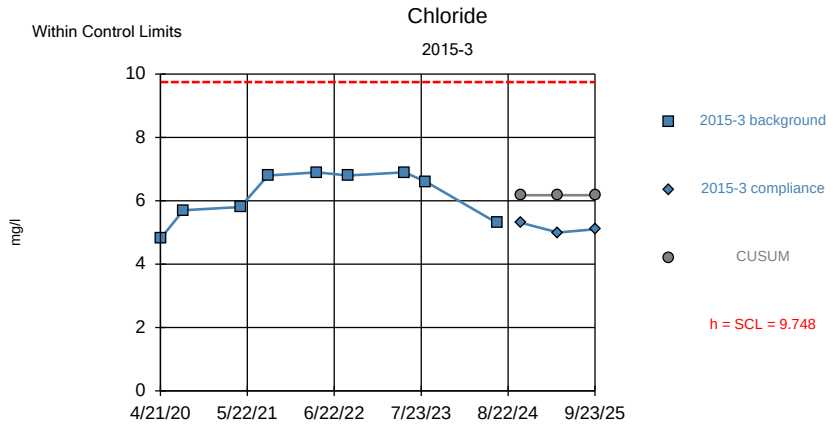
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=3.932, Std. Dev.=0.2752, n=13. Seasonality was detected with 95% confidence and data were deseasonalized. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.6216, critical = 0.866 (non-normal: user chose to continue). Report alpha = 0.001332. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

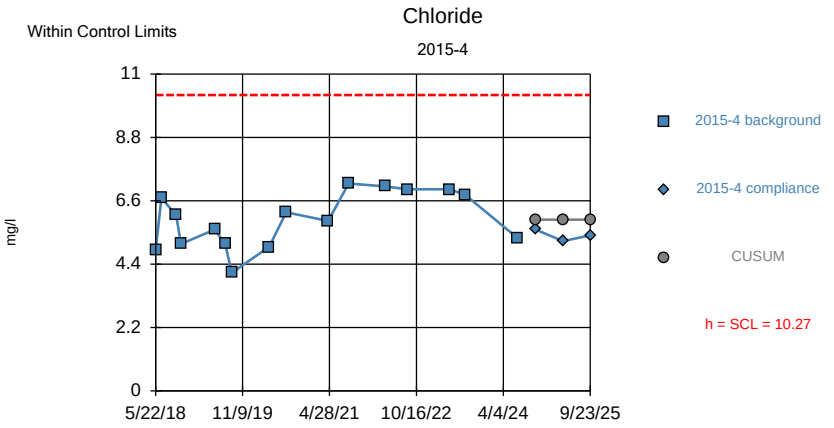
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=6.178, Std. Dev.=0.7934, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8489, critical = 0.829. Report alpha = 0.003238. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

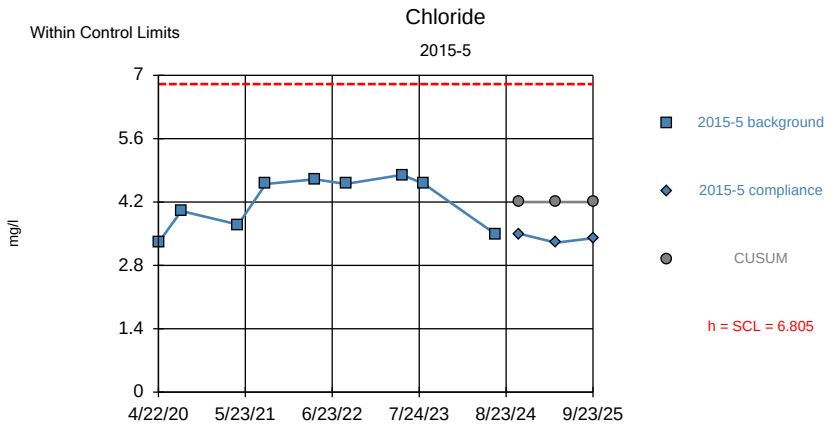
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



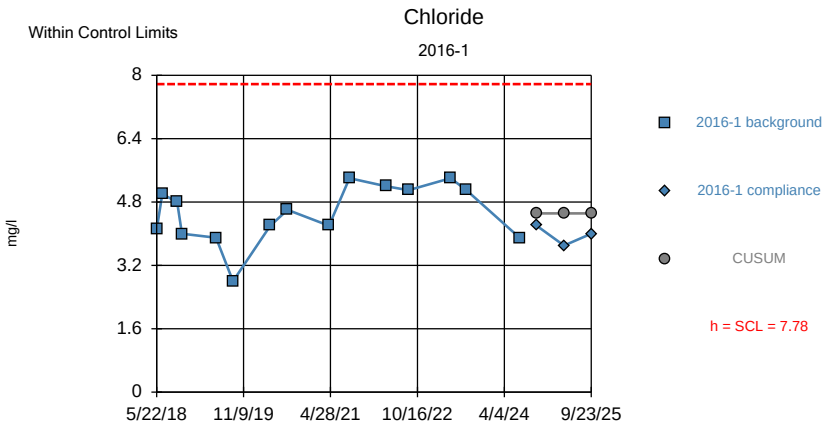
Background Data Summary: Mean=5.944, Std. Dev.=0.9619, n=16. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9286, critical = 0.887. Report alpha = 0.000792. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



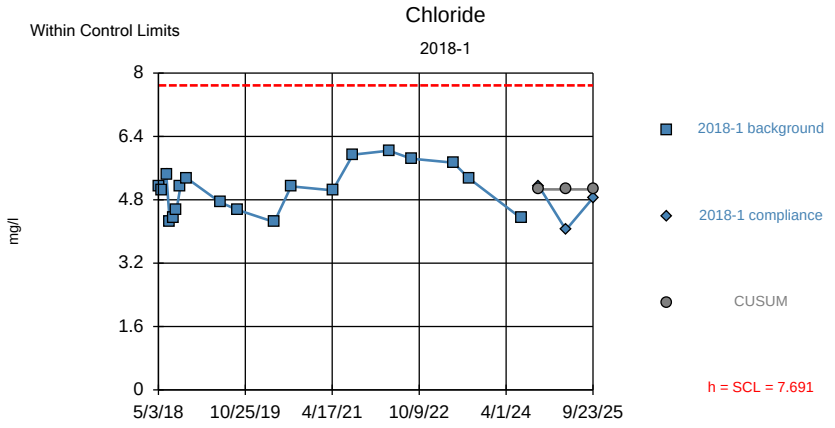
Background Data Summary: Mean=4.2, Std. Dev.=0.5788, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8476, critical = 0.829. Report alpha = 0.003284. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



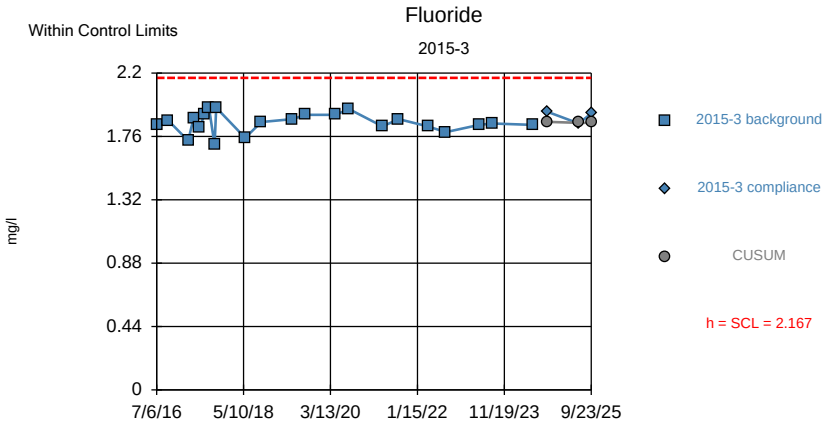
Background Data Summary: Mean=4.513, Std. Dev.=0.7259, n=15. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9146, critical = 0.881. Report alpha = 0.00098. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



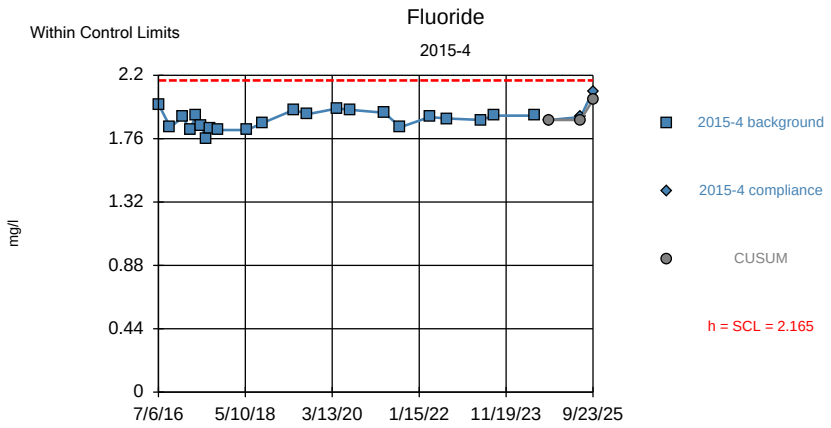
Background Data Summary: Mean=5.061, Std. Dev.=0.5844, n=19. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9387, critical = 0.901. Report alpha = 0.000492. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1.855, Std. Dev.=0.06933, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9548, critical = 0.911. Report alpha = 0.000354. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

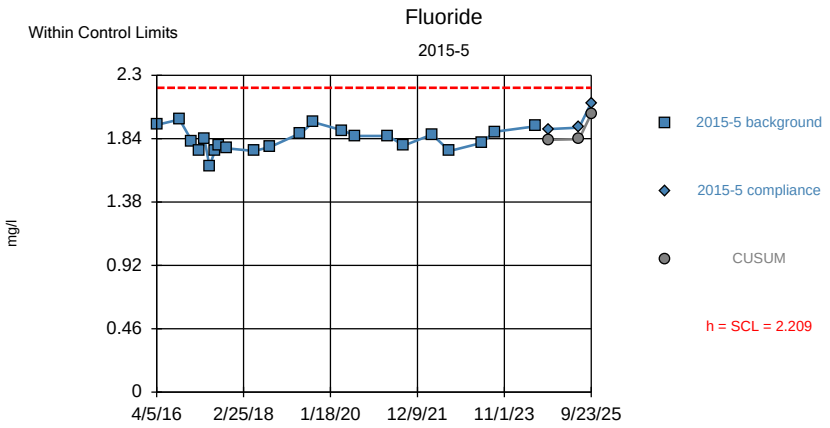
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1.89, Std. Dev.=0.06102, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9672, critical = 0.911. Report alpha = 0.000354. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

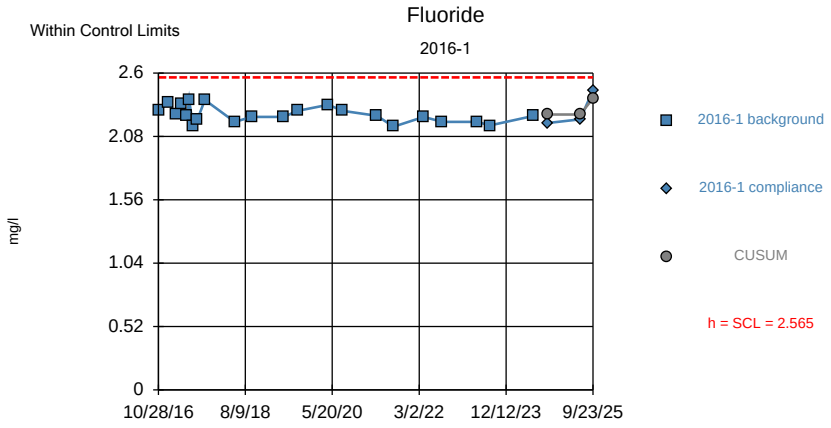
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1.832, Std. Dev.=0.08378, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9708, critical = 0.911. Report alpha = 0.000354. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

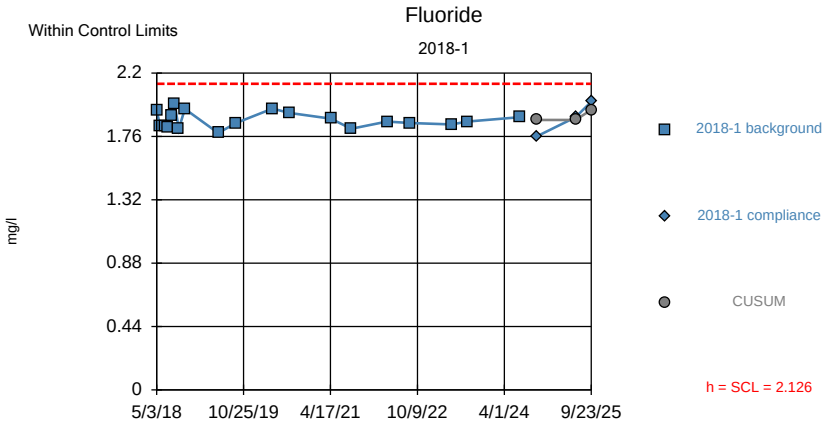
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=2.26, Std. Dev.=0.06765, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9353, critical = 0.911. Report alpha = 0.000354. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

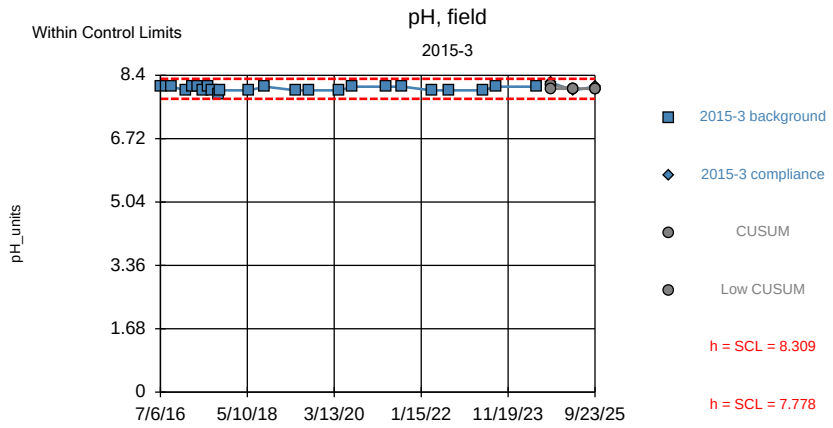
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1.874, Std. Dev.=0.05607, n=19. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9563, critical = 0.901. Report alpha = 0.00053. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

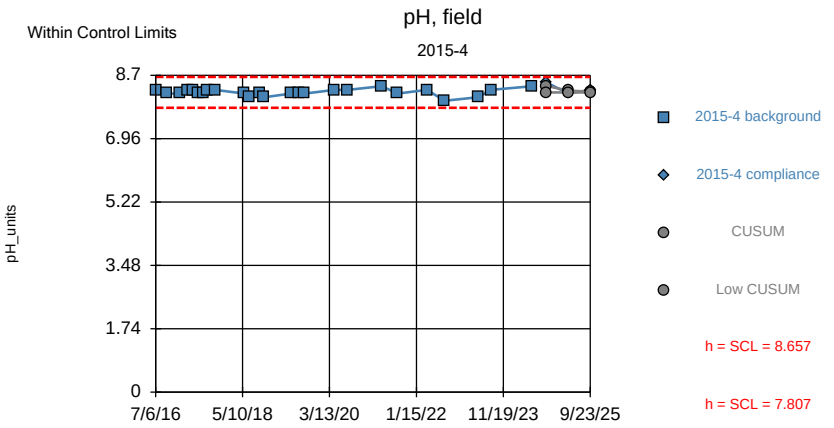
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=8.043, Std. Dev.=0.05898, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7337, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000358. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

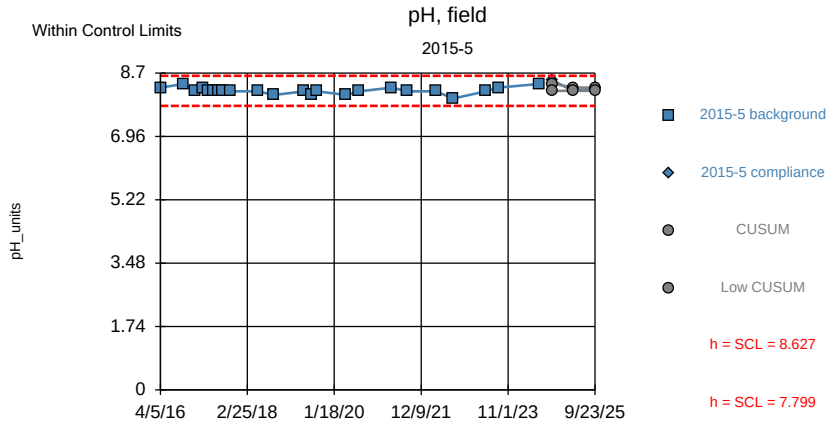
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=8.232, Std. Dev.=0.09452, n=25. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9029, critical = 0.918 (non-normal: user chose to continue). Report alpha = 0.000316. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

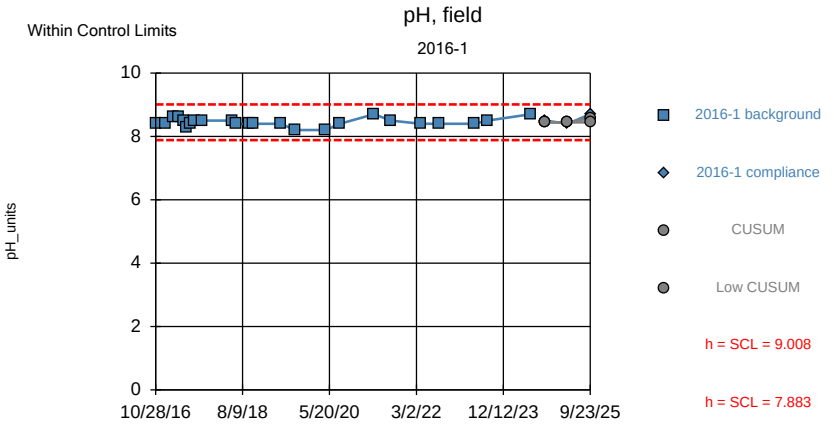
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=8.213, Std. Dev.=0.09197, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8656, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000382. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

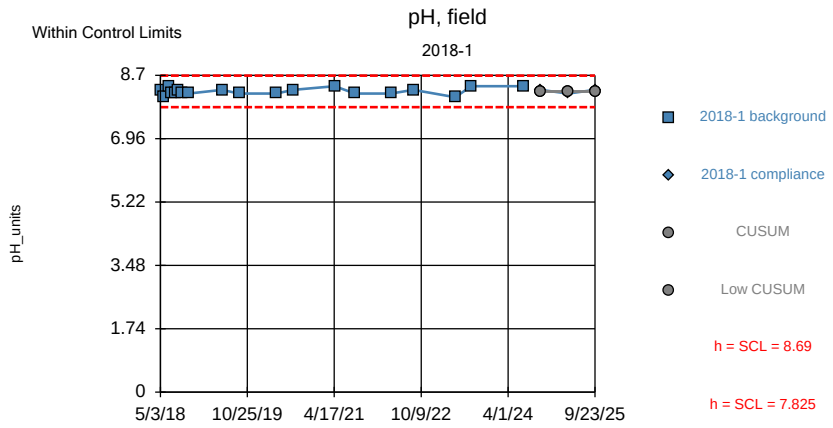
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=8.446, Std. Dev.=0.125, n=24. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8914, critical = 0.916 (non-normal: user chose to continue). Report alpha = 0.000314. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

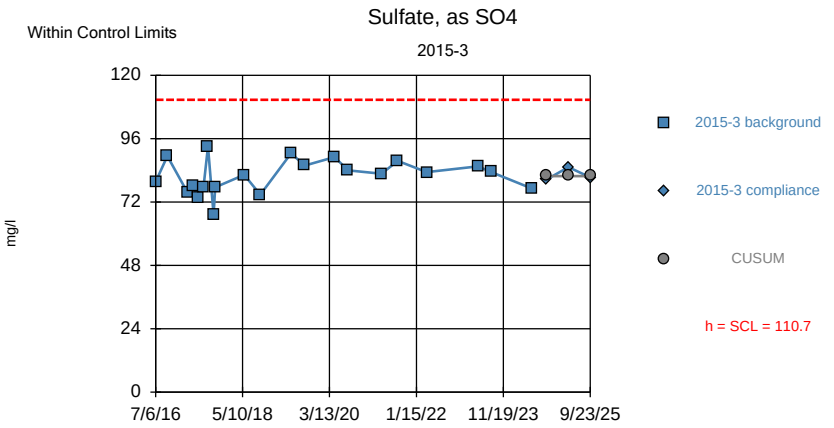
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=8.258, Std. Dev.=0.09612, n=19. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8698, critical = 0.901 (non-normal: user chose to continue). Report alpha = 0.00051. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

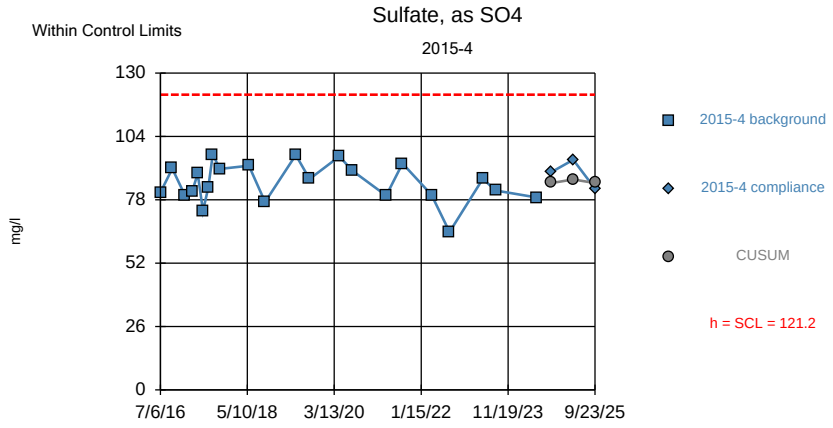
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=81.82, Std. Dev.=6.424, n=21. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9807, critical = 0.908. Report alpha = 0.000404. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

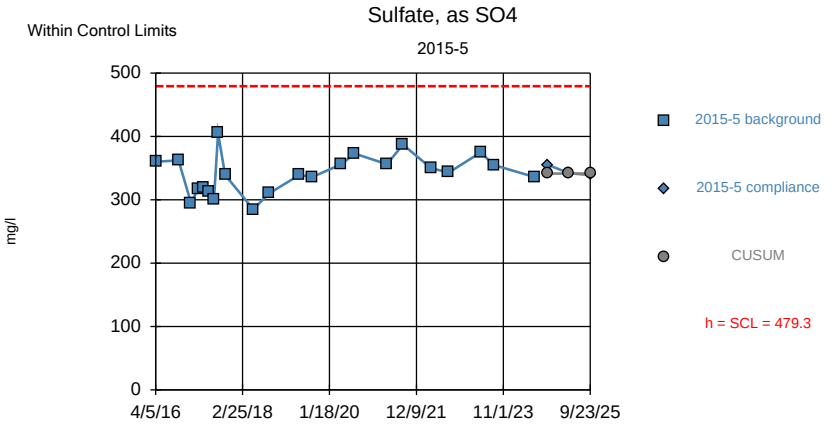
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=84.88, Std. Dev.=8.061, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.952, critical = 0.911. Report alpha = 0.000392. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

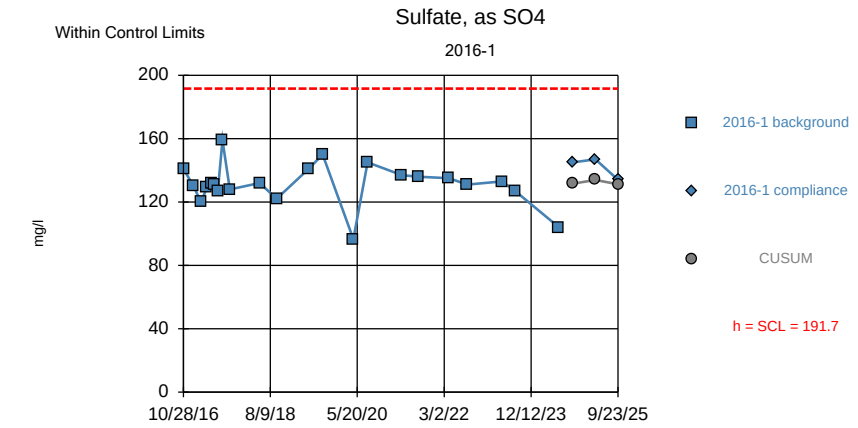
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=341.4, Std. Dev.=30.65, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9844, critical = 0.911. Report alpha = 0.000392. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

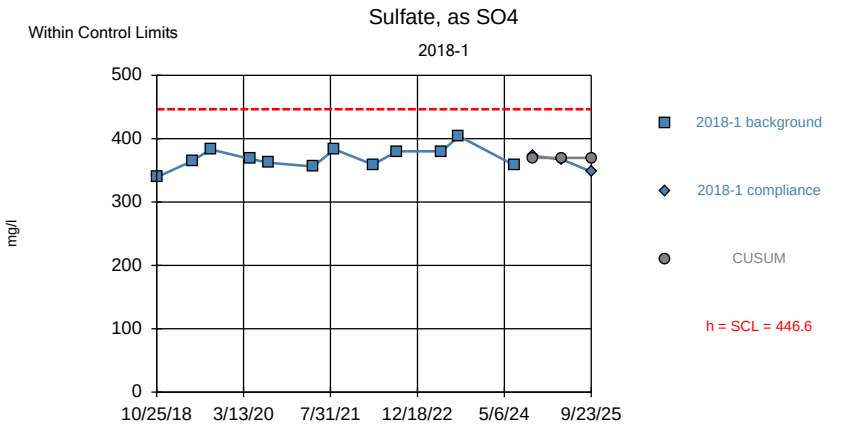
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=131.2, Std. Dev.=13.43, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.927, critical = 0.911. Report alpha = 0.000392. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

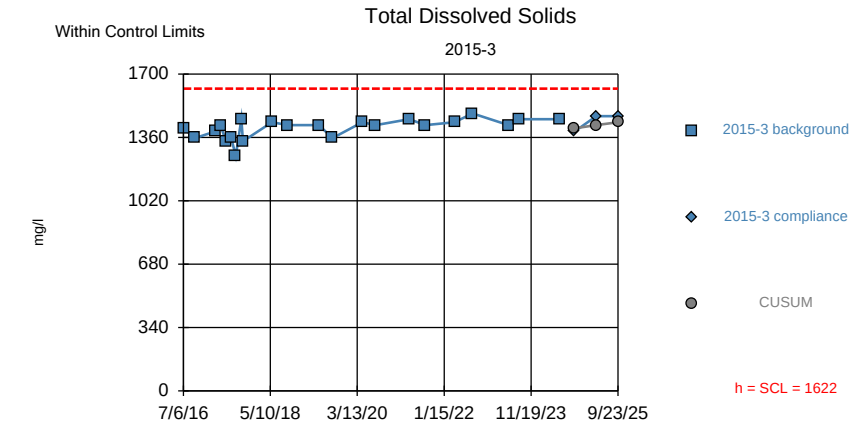
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=369.8, Std. Dev.=17.08, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9606, critical = 0.859. Report alpha = 0.001608. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

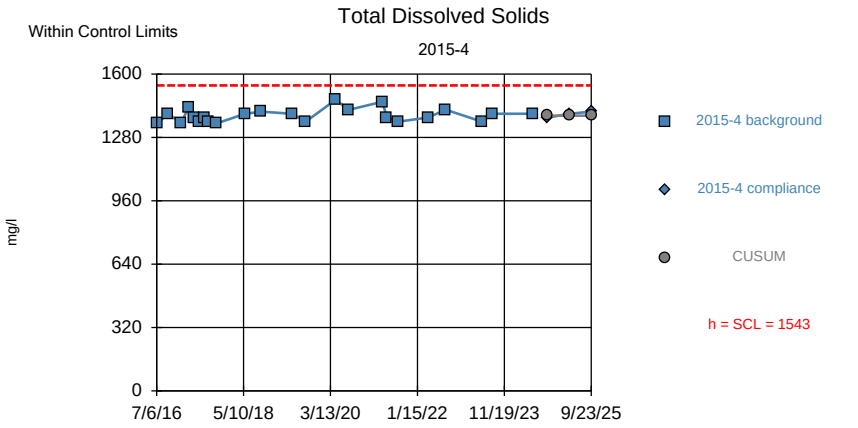
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary (based on cube transformation): Mean=2.8e9, Std. Dev.=3.3e8, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9169, critical = 0.911. Report alpha = 0.000362. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

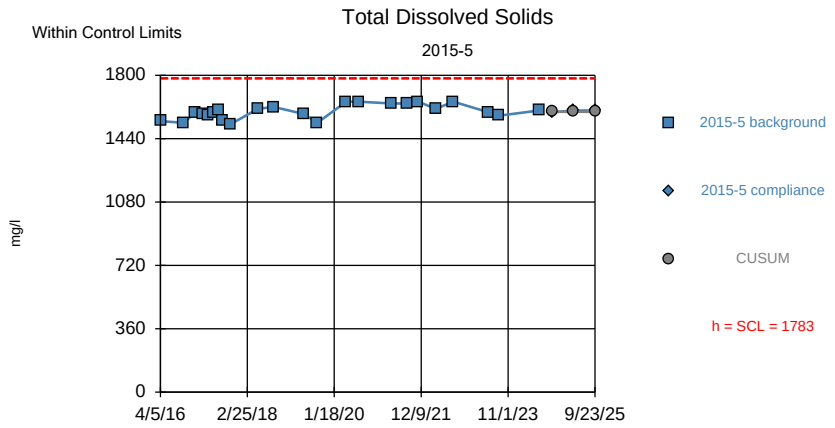
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1390, Std. Dev.=33.91, n=23. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8865, critical = 0.914 (non-normal: user chose to continue). Report alpha = 0.000368. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

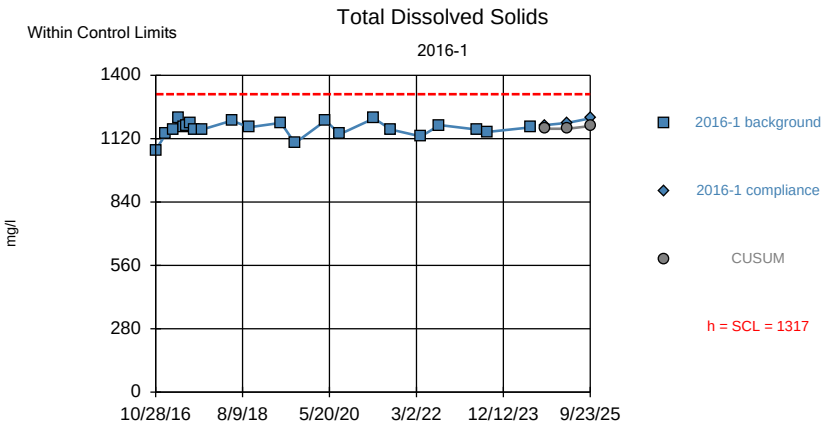
Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly



Background Data Summary: Mean=1593, Std. Dev.=42.17, n=23. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9293, critical = 0.914. Report alpha = 0.000368. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

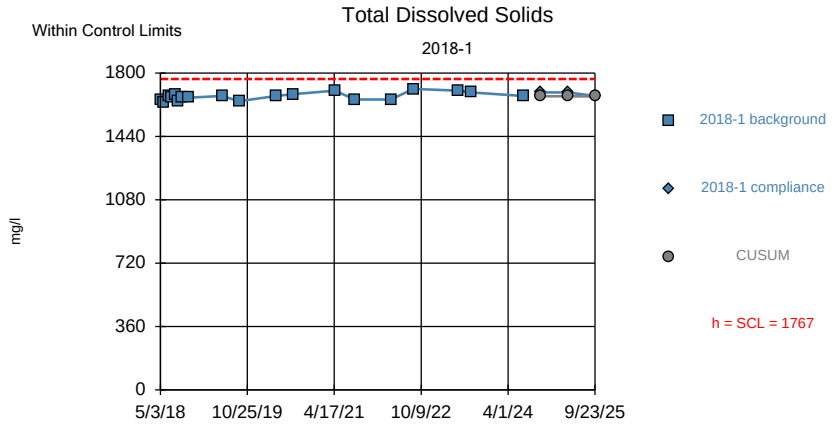
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1164, Std. Dev.=34.02, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9196, critical = 0.911. Report alpha = 0.000422. Dates ending 7/8/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

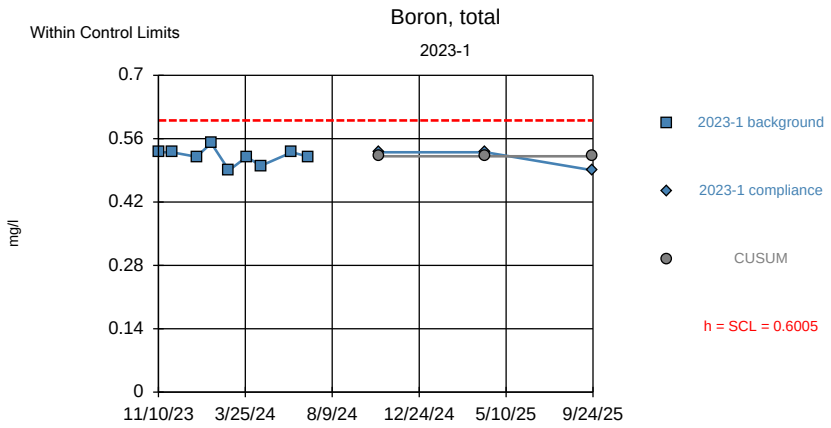
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1667, Std. Dev.=22.07, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9661, critical = 0.901. Report alpha = 0.00056. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/17/2025 5:03 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

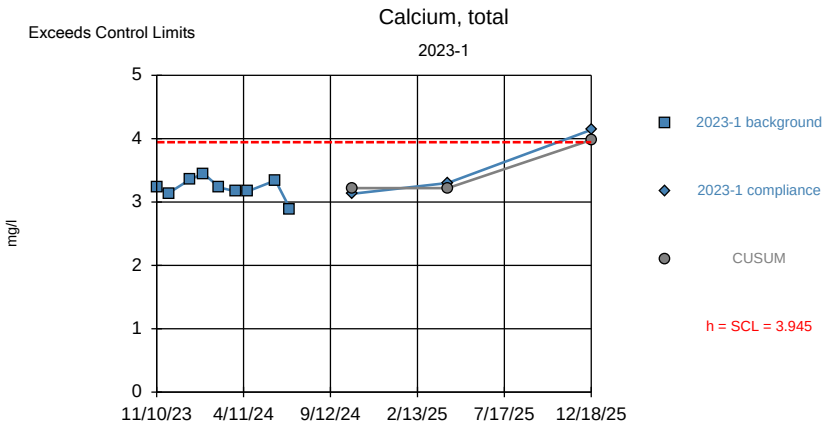
Within Control Limits



Background Data Summary: Mean=0.5211, Std. Dev.=0.01764, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9251, critical = 0.829. Report alpha = 0.00326. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

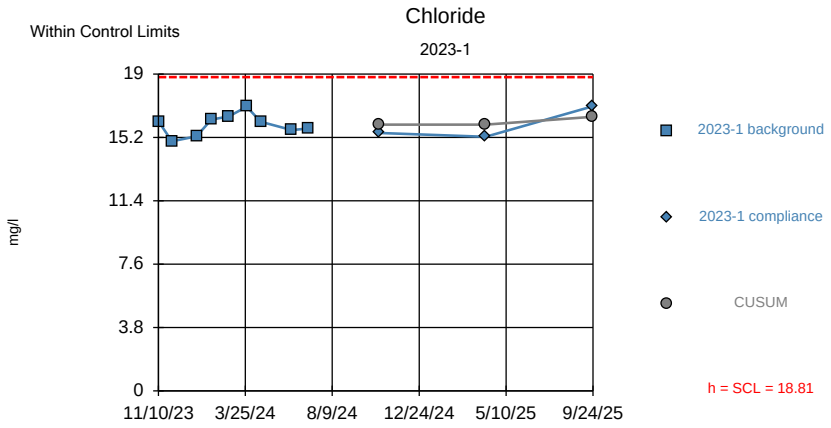
Exceeds Control Limits



Background Data Summary: Mean=3.22, Std. Dev.=0.161, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.935, critical = 0.829. Report alpha = 0.00326. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

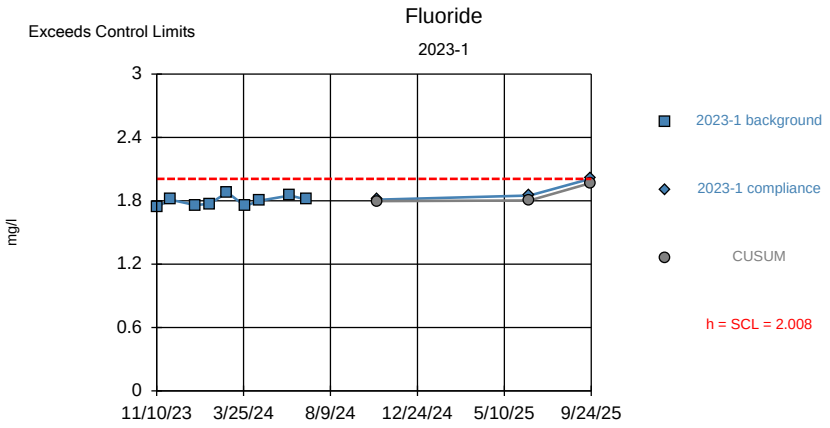
Within Control Limits



Background Data Summary: Mean=15.97, Std. Dev.=0.6324, n=9. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9814, critical = 0.829. Report alpha = 0.00326. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

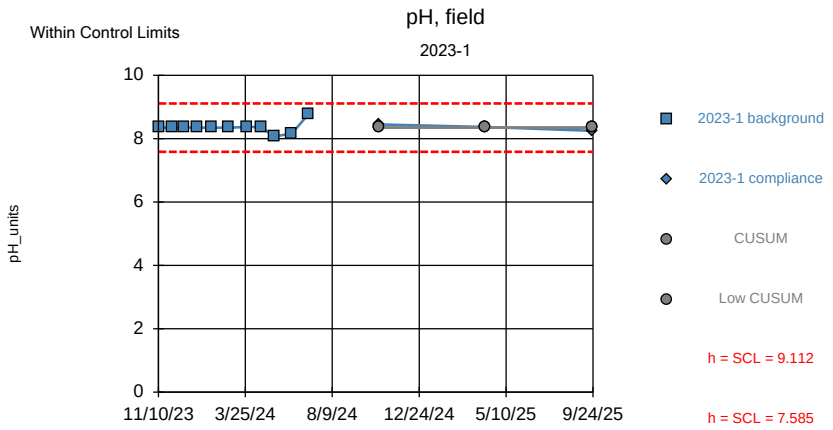
Exceeds Control Limits



Background Data Summary: Mean=1.797, Std. Dev.=0.0469, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9388, critical = 0.829. Report alpha = 0.00326. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Within Control Limits

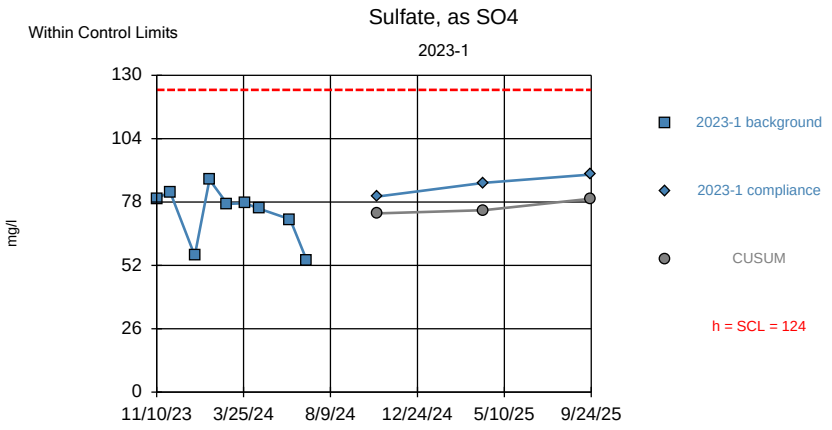


Background Data Summary: Mean=8.348, Std. Dev.=0.1697, n=11. Seasonality was detected with 95% confidence and data were deseasonalized. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7094, critical = 0.85 (non-normal: user chose to continue). Report alpha = 0.001986. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.03a Software licensed to Barr Engineering Company. UG

Within Control Limits

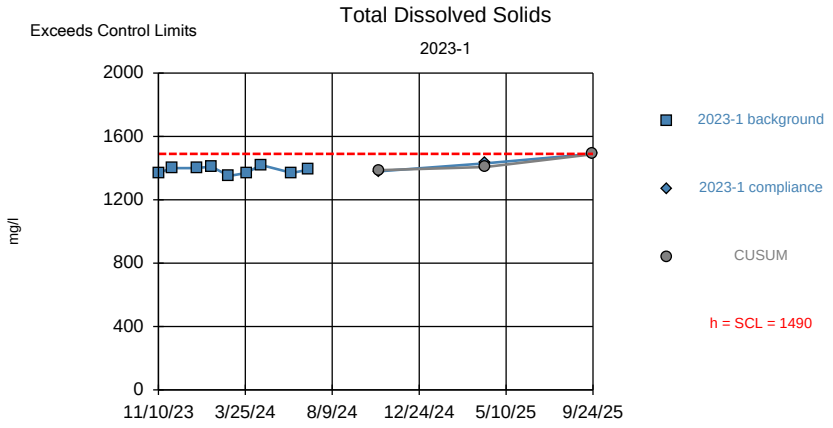


Background Data Summary: Mean=73.32, Std. Dev.=11.27, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8745, critical = 0.829. Report alpha = 0.00337. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Sanitas™ v.10.1.03a Software licensed to Barr Engineering Company. UG

Exceeds Control Limits



Background Data Summary: Mean=1387, Std. Dev.=22.91, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9438, critical = 0.829. Report alpha = 0.00337. Dates ending 7/3/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 1/19/2026 12:37 PM View: AppxIII
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 11/17/2025, 5:08 PM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron, total (mg/l)	2015-3	No	0.672	0.672	22	0	No	No	Param Intra
Boron, total (mg/l)	2015-4	No	0.6645	0.6645	22	0	No	No	Param Intra
Boron, total (mg/l)	2015-5	No	0.6318	0.6318	22	0	No	x^2	Param Intra
Boron, total (mg/l)	2016-1	No	0.6863	0.6863	22	0	No	No	Param Intra
Boron, total (mg/l)	2018-1	No	0.6228	0.6228	19	0	No	No	Param Intra
Calcium, total (m...	2015-3	No	4.635	4.635	13	0	No	No	Param Intra
Calcium, total (m...	2015-4	No	4.046	4.046	13	0	No	No	Param Intra
Calcium, total (m...	2015-5	No	5.224	5.224	13	0	No	No	Param Intra
Calcium, total (m...	2016-1	No	3.687	3.687	13	0	No	No	Param Intra
Calcium, total (m...	2018-1	No	5.17	5.17	13	0	Yes	No	Param Intra
Chloride (mg/l)	2015-3	No	9.748	9.748	9	0	No	No	Param Intra
Chloride (mg/l)	2015-4	No	10.27	10.27	16	0	No	No	Param Intra
Chloride (mg/l)	2015-5	No	6.805	6.805	9	0	No	No	Param Intra
Chloride (mg/l)	2016-1	No	7.78	7.78	15	0	No	No	Param Intra
Chloride (mg/l)	2018-1	No	7.691	7.691	19	0	Yes	No	Param Intra
Fluoride (mg/l)	2015-3	No	2.167	2.167	22	0	No	No	Param Intra
Fluoride (mg/l)	2015-4	No	2.165	2.165	22	0	No	No	Param Intra
Fluoride (mg/l)	2015-5	No	2.209	2.209	22	0	No	No	Param Intra
Fluoride (mg/l)	2016-1	No	2.565	2.565	22	0	No	No	Param Intra
Fluoride (mg/l)	2018-1	No	2.126	2.126	19	0	Yes	No	Param Intra
pH, field (pH_units)	2015-3	No	8.309&7...	8.3...	23	0	No	No	Param Intra
pH, field (pH_units)	2015-4	No	8.657&7...	8.6...	25	0	No	No	Param Intra
pH, field (pH_units)	2015-5	No	8.627&7...	8.6...	23	0	No	No	Param Intra
pH, field (pH_units)	2016-1	No	9.008&7...	9.0...	24	0	No	No	Param Intra
pH, field (pH_units)	2018-1	No	8.69&7.825	8.6...	19	0	No	No	Param Intra
Sulfate, as SO4 (...	2015-3	No	110.7	110.7	21	0	No	No	Param Intra
Sulfate, as SO4 (...	2015-4	No	121.2	121.2	22	0	No	No	Param Intra
Sulfate, as SO4 (...	2015-5	No	479.3	479.3	22	0	No	No	Param Intra
Sulfate, as SO4 (...	2016-1	No	191.7	191.7	22	0	No	No	Param Intra
Sulfate, as SO4 (...	2018-1	No	446.6	446.6	12	0	No	No	Param Intra
Total Dissolved S...	2015-3	No	1622	1622	22	0	No	x^3	Param Intra
Total Dissolved S...	2015-4	No	1543	1543	23	0	No	No	Param Intra
Total Dissolved S...	2015-5	No	1783	1783	23	0	No	No	Param Intra
Total Dissolved S...	2016-1	No	1317	1317	22	0	No	No	Param Intra
Total Dissolved S...	2018-1	No	1767	1767	19	0	No	No	Param Intra

Shewhart-Cusum Control Chart / Rank Sum

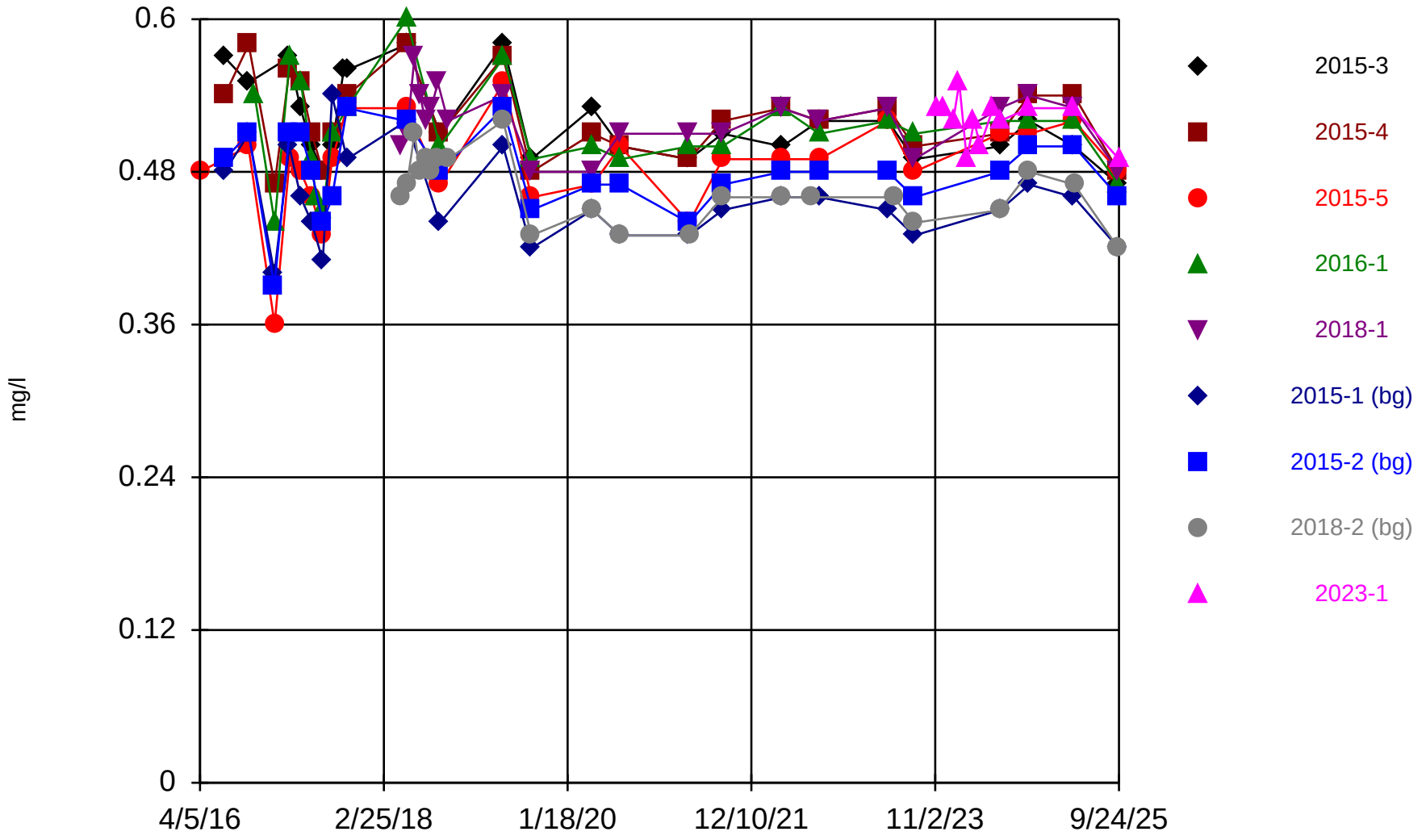
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 1/19/2026, 12:38 PM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron, total (mg/l)	2023-1	No	0.6005	0.6005	9	0	No	No	Param Intra
Calcium, total (m...	**2023-1**	**Yes**	**3.945**	**3.945**	**9**	**0**	**No**	**No**	**Param Intra**
Chloride (mg/l)	2023-1	No	18.81	18.81	9	0	Yes	No	Param Intra
Fluoride (mg/l)	**2023-1**	**Yes**	**2.008**	**2.008**	**9**	**0**	**No**	**No**	**Param Intra**
pH, field (pH_units)	2023-1	No	9.112&7...	9.1...	11	0	Yes	No	Param Intra
Sulfate, as SO4 (...	2023-1	No	124	124	9	0	No	No	Param Intra
Total Dissolved S...	**2023-1**	**Yes**	**1490**	**1490**	**9**	**0**	**No**	**No**	**Param Intra**

Appendix C

Time Series Graphs for CCR Unit Appendix I Constituents

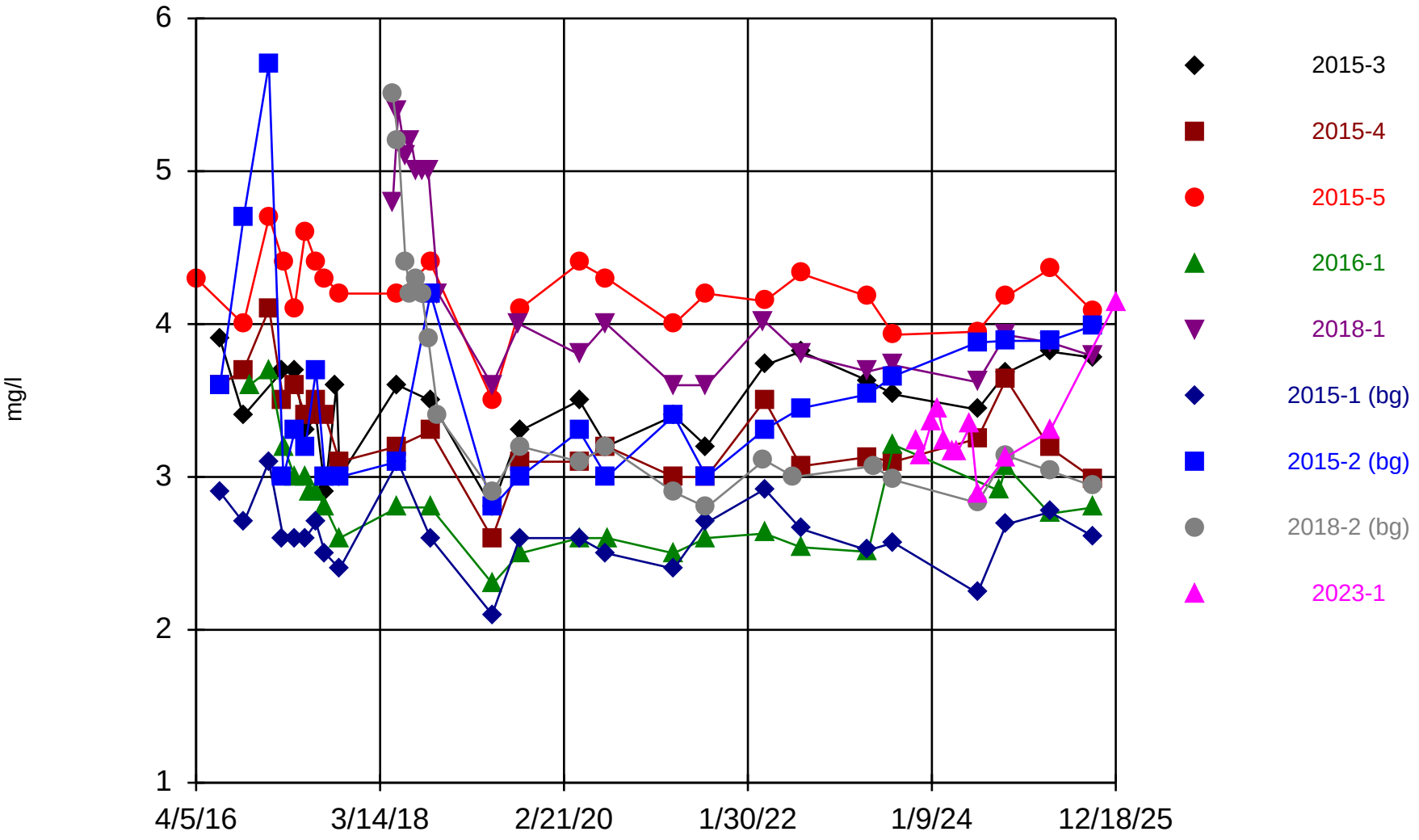
Boron, total



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

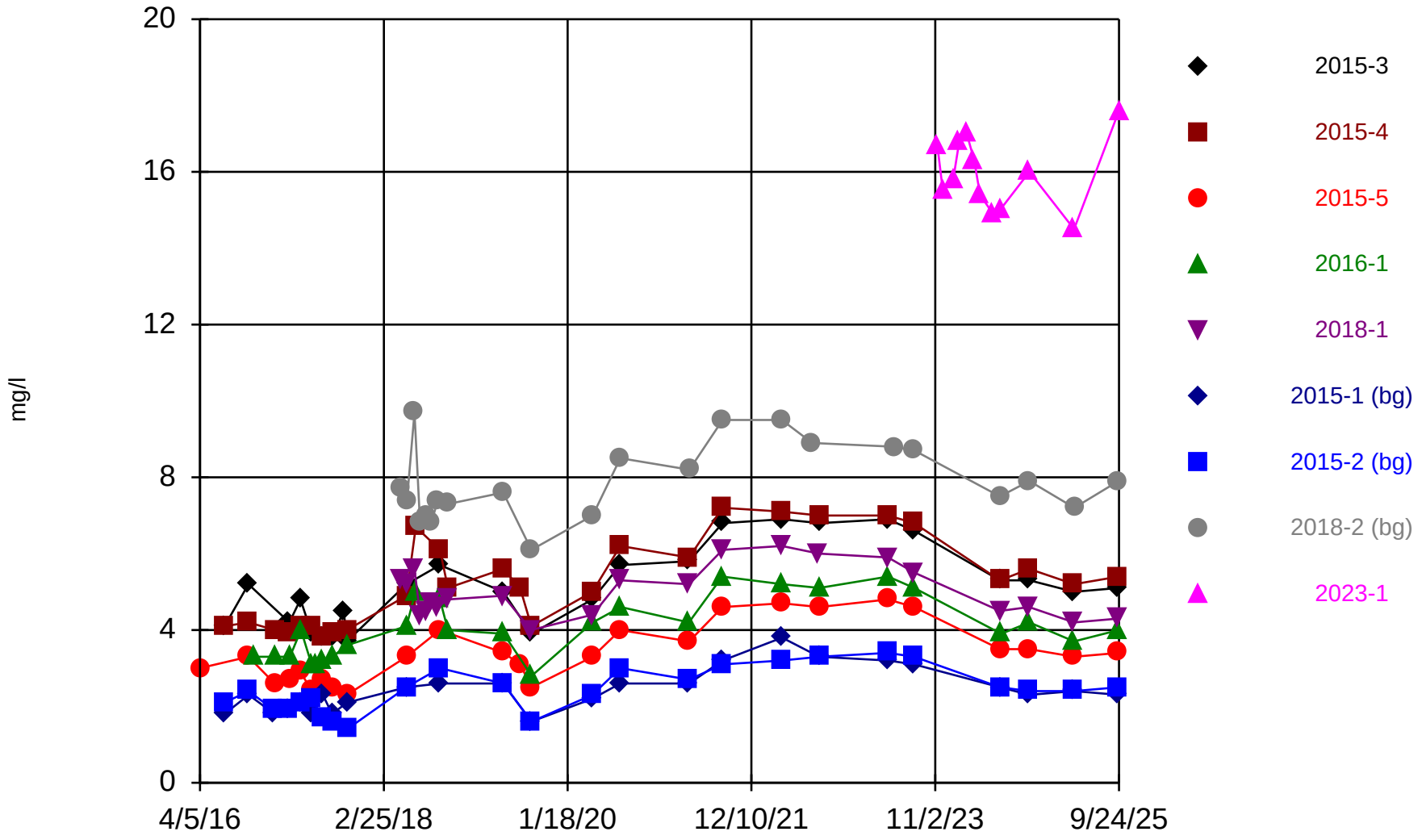
Calcium, total



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

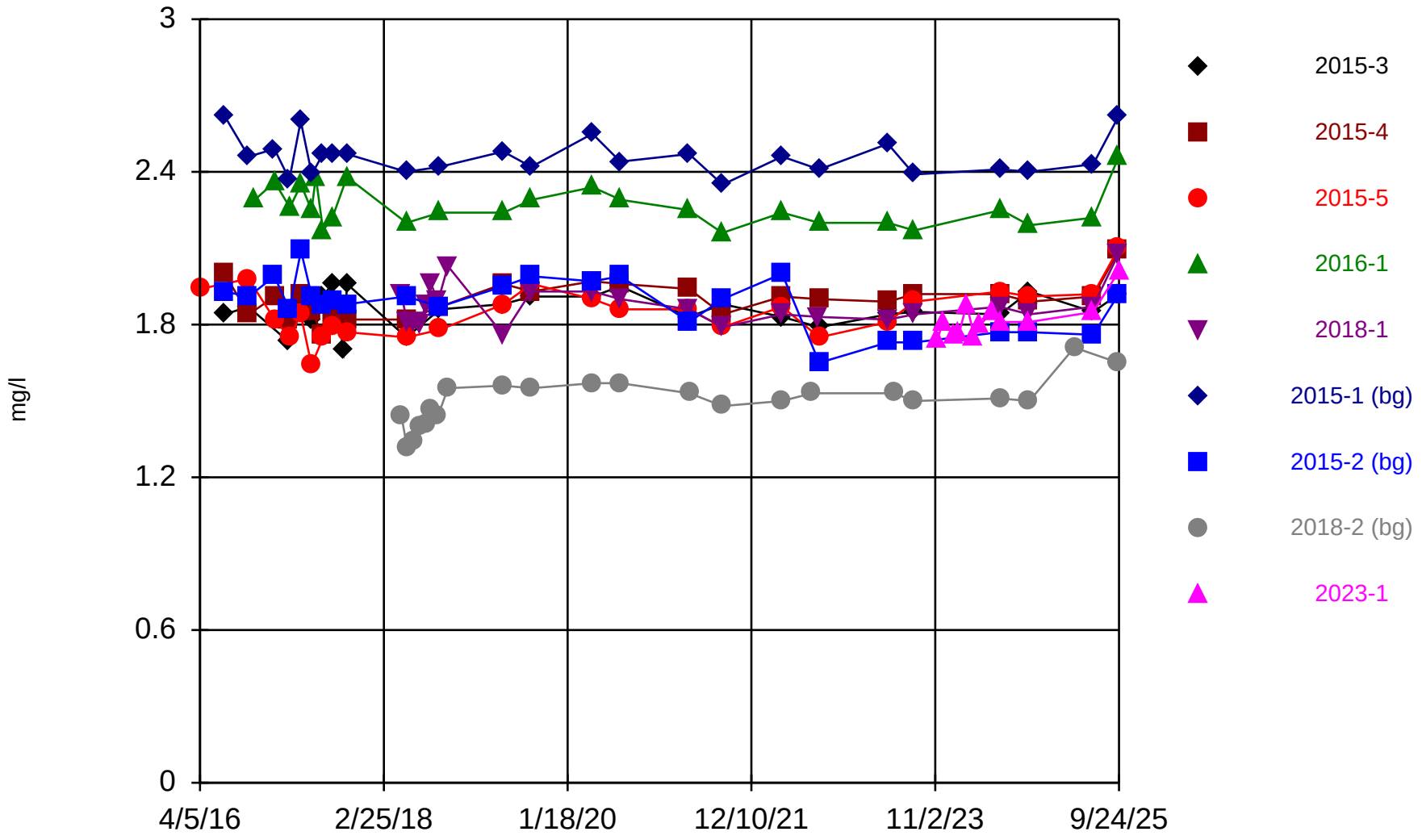
Chloride



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

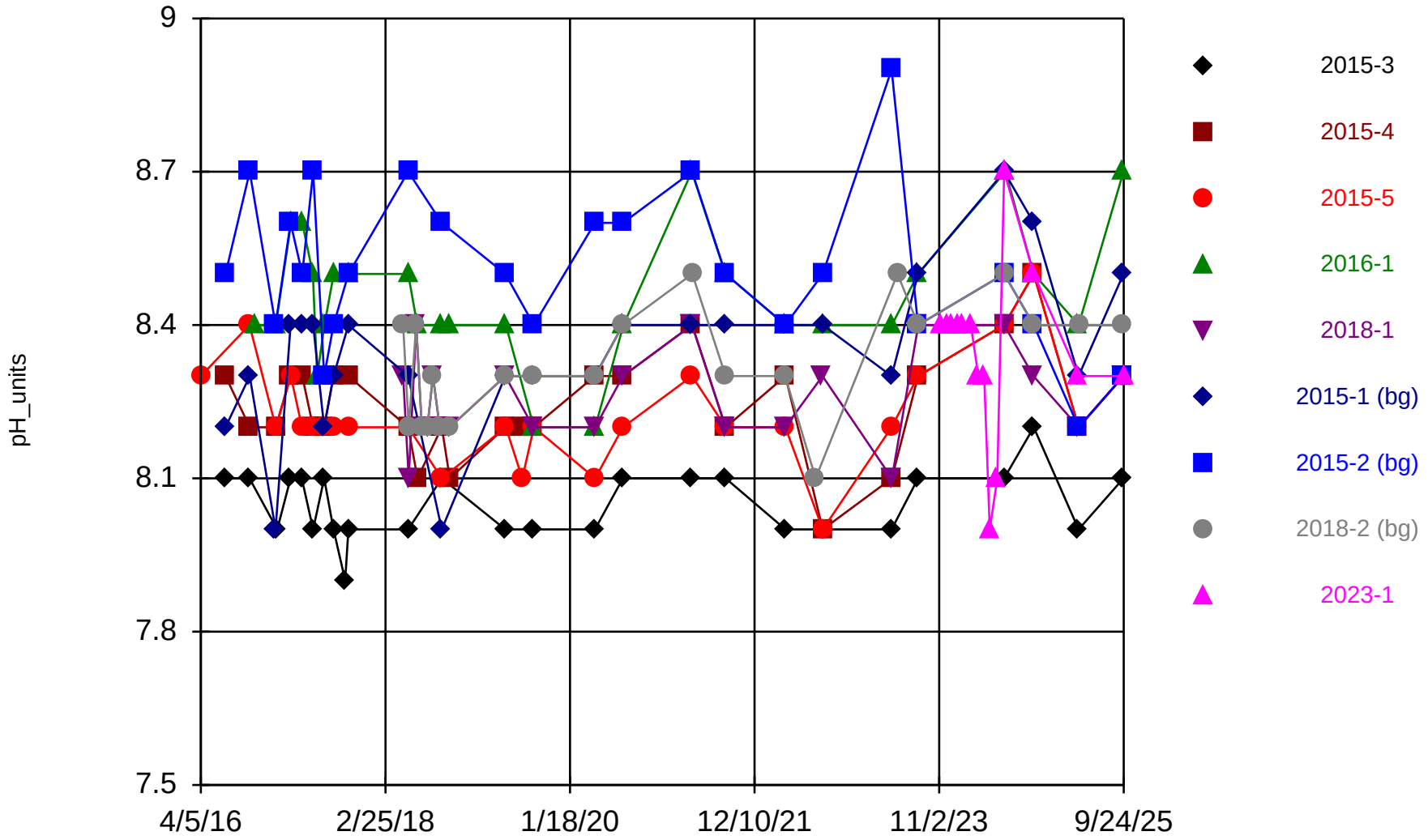
Fluoride



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

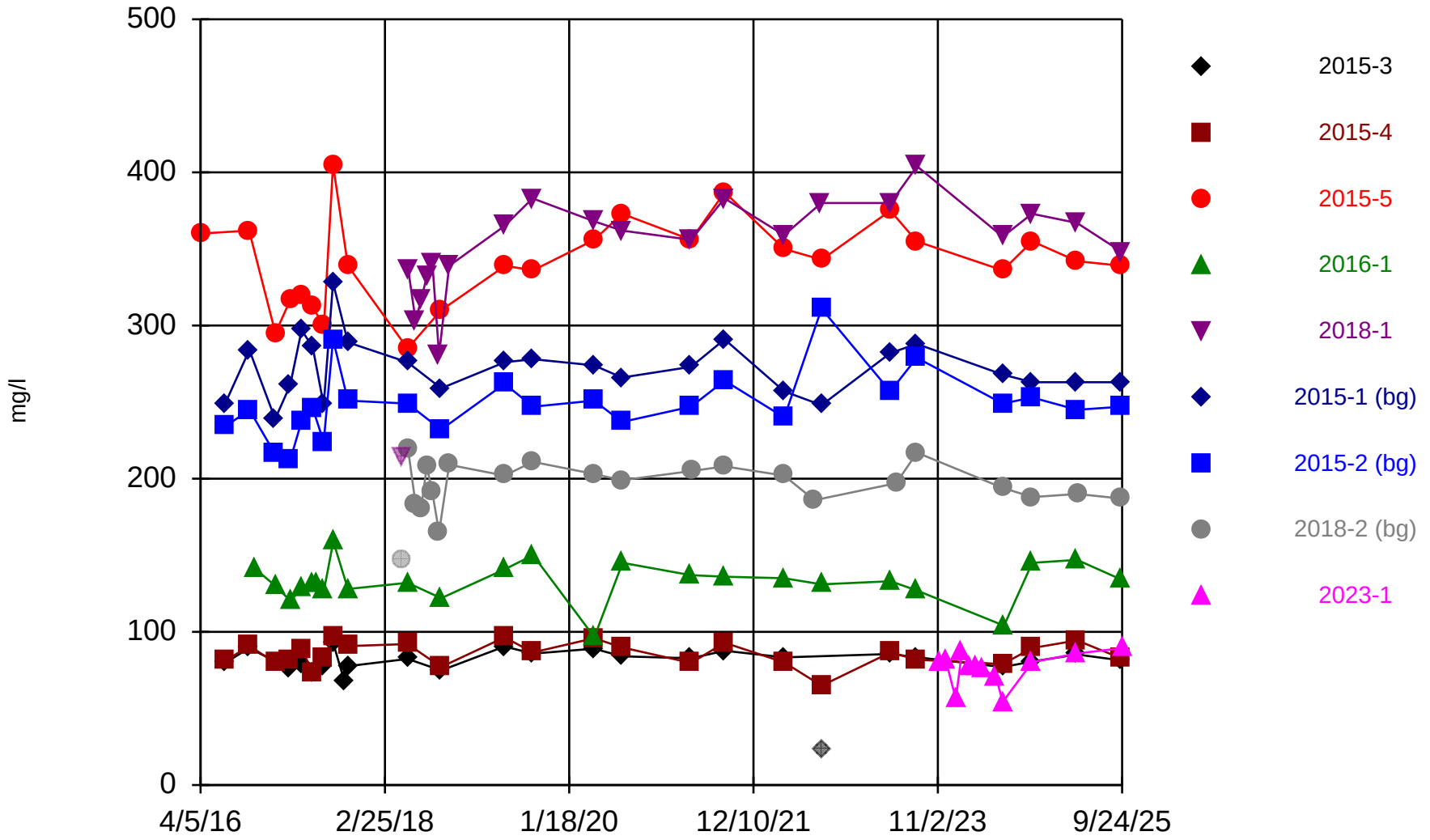
pH, field



Time Series Analysis Run 11/17/2025 4:46 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

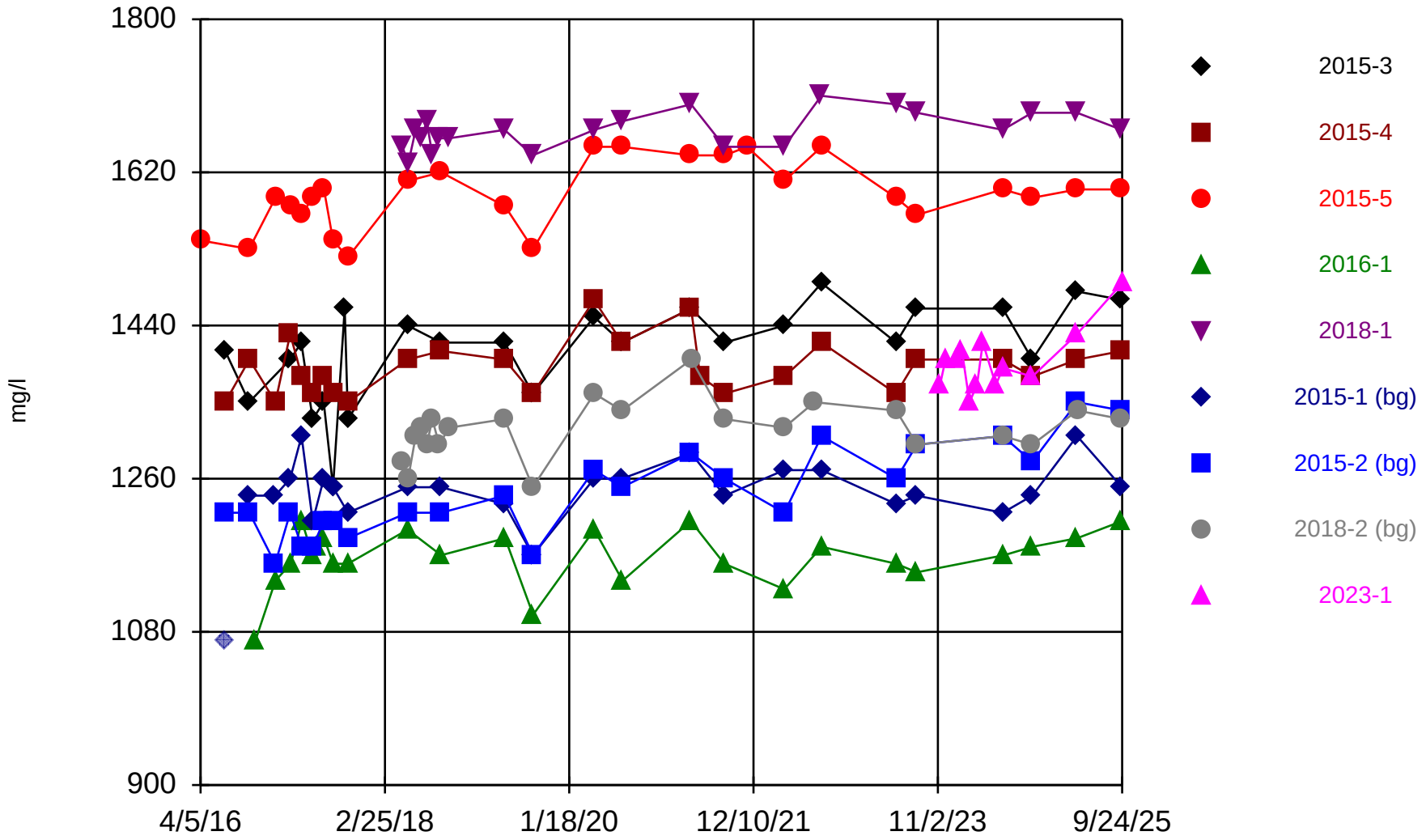
Sulfate, as SO4



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Total Dissolved Solids

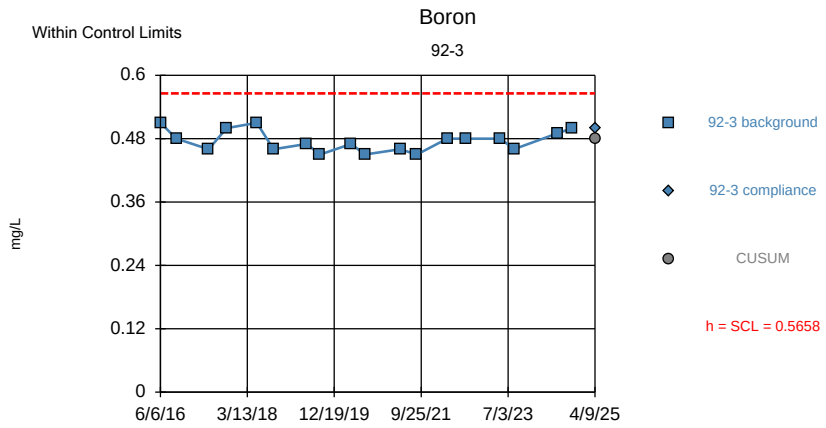


Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Appendix D

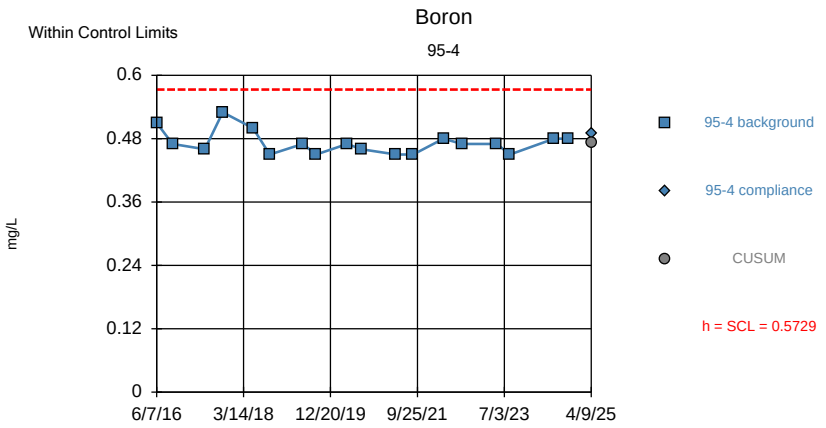
Non-CCR Unit Statistical Review for SSIs: Event 1



Background Data Summary: Mean=0.4756, Std. Dev.=0.02007, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9163, critical = 0.897. Report alpha = 0.000228. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

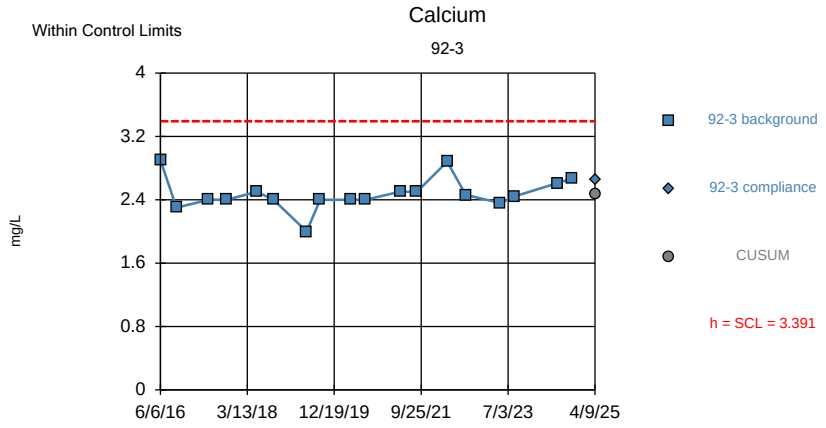
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR



Background Data Summary: Mean=0.4722, Std. Dev.=0.02238, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7903, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000228. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

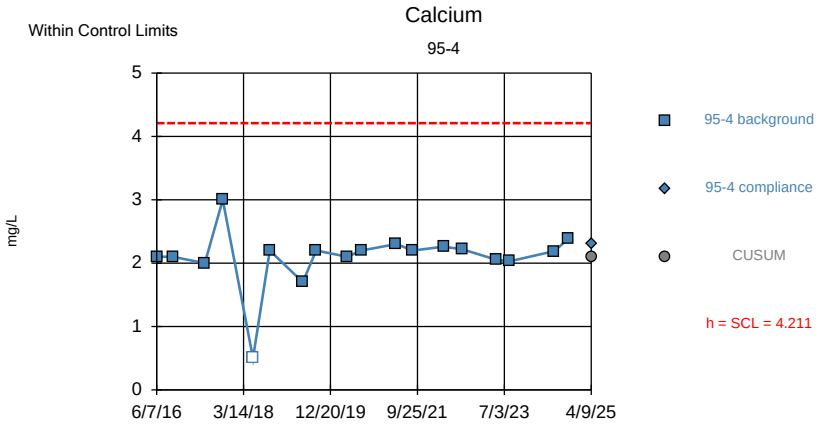


Background Data Summary: Mean=2.473, Std. Dev.=0.204, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7726, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000228. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

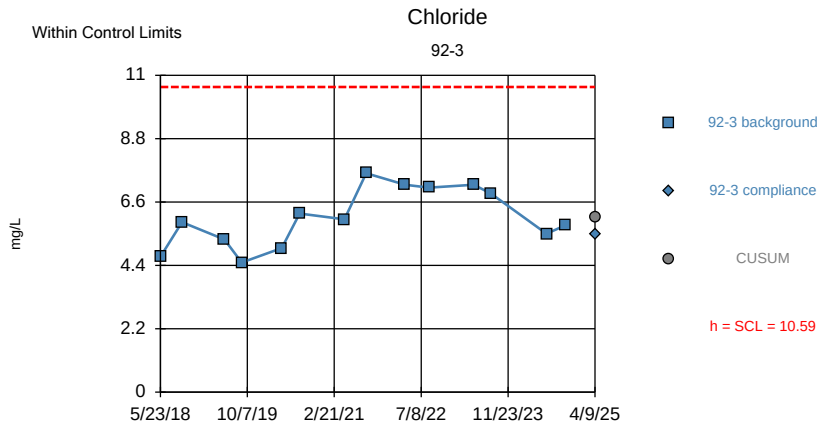
Hollow symbols indicate censored values.



Background Data Summary: Mean=2.096, Std. Dev.=0.4699, n=18, 5.556% NDs. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.5091, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000228. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

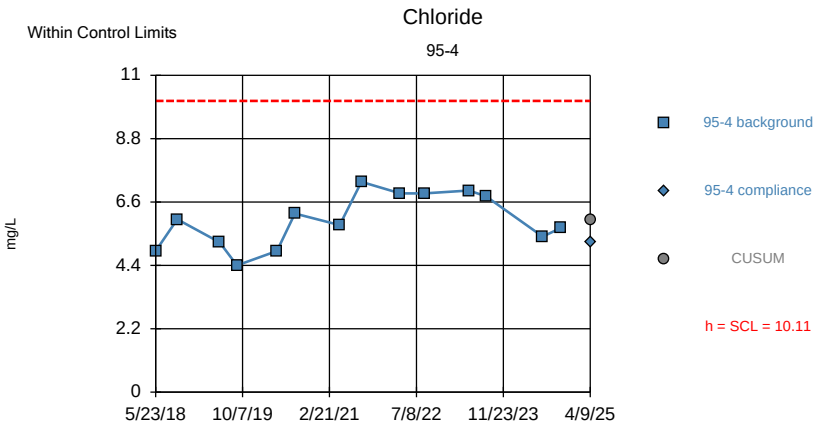


Background Data Summary: Mean=6.064, Std. Dev.=1.007, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9449, critical = 0.874. Report alpha = 0.000432. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG

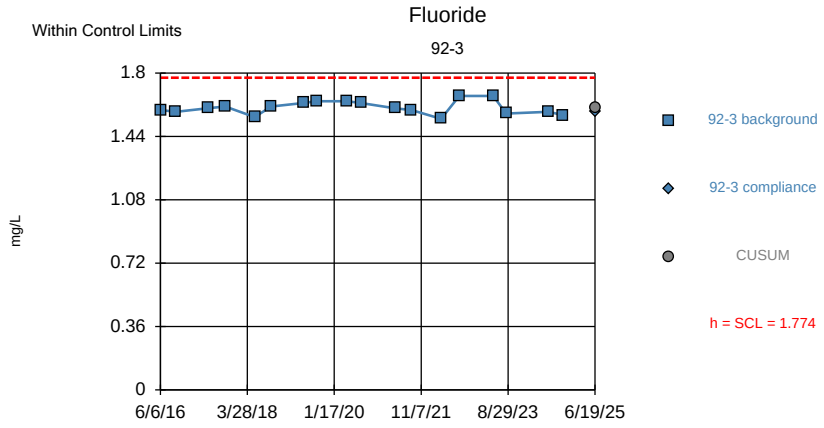


Background Data Summary: Mean=5.957, Std. Dev.=0.923, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9436, critical = 0.874. Report alpha = 0.000432. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG

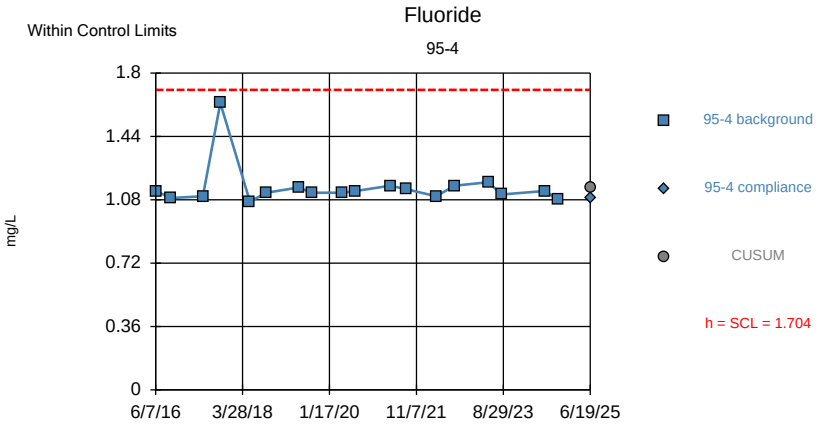


Background Data Summary: Mean=1.603, Std. Dev.=0.03789, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9689, critical = 0.897. Report alpha = 0.000202. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

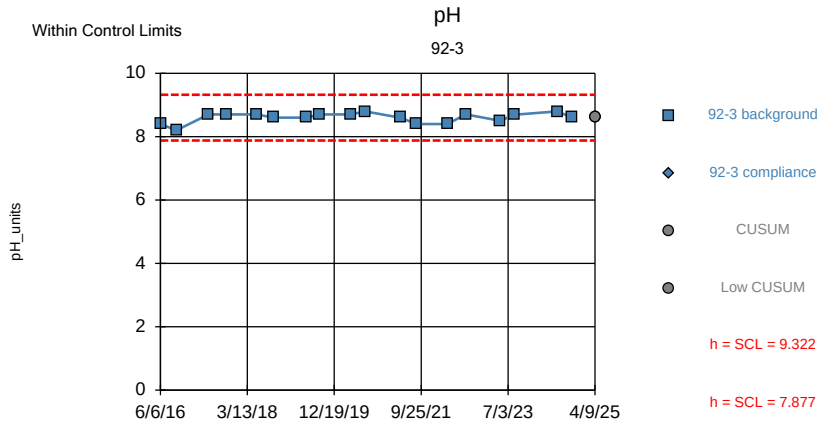
Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1.151, Std. Dev.=0.1229, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.3225, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000202. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

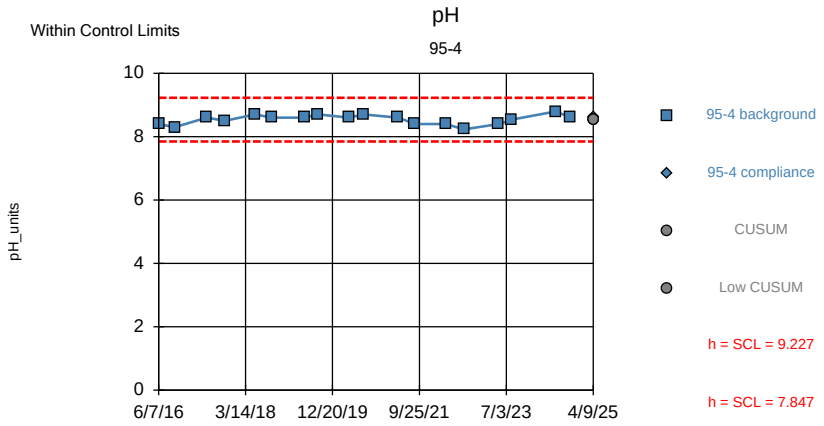


Background Data Summary: Mean=8.599, Std. Dev.=0.1605, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8927, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000202. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG

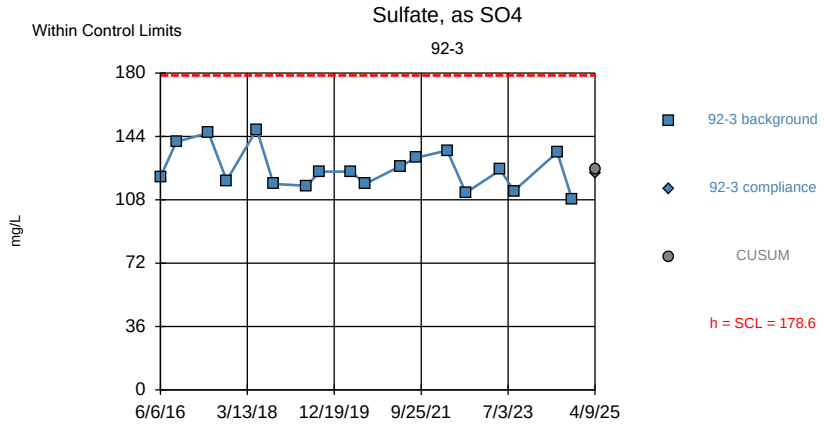


Background Data Summary: Mean=8.537, Std. Dev.=0.1533, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9406, critical = 0.897. Report alpha = 0.000202. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG

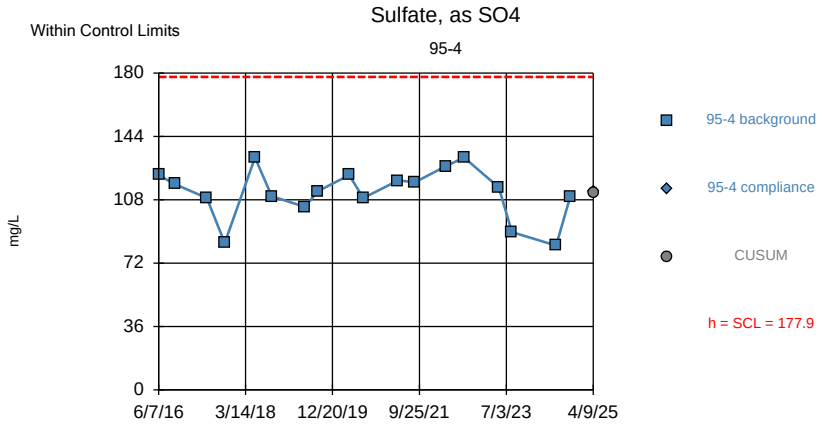


Background Data Summary: Mean=125.6, Std. Dev.=11.78, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9498, critical = 0.897. Report alpha = 0.000202. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=111.9, Std. Dev.=14.66, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9125, critical = 0.897. Report alpha = 0.000202. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

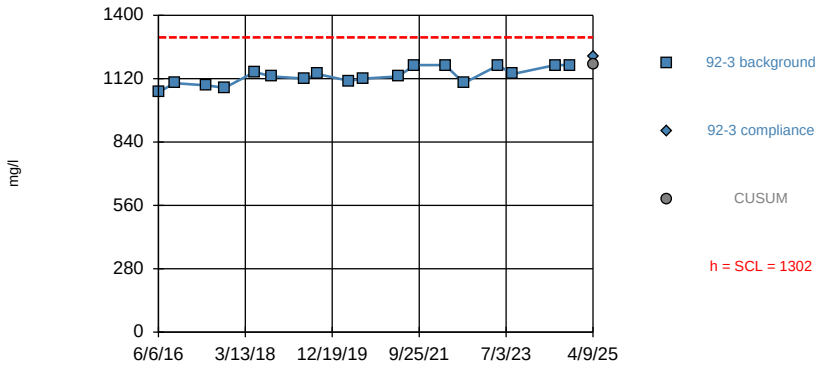
Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Within Control Limits

Total Dissolved Solids

92-3



Background Data Summary: Mean=1132, Std. Dev.=37.92, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9265, critical = 0.897. Report alpha = 0.000202. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

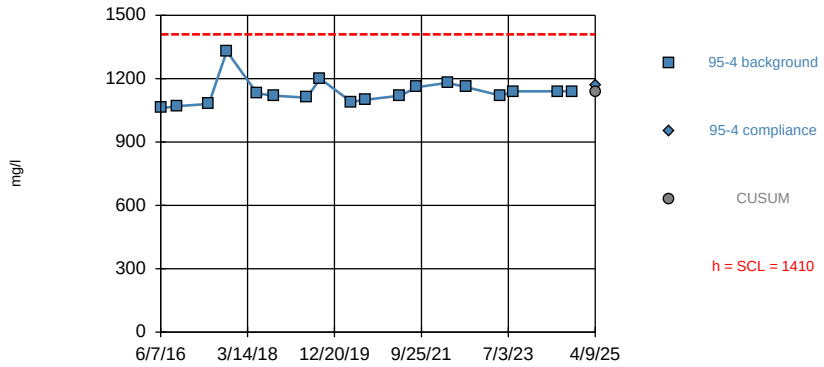
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.0.27 Software licensed to Barr Engineering Company. UG

Within Control Limits

Total Dissolved Solids

95-4



Background Data Summary: Mean=1136, Std. Dev.=60.89, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.6772, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000202. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 7/11/2025 1:05 PM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

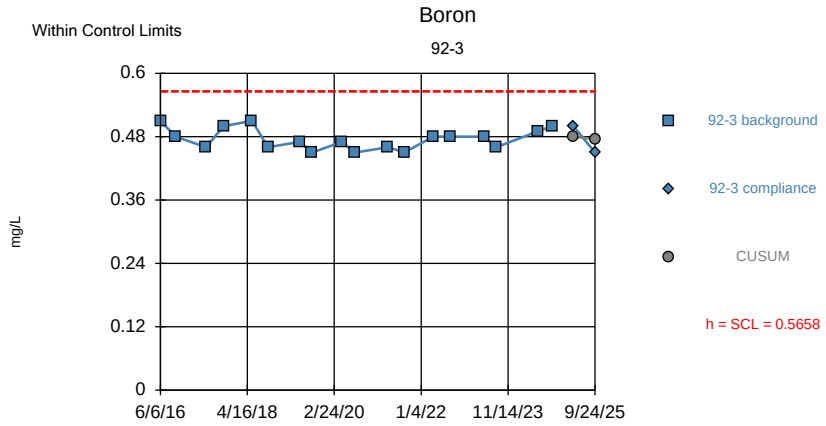
Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR Printed 7/11/2025, 1:06 PM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron (mg/L)	92-3	No	0.5658	0.5658	18	0	No	No	Param Intra
Boron (mg/L)	95-4	No	0.5729	0.5729	18	0	No	No	Param Intra
Calcium (mg/L)	92-3	No	3.391	3.391	18	0	No	No	Param Intra
Calcium (mg/L)	95-4	No	4.211	4.211	18	5.556	No	No	Param Intra
Chloride (mg/L)	92-3	No	10.59	10.59	14	0	No	No	Param Intra
Chloride (mg/L)	95-4	No	10.11	10.11	14	0	No	No	Param Intra
Fluoride (mg/L)	92-3	No	1.774	1.774	18	0	No	No	Param Intra
Fluoride (mg/L)	95-4	No	1.704	1.704	18	0	No	No	Param Intra
pH (pH_units)	92-3	No	9.3...	9.3...	18	0	No	No	Param Intra
pH (pH_units)	95-4	No	9.2...	9.2...	18	0	No	No	Param Intra
Sulfate, as SO4 (mg/L)	92-3	No	178.6	178.6	18	0	No	No	Param Intra
Sulfate, as SO4 (mg/L)	95-4	No	177.9	177.9	18	0	No	No	Param Intra
Total Dissolved Solids (mg/l)	92-3	No	1302	1302	18	0	No	No	Param Intra
Total Dissolved Solids (mg/l)	95-4	No	1410	1410	18	0	No	No	Param Intra

Appendix E

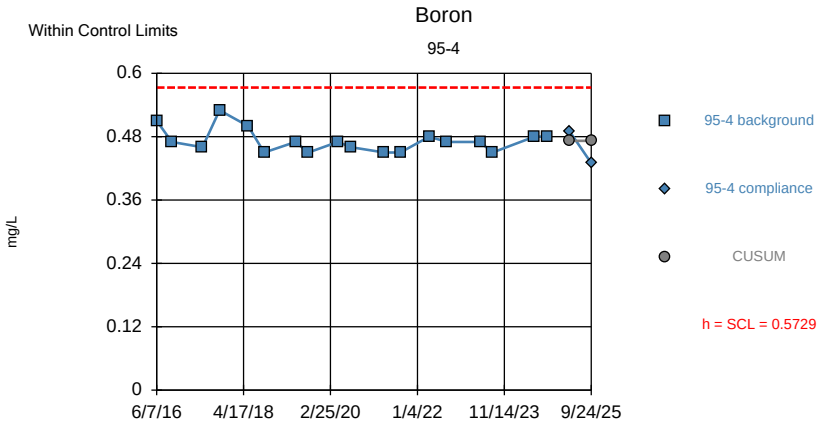
Non-CCR Unit Statistical Review for SSIs: Event 2



Background Data Summary: Mean=0.4756, Std. Dev.=0.02007, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9163, critical = 0.897. Report alpha = 0.000312. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

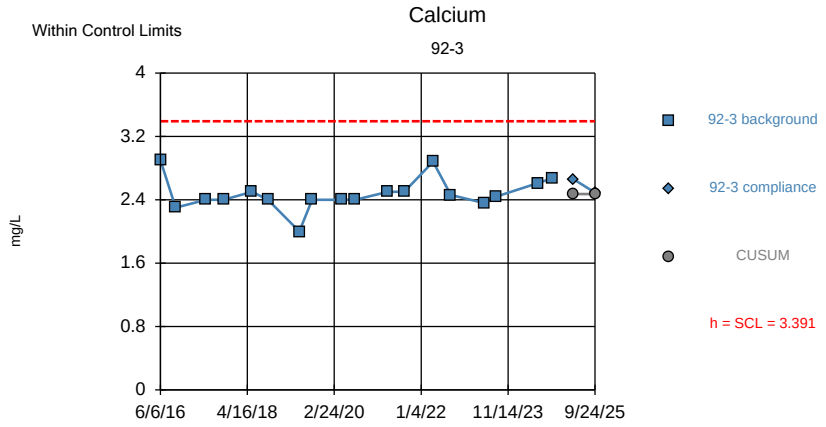
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR



Background Data Summary: Mean=0.4722, Std. Dev.=0.02238, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7903, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000312. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

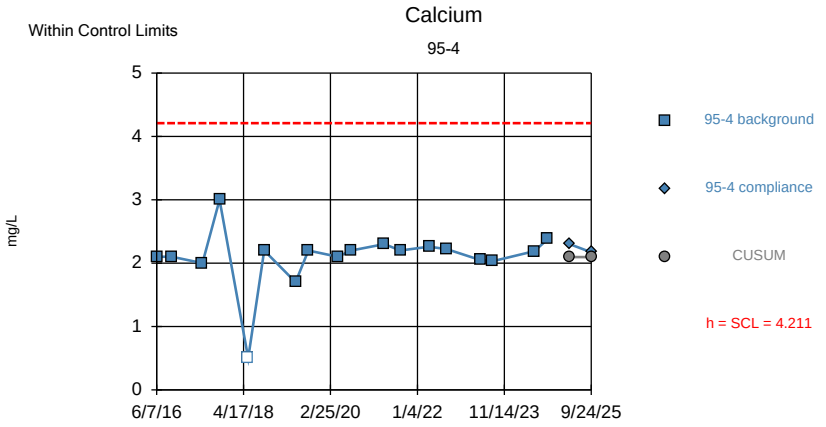


Background Data Summary: Mean=2.473, Std. Dev.=0.204, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7726, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000312. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

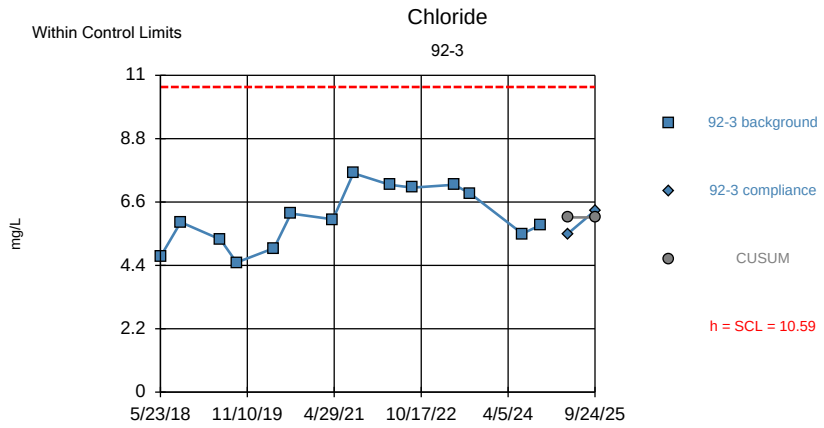
Hollow symbols indicate censored values.



Background Data Summary: Mean=2.096, Std. Dev.=0.4699, n=18, 5.556% NDs. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.5091, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000312. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

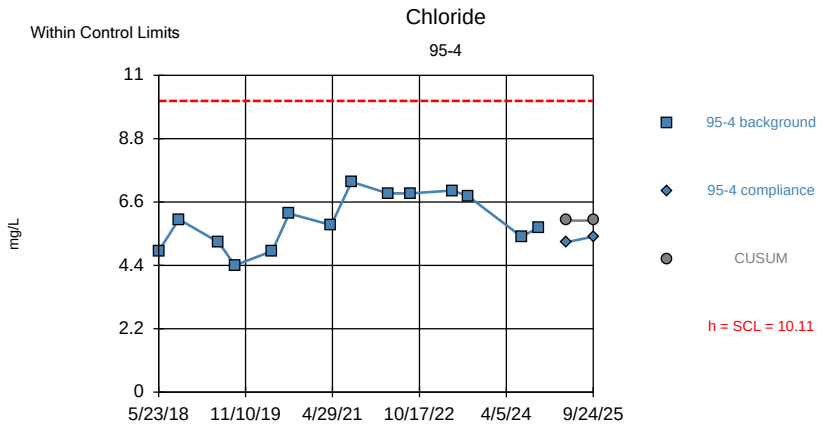


Background Data Summary: Mean=6.064, Std. Dev.=1.007, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9449, critical = 0.874. Report alpha = 0.000614. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

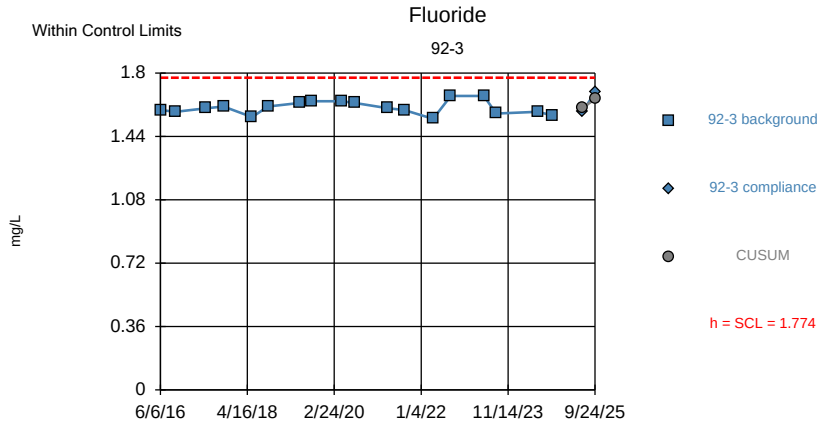


Background Data Summary: Mean=5.957, Std. Dev.=0.923, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9436, critical = 0.874. Report alpha = 0.000614. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

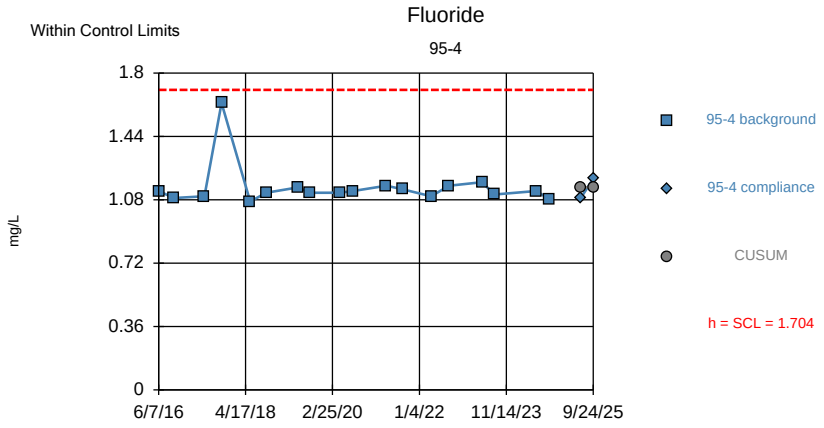


Background Data Summary: Mean=1.603, Std. Dev.=0.03789, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9689, critical = 0.897. Report alpha = 0.00031. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:38 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

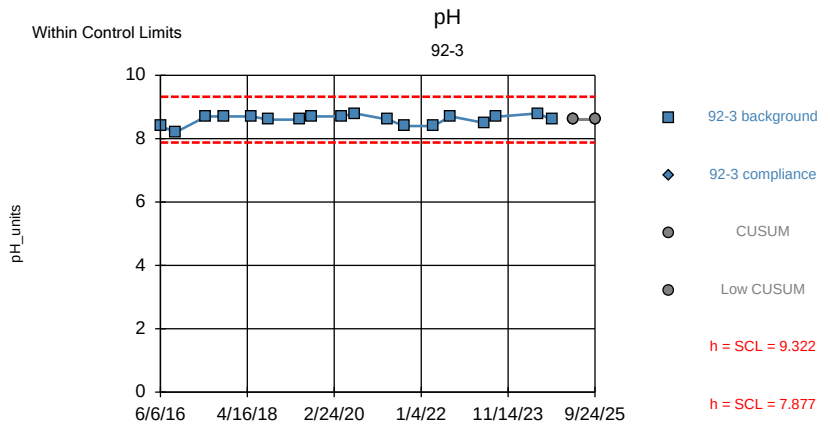
Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG



Background Data Summary: Mean=1.151, Std. Dev.=0.1229, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.3225, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.00031. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

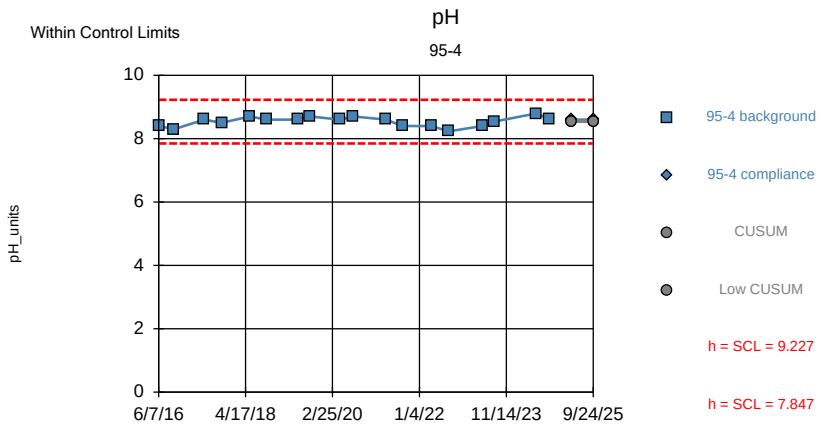


Background Data Summary: Mean=8.599, Std. Dev.=0.1605, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8927, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.00031. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

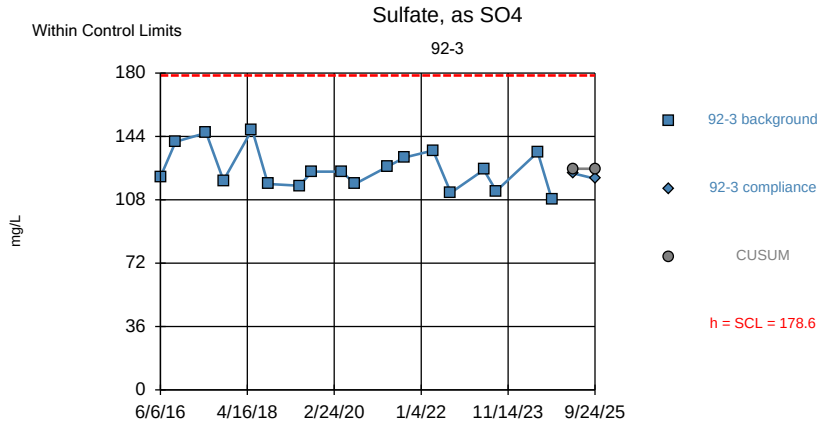


Background Data Summary: Mean=8.537, Std. Dev.=0.1533, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9406, critical = 0.897. Report alpha = 0.00031. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

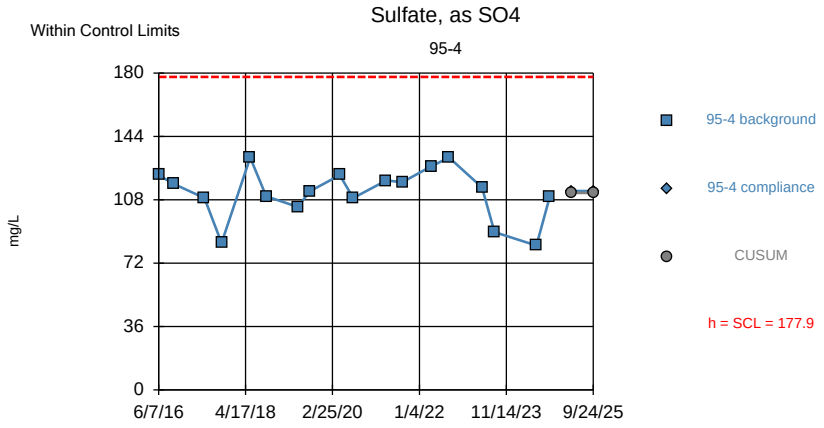


Background Data Summary: Mean=125.6, Std. Dev.=11.78, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9498, critical = 0.897. Report alpha = 0.00031. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

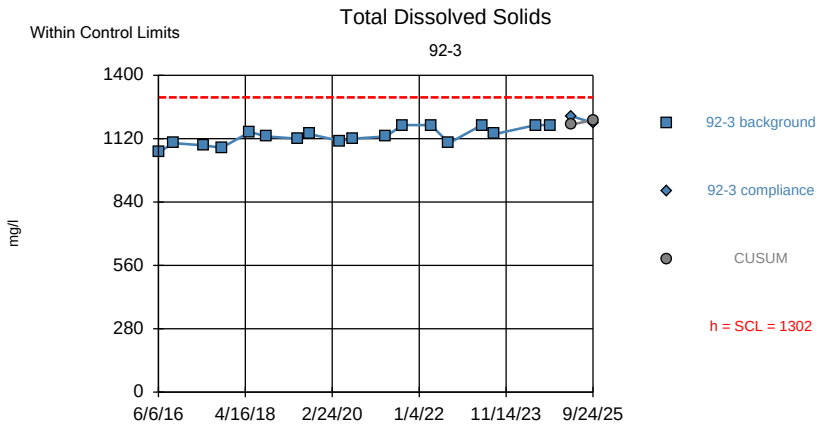


Background Data Summary: Mean=111.9, Std. Dev.=14.66, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9125, critical = 0.897. Report alpha = 0.00031. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Within Control Limits



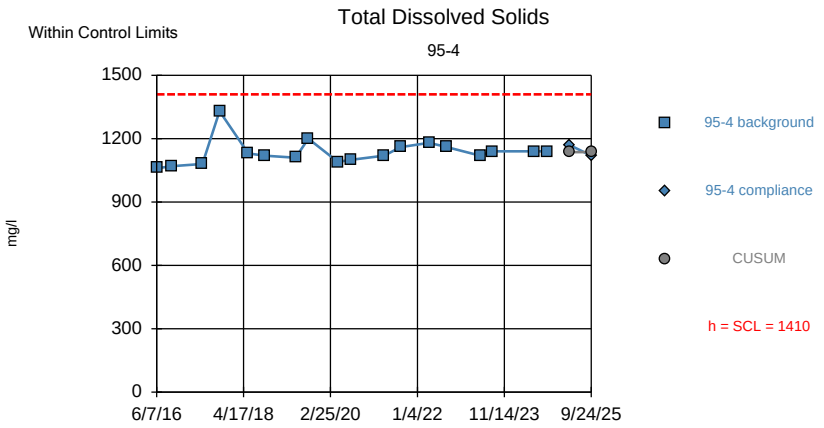
Background Data Summary: Mean=1132, Std. Dev.=37.92, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9265, critical = 0.897. Report alpha = 0.00031. Dates ending 10/23/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Sanitas™ v.10.1.02 Software licensed to Barr Engineering Company. UG

Within Control Limits



Background Data Summary: Mean=1136, Std. Dev.=60.89, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.6772, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.00031. Dates ending 10/21/2024 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/19/2025 9:39 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Shewhart-Cusum Control Chart / Rank Sum

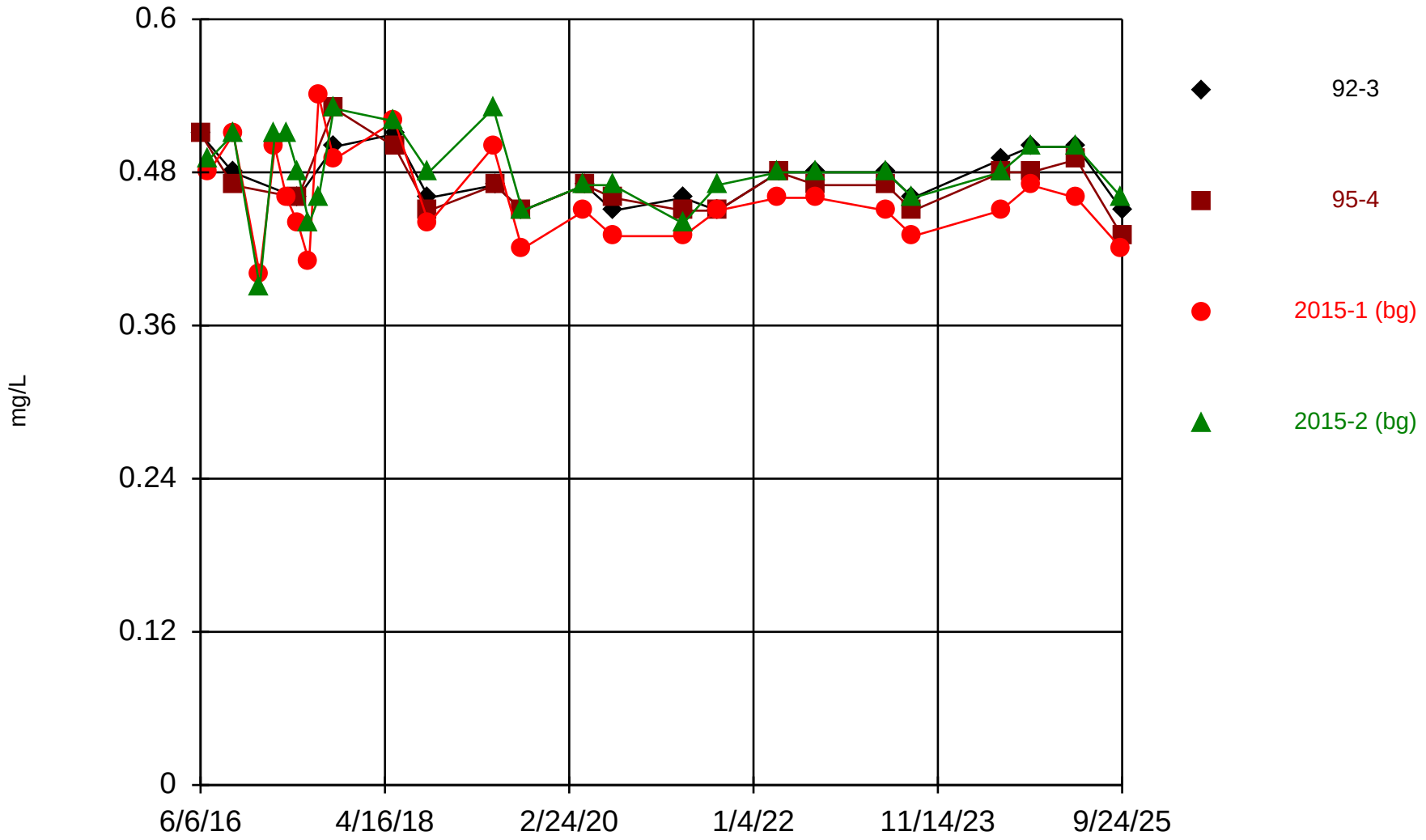
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR Printed 11/19/2025, 9:40 AM

Constituent	Well	Sig.	h	SCL	N	%NDs	Deseas.	Transform	Method
Boron (mg/L)	92-3	No	0.5658	0.5658	18	0	No	No	Param Intra
Boron (mg/L)	95-4	No	0.5729	0.5729	18	0	No	No	Param Intra
Calcium (mg/L)	92-3	No	3.391	3.391	18	0	No	No	Param Intra
Calcium (mg/L)	95-4	No	4.211	4.211	18	5.556	No	No	Param Intra
Chloride (mg/L)	92-3	No	10.59	10.59	14	0	No	No	Param Intra
Chloride (mg/L)	95-4	No	10.11	10.11	14	0	No	No	Param Intra
Fluoride (mg/L)	92-3	No	1.774	1.774	18	0	No	No	Param Intra
Fluoride (mg/L)	95-4	No	1.704	1.704	18	0	No	No	Param Intra
pH (pH_units)	92-3	No	9.322&7...	9.3...	18	0	No	No	Param Intra
pH (pH_units)	95-4	No	9.227&7...	9.2...	18	0	No	No	Param Intra
Sulfate, as SO4 (...	92-3	No	178.6	178.6	18	0	No	No	Param Intra
Sulfate, as SO4 (...	95-4	No	177.9	177.9	18	0	No	No	Param Intra
Total Dissolved S...	92-3	No	1302	1302	18	0	No	No	Param Intra
Total Dissolved S...	95-4	No	1410	1410	18	0	No	No	Param Intra

Appendix F

Time Series Graphs for Non-CCR Unit Appendix I Constituents

Boron

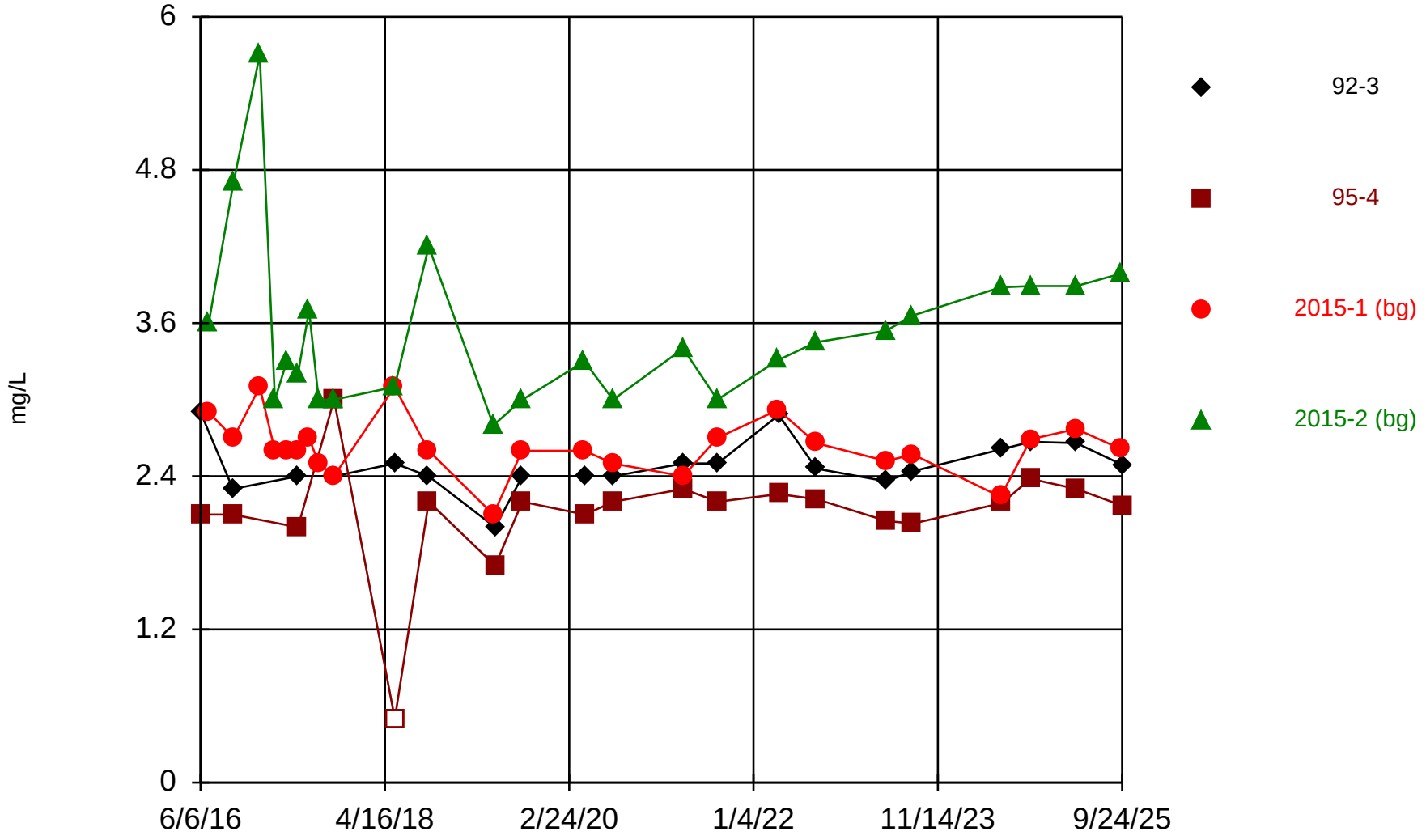


Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Hollow symbols indicate censored values.

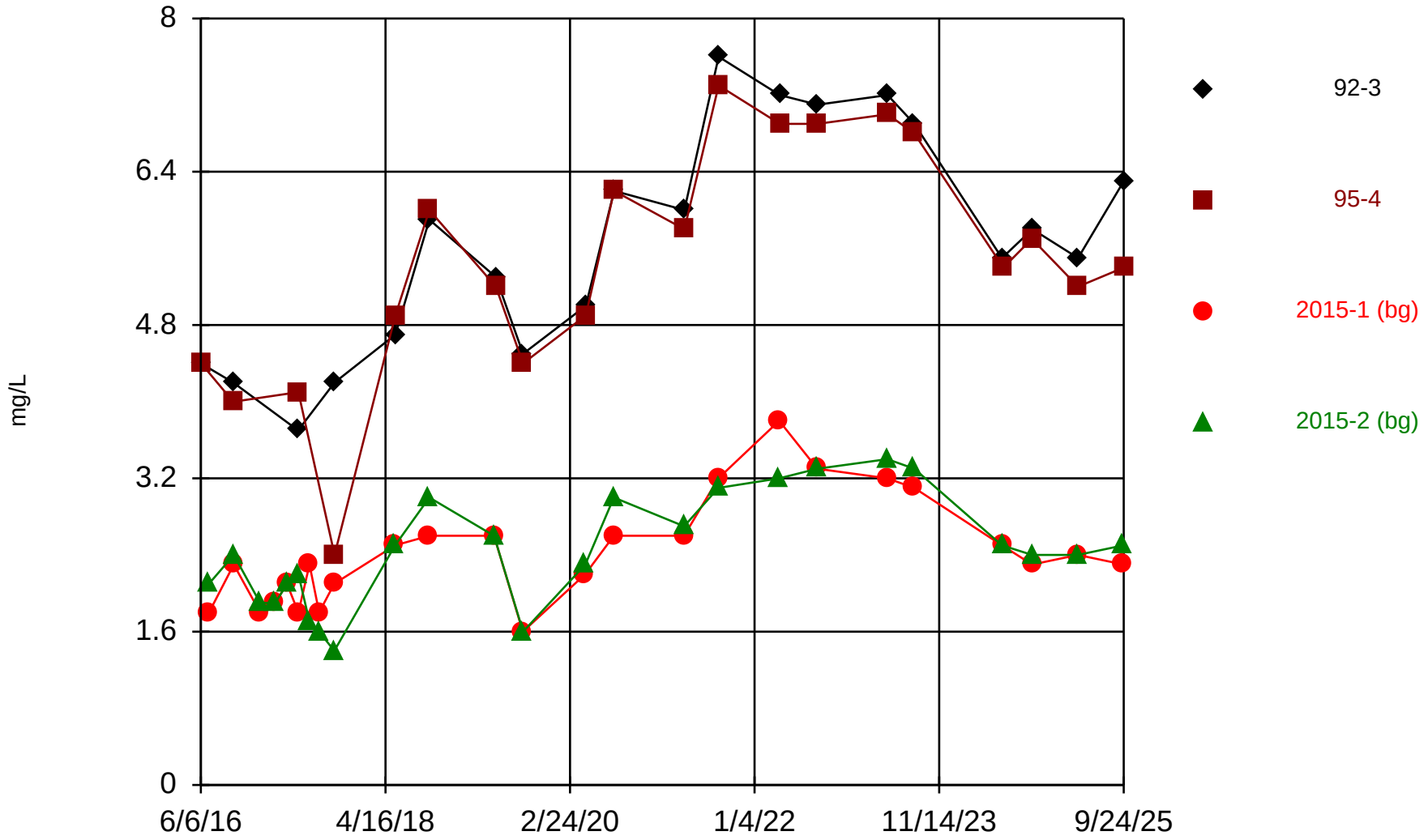
Calcium



Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

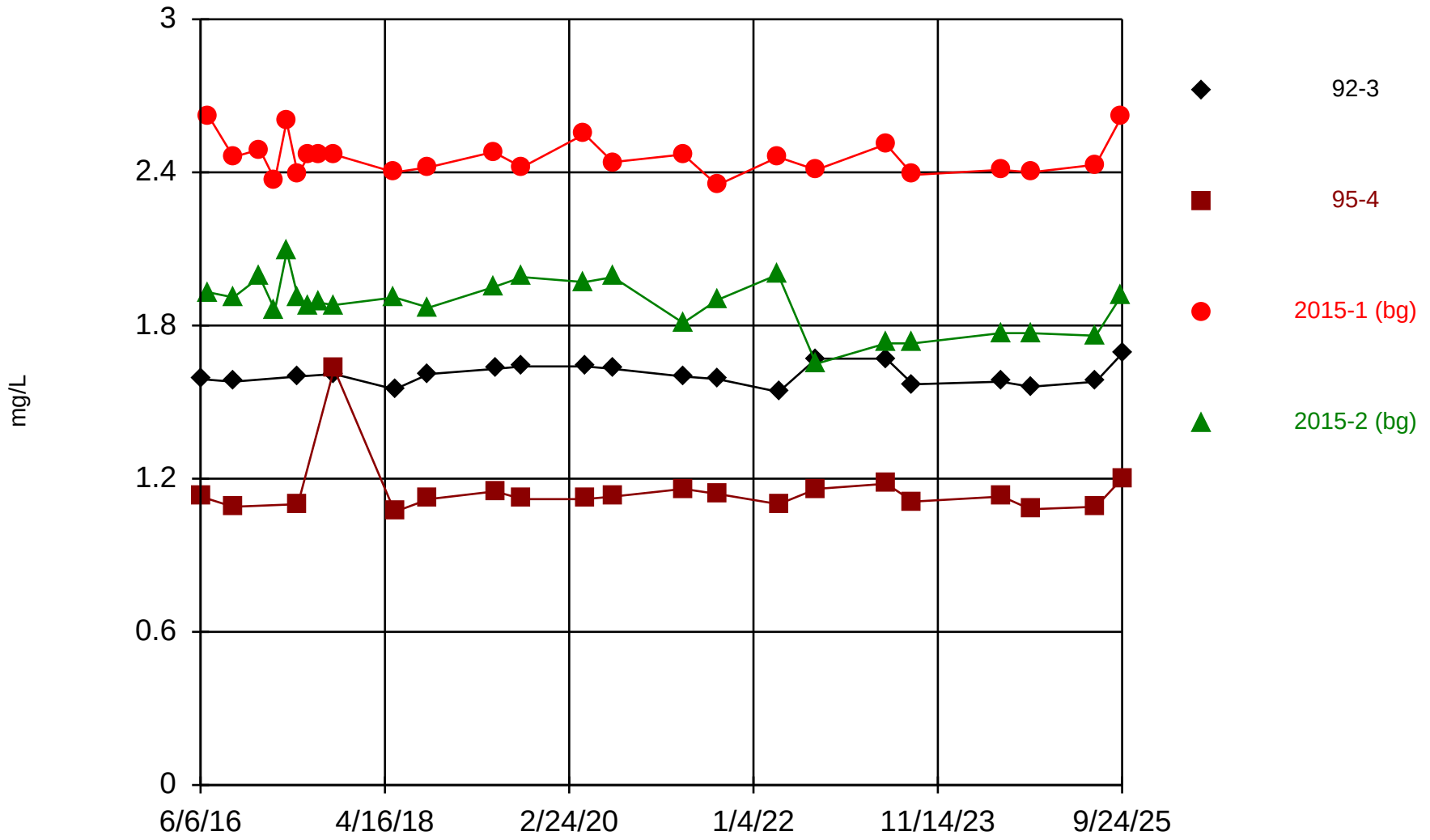
Chloride



Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

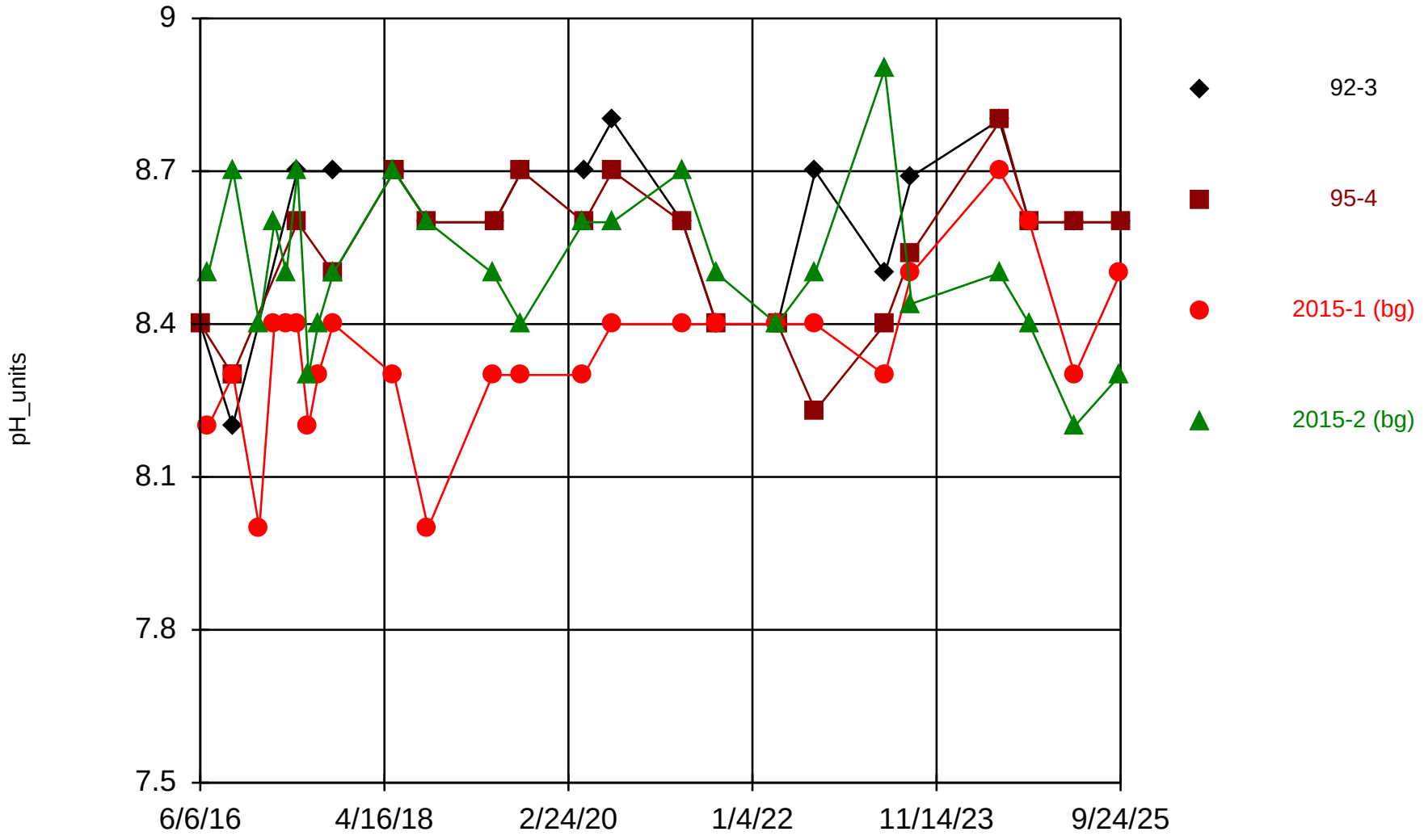
Fluoride



Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

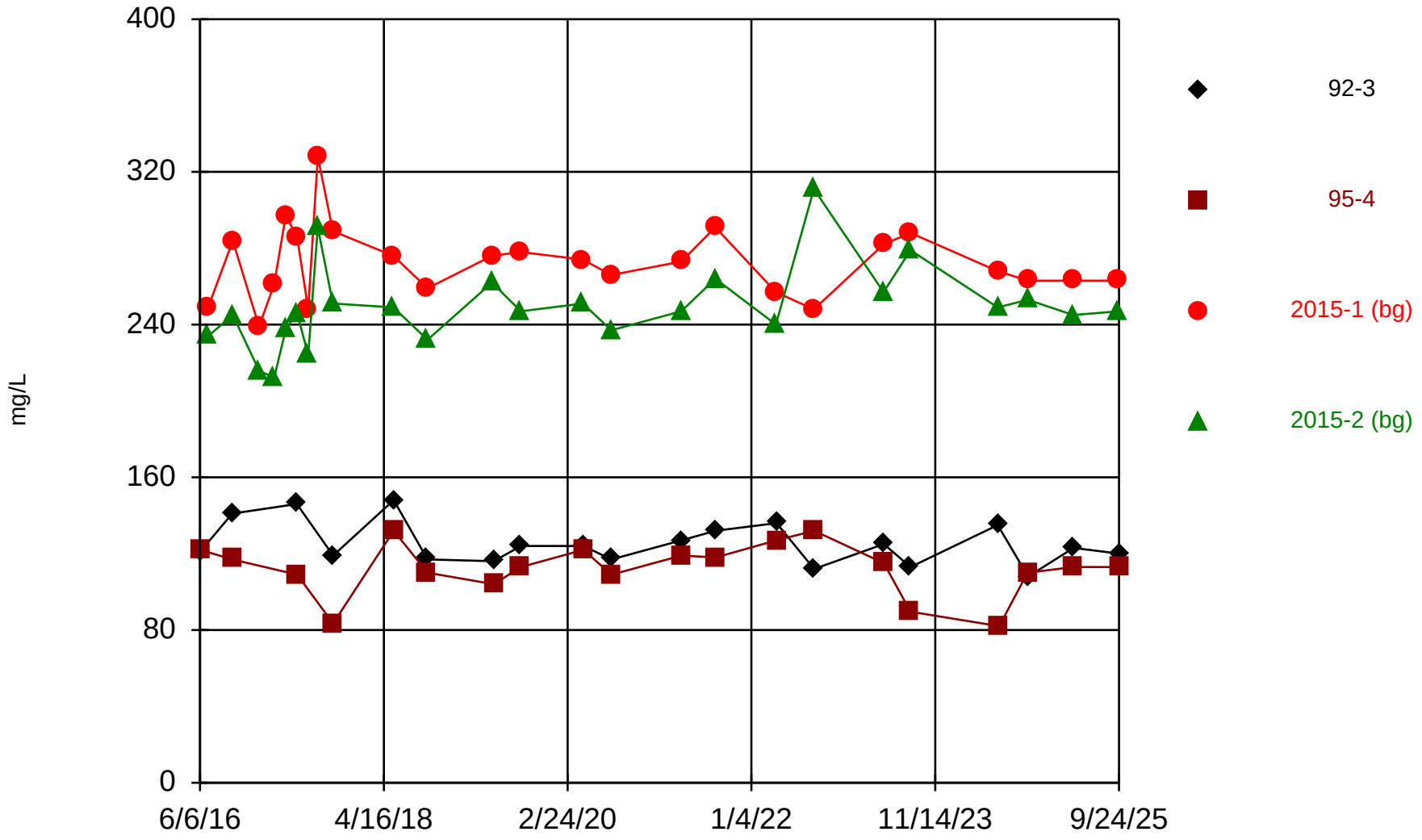
pH



Time Series Analysis Run 11/19/2025 9:32 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

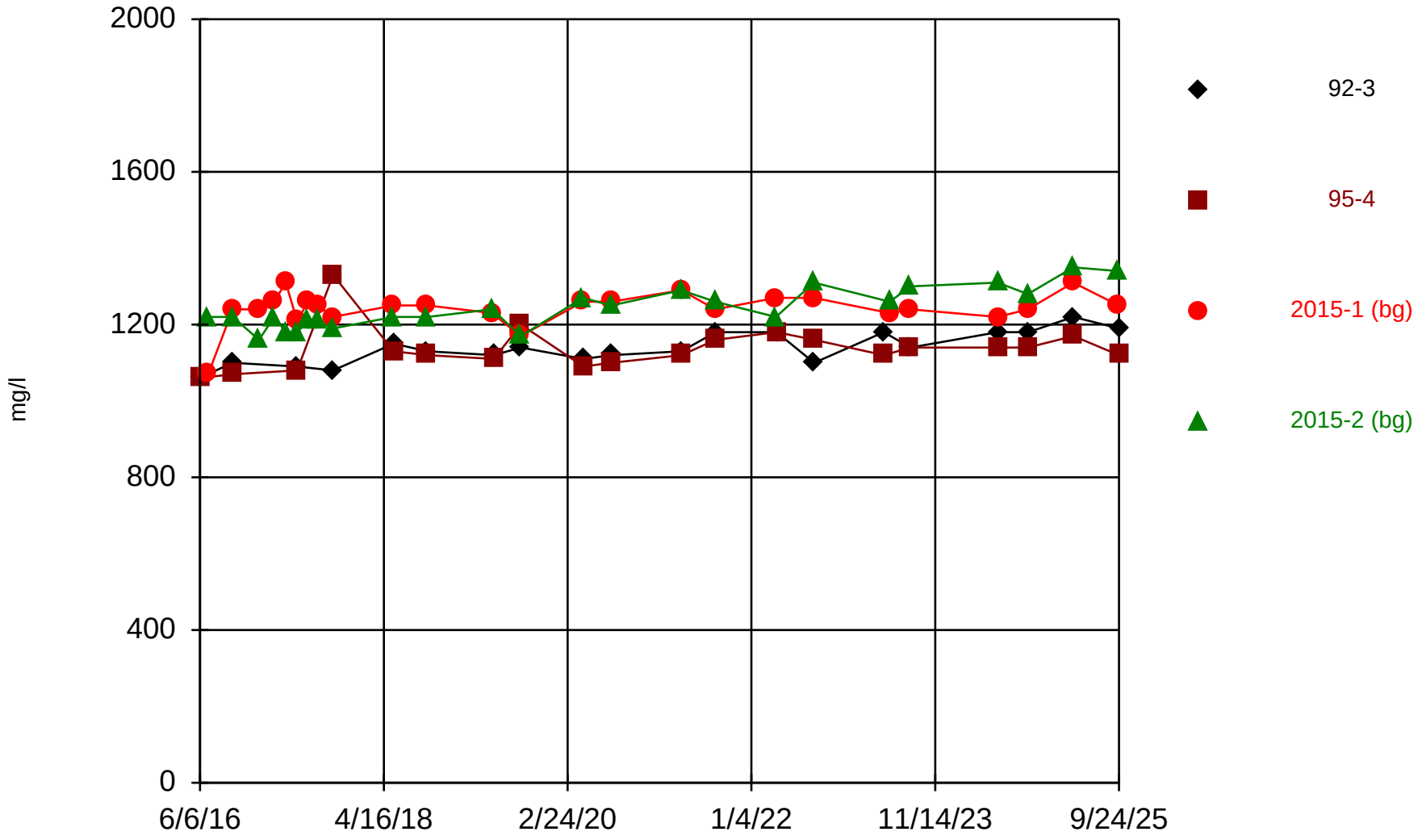
Sulfate, as SO4



Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Total Dissolved Solids



Time Series Analysis Run 11/19/2025 9:30 AM

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR

Appendix G

2025 Sampling Field and 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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative
Workorder: Minnkota - CCWDF Spring 2025 (83118) **PO:** 251157 Line 6

Joe Grosz
Minnkota Power Cooperative
Milton R. Young Station
3401 24th St. SW
Center, ND 58530

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.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118001 **Date Collected:** 04/09/2025 08:30 **Matrix:** Groundwater
Sample ID: Field Blank 1 (FB1) **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	<5	mg/L	5	1		04/16/2025 11:41	
Method: EPA 6010D							
Boron	<0.1	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:11	
Calcium	<1	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:05	
Method: SM4500 H+ B-2021							
pH	**6.9**	units	0.1	1		04/10/2025 14:09	*
Method: SM4500-Cl-E 2021							
Chloride	<2.0	mg/L	2.0	1		04/15/2025 10:23	
Method: SM4500-F-C-2021							
Fluoride	<0.1	mg/L	0.1	1		04/10/2025 14:09	
Method: USGS I-1750-85							
Total Dissolved Solids	<10	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Beryllium, Dissolved

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

Nitrate + Nitrite as N

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

Selenium, Dissolved

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118002 **Date Collected:** 04/09/2025 08:30 **Matrix:** Groundwater
Sample ID: Dup1 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**108**	mg/L	10	2		04/16/2025 11:14	
Method: EPA 6010D							
Boron	**0.47**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:12	
Calcium	**2.29**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:06	
Method: SM4500 H+ B-2021							
pH	**8.6**	units	0.1	1		04/10/2025 14:24	*
Method: SM4500-Cl-E 2021							
Chloride	**5.2**	mg/L	2.0	1		04/15/2025 10:24	
Method: SM4500-F-C-2021							
Fluoride	**1.34**	mg/L	0.1	1		04/10/2025 14:24	
Method: USGS I-1750-85							
Total Dissolved Solids	**1190**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118003 **Date Collected:** 04/08/2025 09:20 **Matrix:** Groundwater
Sample ID: 15-01 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**263**	mg/L	5	1		04/23/2025 11:16	
Method: EPA 6010D							
Boron	**0.46**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:16	
Calcium	**2.77**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:14	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		04/10/2025 14:43	*
Method: SM4500-Cl-E 2021							
Chloride	**2.4**	mg/L	2.0	1		04/15/2025 10:25	
Method: SM4500-F-C-2021							
Fluoride	**2.79**	mg/L	0.1	1		04/10/2025 14:43	
Method: USGS I-1750-85							
Total Dissolved Solids	**1310**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Phosphorus as P

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118004 **Date Collected:** 04/08/2025 08:30 **Matrix:** Groundwater
Sample ID: 15-02 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**245**	mg/L	25	5		04/16/2025 11:16	
Method: EPA 6010D							
Boron	**0.50**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:13	
Calcium	**3.89**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:09	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		04/10/2025 15:02	*
Method: SM4500-Cl-E 2021							
Chloride	**2.4**	mg/L	2.0	1		04/15/2025 10:27	
Method: SM4500-F-C-2021							
Fluoride	**2.12**	mg/L	0.1	1		04/10/2025 15:02	
Method: USGS I-1750-85							
Total Dissolved Solids	**1350**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118005 **Date Collected:** 04/08/2025 14:26 **Matrix:** Groundwater
Sample ID: 15-03 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**85.2**	mg/L	5	1		04/16/2025 11:42	
Method: EPA 6010D							
Boron	**0.50**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:15	
Calcium	**3.82**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:13	
Method: SM4500 H+ B-2021							
pH	**8.2**	units	0.1	1		04/10/2025 15:20	*
Method: SM4500-Cl-E 2021							
Chloride	**5.0**	mg/L	2.0	1		04/15/2025 10:28	
Method: SM4500-F-C-2021							
Fluoride	**1.94**	mg/L	0.1	1		04/10/2025 15:20	*
Method: USGS I-1750-85							
Total Dissolved Solids	**1480**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Fluoride

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118006 **Date Collected:** 04/08/2025 12:40 **Matrix:** Groundwater
Sample ID: 15-04 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**94.4**	mg/L	5	1		04/23/2025 11:17	
Method: EPA 6010D							
Boron	**0.54**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:16	
Calcium	**3.19**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:15	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		04/10/2025 15:37	*
Method: SM4500-Cl-E 2021							
Chloride	**5.2**	mg/L	2.0	1		04/15/2025 10:29	
Method: SM4500-F-C-2021							
Fluoride	**2.24**	mg/L	0.1	1		04/10/2025 15:37	
Method: USGS I-1750-85							
Total Dissolved Solids	**1400**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118007 **Date Collected:** 04/08/2025 11:53 **Matrix:** Groundwater
Sample ID: 15-05 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**342**	mg/L	25	5		04/16/2025 11:26	
Method: EPA 6010D							
Boron	**0.52**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:17	
Calcium	**4.36**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:16	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		04/10/2025 17:54	*
Method: SM4500-Cl-E 2021							
Chloride	**3.3**	mg/L	2.0	1		04/15/2025 10:30	
Method: SM4500-F-C-2021							
Fluoride	**2.18**	mg/L	0.1	1		04/10/2025 17:54	
Method: USGS I-1750-85							
Total Dissolved Solids	**1600**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118008 **Date Collected:** 04/08/2025 13:36 **Matrix:** Groundwater
Sample ID: 16-01 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**147**	mg/L	5	1		04/23/2025 11:18	
Method: EPA 6010D							
Boron	**0.52**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:18	
Calcium	**2.76**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:18	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		04/10/2025 18:12	*
Method: SM4500-Cl-E 2021							
Chloride	**3.7**	mg/L	2.0	1		04/15/2025 10:31	
Method: SM4500-F-C-2021							
Fluoride	**2.52**	mg/L	0.1	1		04/10/2025 18:12	
Method: USGS I-1750-85							
Total Dissolved Solids	**1190**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118009 **Date Collected:** 04/08/2025 15:50 **Matrix:** Groundwater
Sample ID: 18-01 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**367**	mg/L	25	5		04/16/2025 11:29	
Method: EPA 6010D							
Boron	**0.53**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:19	
Calcium	**3.88**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:20	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		04/10/2025 18:31	*
Method: SM4500-Cl-E 2021							
Chloride	**4.2**	mg/L	2.0	1		04/15/2025 10:37	
Method: SM4500-F-C-2021							
Fluoride	**2.13**	mg/L	0.1	1		04/10/2025 18:31	
Method: USGS I-1750-85							
Total Dissolved Solids	**1690**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118010 **Date Collected:** 04/09/2025 15:20 **Matrix:** Groundwater
Sample ID: 18-02 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**190**	mg/L	25	5		04/16/2025 11:30	
Method: EPA 6010D							
Boron	**0.47**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:19	
Calcium	**3.04**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:21	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		04/10/2025 18:50	*
Method: SM4500-Cl-E 2021							
Chloride	**7.2**	mg/L	2.0	1		04/15/2025 10:38	
Method: SM4500-F-C-2021							
Fluoride	**1.71**	mg/L	0.1	1		04/10/2025 18:50	
Method: USGS I-1750-85							
Total Dissolved Solids	**1340**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Silver, Dissolved

Matrix spike and/or matrix spike duplicate recoveries were low. Low recoveries were due to the amount of spike added and the use of HCl in the metals digestion process. Data was accepted based on the acceptable recoveries of the post digestion spikes and/or LCS.

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118011 **Date Collected:** 04/09/2025 12:06 **Matrix:** Groundwater
Sample ID: 92-3 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**123**	mg/L	5	1		04/16/2025 11:46	
Method: EPA 6010D							
Boron	**0.50**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:22	
Calcium	**2.66**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:22	
Method: SM4500 H+ B-2021							
pH	**8.6**	units	0.1	1		04/10/2025 19:08	*
Method: SM4500-Cl-E 2021							
Chloride	**5.5**	mg/L	2.0	1		04/15/2025 10:40	
Method: SM4500-F-C-2021							
Fluoride	**1.81**	mg/L	0.1	1		04/10/2025 19:08	
Method: USGS I-1750-85							
Total Dissolved Solids	**1220**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118012 **Date Collected:** 04/09/2025 11:29 **Matrix:** Groundwater
Sample ID: 95-4 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**113**	mg/L	10	2		04/16/2025 11:32	
Method: EPA 6010D							
Boron	**0.49**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:24	
Calcium	**2.30**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:28	
Method: SM4500 H+ B-2021							
pH	**8.6**	units	0.1	1		04/10/2025 19:27	*
Method: SM4500-Cl-E 2021							
Chloride	**5.2**	mg/L	2.0	1		04/15/2025 10:41	
Method: SM4500-F-C-2021							
Fluoride	**1.24**	mg/L	0.1	1		04/10/2025 19:27	
Method: USGS I-1750-85							
Total Dissolved Solids	**1170**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Nitrate + Nitrite as N

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 83118013 **Date Collected:** 04/08/2025 10:23 **Matrix:** Groundwater
Sample ID: 2023-1 **Date Received:** 04/10/2025 08:10 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.4 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**85.9**	mg/L	5	1		04/16/2025 11:47	*
Method: EPA 6010D							
Boron	**0.53**	mg/L	0.1	1	04/10/2025 16:45	04/15/2025 11:24	
Calcium	**3.30**	mg/L	1	1	04/10/2025 16:45	04/14/2025 11:32	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		04/10/2025 19:46	*
Method: SM4500-Cl-E 2021							
Chloride	**14.5**	mg/L	2.0	1		04/15/2025 10:42	
Method: SM4500-F-C-2021							
Fluoride	**2.07**	mg/L	0.1	1		04/10/2025 19:46	*
Method: USGS I-1750-85							
Total Dissolved Solids	**1430**	mg/L	10	1		04/11/2025 11:11	

Analysis Results Comments

Fluoride

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

Nitrate + Nitrite as N

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

Sulfate

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

QC Results Summary

WO #: 83118

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	103.0		85	115		
LFB			100	103.0		85	115		
LFB			100	101.0		85	115		
LFB			100	103.0		85	115		
LFB			100	102.0		85	115		
LFB			100	100.0		85	115		
LFB			100	104.0		85	115		
LFB			100	111.0		85	115		
LFB			100	107.0		85	115		
LFB			100	110.0		85	115		
LFB			100	109.0		85	115		
LFB			100	109.0		85	115		
LFB			100	110.0		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							

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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	82909008		1000	81.9	82.1	85	115	0.4	20
MS/MSD	83118013		100	71.0	71.6	85	115	0.8	20
MS/MSD	83214006		500	78.6	81.3	85	115	1.5	20
MS/MSD	83257001		500	86.4	88.9	85	115	2.8	20
MS/MSD	83257002		500	86.4	86.3	85	115	0.1	20
MS/MSD	83775002		500	91.2	96.3	85	115	5.4	20
MS/MSD	83785006		1000	80.9	80.6	85	115	0.3	20
MS/MSD	83856001		500	82.9	83.6	85	115	0.5	20
MS/MSD	84252001		5000	85.3	85.3	85	115	0.0	20
MS/MSD	84296003		5000	70.7	73.8	85	115	1.2	20

Nitrate + Nitrite as N 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			0.5	92.0		90	110		
LFB			0.5	92.0		90	110		
LFB			0.5	91.0		90	110		
LFB			0.5	92.0		90	110		
LFB			0.5	92.0		90	110		
LFB			0.5	90.0		90	110		
MS/MSD	82910002		1	104.0	105.0	90	110	0.4	20
MS/MSD	82724002		1	91.0	91.0	90	110	0.0	20
MS/MSD	82900004		1	87.0	88.0	90	110	1.1	20
MS/MSD	83118001		1	83.0	82.0	90	110	1.2	20
MS/MSD	83118012		1	84.0	84.0	90	110	0.0	20
MS/MSD	83118013		1	73.0	73.0	90	110	0.0	20

Phosphorus as P 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			0.5	108.0		90	110		
LFB			0.5	110.0		90	110		
LFB			0.5	110.0		90	110		
LFB			0.5	106.0		90	110		
MB		<0.2							

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Phosphorus as P — 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		<0.2							
MB		<0.2							
MB		<0.2							
MS/MSD	82906001		1	107.0	105.0	90	110	0.4	20
MS/MSD	82942001		1	110.0	108.0	90	110	0.9	20
MS/MSD	83118003		1	123.0	122.0	90	110	0.8	20
MS/MSD	83118013		1	108.0	107.0	90	110	0.7	20
MS/MSD	83224006		1	103.0	101.0	90	110	2.0	20
MS/MSD	83224013		1	113.0	113.0	90	110	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	91.1		90	110		
LFB			30	91.1		90	110		
LFB			30	90.6		90	110		
LFB			30	90.7		90	110		
LFB			30	90.7		90	110		
LFB			30	91.0		90	110		
LFB			30	90.7		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	82942001		30	97.4	96.4	80	120	0.0	20
MS/MSD	83224001		30	90.0	90.3	80	120	0.4	20
MS/MSD	83224013		30	89.6	89.5	80	120	0.0	20

Boron — Units: mg/L

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

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Boron				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	107.0		85	115		
MB		<0.1							
MB		<0.1							
MS/MSD	83118004		0.4	99.5	98.1	70	130	0.6	20
MS/MSD	83118011		0.4	93.3	97.0	70	130	1.7	20

Boron, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	103.0		85	115		
LFB-OE			0.4	107.0		85	115		
MB		<0.1							
MB		<0.1							
MS/MSD	83118010		0.4	103.0	102.0	70	130	0.5	20
SPK/SPKD	83118012		0.4	86.0	83.7	75	125	1.2	20
PDS/PDSD	83224004		0.4	110.0	110.0	75	125	0.0	20
SPK/SPKD	83224007		0.4	87.8	87.4	75	125	0.2	20
SPK/SPKD	83224008		0.4	87.7	79.0	75	125	4.6	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							
PDS/PDSD	81316001		100	94.4	94.5	75	125	0.1	20
PDS/PDSD	81316001		500	105.0	105.0	75	125	0.1	20
PDS/PDSD	82374001		1000	101.0	102.0	75	125	0.1	20
PDS/PDSD	82374001		5000	105.0	104.0	75	125	0.1	20
PDS/PDSD	82911001		100	94.6	95.6	75	125	0.5	20
DUP	83118007							1.8	20
PDS/PDSD	83118011		100	102.0	99.7	75	125	1.7	20
PDS/PDSD	83118012		100	102.0	101.0	75	125	1.0	20
PDS/PDSD	83118012		500	105.0	104.0	75	125	0.5	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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 (%)
DUP	83135003							0.2	20
DUP	83224009							1.5	20
PDS/PDSD	83224011		100	102.0	102.0	75	125	0.3	20
PDS/PDSD	83224011		500	103.0	103.0	75	125	0.6	20

Iron, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	109.0		85	115		
LFB-OE			0.4	112.0		85	115		
MB		<0.1							
MB		<0.1							
SPK/SPKD	83118004		0.4	92.4	93.1	75	125	0.8	20
MS/MSD	83118010		0.4	111.0	112.0	70	130	0.7	20
PDS/PDSD	83224004		4	96.0	95.4	75	125	0.2	20
SPK/SPKD	83224006		0.4	94.7	95.0	75	125	0.3	20
SPK/SPKD	83224009		0.4	79.6	85.8	75	125	4.1	20

Lithium				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	111.0		85	115		
MB		<0.04							
MS/MSD	83118004		0.4	96.6	97.4	70	130	0.8	20
MS/MSD	83118011		0.4	95.6	97.6	70	130	1.8	20

Magnesium				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	111.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	81316001		100	97.0	97.1	75	125	0.1	20
PDS/PDSD	81316001		500	102.0	102.0	75	125	0.1	20
PDS/PDSD	82374001		1000	99.6	99.6	75	125	0.0	20
PDS/PDSD	82374001		5000	103.0	103.0	75	125	0.2	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Magnesium				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/PDSD	82911001		100	97.5	98.2	75	125	0.4	20
DUP	83118007							4.0	20
PDS/PDSD	83118011		100	100.0	98.4	75	125	1.9	20
PDS/PDSD	83118012		100	101.0	99.8	75	125	1.0	20
PDS/PDSD	83118012		500	103.0	103.0	75	125	0.4	20
DUP	83135003							0.5	20
DUP	83224009							1.1	20
PDS/PDSD	83224011		100	102.0	102.0	75	125	0.0	20
PDS/PDSD	83224011		500	103.0	103.0	75	125	0.1	20

Manganese, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	110.0		85	115		
LFB-OE			0.4	112.0		85	115		
MB		<0.05							
MB		<0.05							
SPK/SPKD	83118004		0.4	94.0	96.2	75	125	2.2	20
MS/MSD	83118010		0.4	102.0	102.0	70	130	0.5	20
PDS/PDSD	83224004		4	103.0	103.0	75	125	0.2	20
SPK/SPKD	83224006		0.4	83.6	83.5	75	125	0.1	20
SPK/SPKD	83224009		0.4	70.1	74.0	75	125	1.8	20

Potassium				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	108.0		85	115		
LFB-MI			100	107.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	81316001		100	95.5	96.1	75	125	0.6	20
PDS/PDSD	81316001		500	97.0	96.7	75	125	0.3	20
PDS/PDSD	82374001		1000	89.4	88.8	75	125	0.5	20
PDS/PDSD	82374001		5000	97.6	97.1	75	125	0.5	20
PDS/PDSD	82911001		100	97.7	97.7	75	125	0.0	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Potassium 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 (%)
DUP	[illegible]							[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUP	[illegible]							[illegible]	[illegible]
DUP	[illegible]							[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Sodium 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-WI			[illegible]	[illegible]		[illegible]	[illegible]		
LFB-WI			[illegible]	[illegible]		[illegible]	[illegible]		
MB		[illegible]							
MB		[illegible]							
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUP	[illegible]							[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUP	[illegible]							[illegible]	[illegible]
DUP	[illegible]							[illegible]	[illegible]
PDS/PDSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Arsenic, Dissolved 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-WI			[illegible]	[illegible]		[illegible]	[illegible]		
MB		[illegible]							
SPK	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		
SPK	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		
SPK/SPKD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MS/MSD	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Arsenic, Dissolved — Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
SPK	83118010		0.1	109.0		75	125		
SPK/SPKD	83124003		0.1	126.0	124.0	75	125	1.3	20
SPK	83124004		0.1	109.0		75	125		
SPK/SPKD	83124013		0.1	134.0	133.0	75	125	1.3	20

Barium, Dissolved — Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	108.0		80	120		
MB		<0.002							
SPK	83174001		2	110.0		75	125		
SPK	83174002		0.1	105.0		75	125		
SPK/SPKD	83118001		0.1	115.0	117.0	75	125	1.1	20
MS/MSD	83118010		0.4	112.0	111.0	75	125	0.6	20
SPK	83118010		0.1	114.0		75	125		
SPK/SPKD	83124003		0.1	113.0	113.0	75	125	0.1	20
SPK	83124004		0.1	113.0		75	125		
SPK/SPKD	83124013		0.1	109.0	110.0	75	125	0.1	20

Beryllium, Dissolved — Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	106.0		80	120		
MB		<0.0005							
SPK	83174001		2	107.0		75	125		
SPK	83174002		0.1	99.0		75	125		
SPK/SPKD	83118001		0.1	128.0	131.0	75	125	2.6	20
MS/MSD	83118010		0.4	108.0	108.0	75	125	0.2	20
SPK	83118010		0.1	109.0		75	125		
SPK/SPKD	83124003		0.1	127.0	126.0	75	125	0.3	20
SPK	83124004		0.1	86.6		75	125		
SPK/SPKD	83124013		0.1	117.0	116.0	75	125	1.0	20

Cadmium, Dissolved — 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		

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Cadmium, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
MB		<0.0005							
SPK	82374001		2	111.0		75	125		
SPK	82374002		0.1	101.0		75	125		
SPK/SPKD	83118001		0.1	122.0	122.0	75	125	0.7	20
MS/MSD	83118010		0.4	105.0	110.0	75	125	4.0	20
SPK	83118010		0.1	100.0		75	125		
SPK/SPKD	83224002		0.1	122.0	120.0	75	125	1.5	20
SPK	83224004		0.1	101.0		75	125		
SPK/SPKD	83224013		0.1	116.0	115.0	75	125	0.4	20

Chromium, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	108.0		80	120		
MB		<0.002							
SPK	82374001		2	104.0		75	125		
SPK	82374002		0.1	109.0		75	125		
SPK/SPKD	83118001		0.1	110.0	112.0	75	125	1.4	20
MS/MSD	83118010		0.4	113.0	111.0	75	125	2.0	20
SPK	83118010		0.1	111.0		75	125		
SPK/SPKD	83224002		0.1	107.0	108.0	75	125	0.3	20
SPK	83224004		0.1	112.0		75	125		
SPK/SPKD	83224013		0.1	116.0	110.0	75	125	4.6	20

Lead, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	108.0		80	120		
MB		<0.0005							
SPK	82374001		2	107.0		75	125		
SPK	82374002		0.1	103.0		75	125		
SPK/SPKD	83118001		0.1	119.0	122.0	75	125	2.8	20
MS/MSD	83118010		0.4	110.0	110.0	75	125	0.7	20
SPK	83118010		0.1	107.0		75	125		
SPK/SPKD	83224002		0.1	113.0	114.0	75	125	0.4	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Lead, Dissolved 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-WE			0.1	106.0		75	125		
SPK	83224004		0.1	103.0		75	125		
SPK/SPKD	83224013		0.1	103.0	105.0	75	125	1.3	20

Molybdenum, Dissolved 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-WE			0.1	103.0		80	120		
MB		<0.002							
SPK	83374001		1	113.0		75	125		
SPK	83374002		0.1	109.0		75	125		
SPK/SPKD	83318001		0.1	108.0	108.0	75	125	2.0	20
MS/MSD	83318010		0.4	109.0	110.0	75	125	0.2	20
SPK	83318010		0.1	111.0		75	125		
SPK/SPKD	83224003		0.1	107.0	106.0	75	125	0.8	20
SPK	83224004		0.1	116.0		75	125		
SPK/SPKD	83224013		0.1	119.0	116.0	75	125	2.3	20

Selenium, Dissolved 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-WE			0.1	104.0		80	120		
MB		<0.005							
SPK	83374001		1	105.0		75	125		
SPK	83374002		0.1	106.0		75	120		
SPK/SPKD	83318001		0.1	142.0	143.0	75	125	1.3	20
MS/MSD	83318010		0.4	113.0	114.0	75	125	1.1	20
SPK	83318010		0.1	105.0		75	125		
SPK/SPKD	83224002		0.1	144.0	140.0	75	125	3.3	20
SPK	83224004		0.1	105.0		75	125		
SPK/SPKD	83224013		0.1	111.0	112.0	75	125	0.6	20

Silver, Dissolved 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-WE			0.1	101.0		80	120		
MB		<0.0005							
SPK	83374001		1	101.0		75	125		

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Silver, Dissolved 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	[illegible]		0.1	97.1		75	125		
LFM/LFMD	[illegible]		0.1	110.0	111.0	75	125	1.2	20
MS/MSD	[illegible]		0.4	45.0	45.2	75	125	0.6	20
LFB	[illegible]		0.1	98.5		75	125		
LFM/LFMD	[illegible]		0.1	107.0	107.0	75	125	0.1	20
LFB	[illegible]		0.1	99.8		75	125		
LFM/LFMD	[illegible]		0.1	100.0	98.2	75	125	2.0	20

Mercury, Dissolved 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	95.2		85	115		
MB		<0.0002							
MS/MSD	[illegible]		0.002	79.6	87.7	70	130	10.2	20
MS/MSD	[illegible]		0.002	86.4	86.8	70	130	0.5	20
MS/MSD	[illegible]		0.002	94.1	91.4	70	130	3.4	20

Alkalinity, Total 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			101	97.7		90	110		
LFB			410	98.9		90	110		
LFB			410	99.1		90	110		
LFB			410	95.4		90	110		
LFB			410	94.6		90	110		
MB		<20.5							
MB		<20.5							
MB		<20.5							
MB		<20.5							
MS/MSD	[illegible]		400	92.4	92.0	80	120	0.5	20
MS/MSD	[illegible]		400	93.5	93.4	80	120	0.0	20
MS/MSD	[illegible]		400	89.8	89.3	80	120	0.4	20

Specific Conductance Units: umhos/cm

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-C			1413	98.7		95	105		

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Specific Conductance Units: umhos/cm

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-C			1413	100.3		95	105		
CRM-C			1413	100.8		95	105		
CRM-C			1413	100.9		95	105		
CRM-C			1413	100.6		95	105		
DUP	83118002							0.2	10
DUP	83118007							0.3	10
DUP	83124002							0.0	10

pH Units: units

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-PH			6	100.3					
CRM-PH			6	100.0					
CRM-PH			6	99.8					
CRM-PH			6	99.8					
DUP	83118002							0.2	10
DUP	83118007							0.0	10
DUP	83136002							0.3	10

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			0.6	107.0		83.99	111.11		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	98.0		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	83118005		0.5	128.0	100.0	80	120	3.6	20
MS/MSD-F	83118013		0.5	86.0	72.0	80	120	2.8	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		
MB		<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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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 (%)
DUP	E3118010							0.0	20
DUP	E3118012							1.7	20

Total Suspended 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			50	97.8		77.2	109.2		
CRM			50	88.9		77.2	109.2		
CRM			50	83.0		77.2	109.2		
MB		<2							
MB		<2							
MB		<2							
DUP	E3108001							7.8	20
DUP	E3118013							18.2	20
DUP	E3124005							3.1	20
DUP	E3124013							1.5	20
DUP	E3245002							13.3	20
DUP	E3264002							1.2	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Minnkota Power Cooperati
WO: 83118

Chain of Custody Record

Report To: Minnkota Power Cooperative
Attn: Joseph Grosz
Address: 3401 24th St SW
Center, ND 58530
Phone:
Email: jgrosz@minnkota.com

CC:

Project Name: Minnkota - CCWDF
Event: Spring 2025
Sampled By: [signatures]

Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (Filtered)	250 mL H2SO4	Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
001	Field Blank 1 (FB1)	9 Apr 25	NA	GW	X	X	X	X	NA	NA	NA	NA	
002	Dup1	9 Apr 25	NA	GW	X	X	X	X	NA	NA	NA	NA	
003	15-01	8 Apr 25	0920	GW	X	X	X	X	6.59	1987	8.35	4.06	
004	15-02	8 Apr 25	0830	GW	X	X	X	X	6.15	2051	8.25	1.08	CCWDF CCR DMP LIST A
005	15-03	8 Apr 25	1426	GW	X	X	X	X	9.65	2295	7.96	1.83	CCWDF NDDEQ LIST
006	15-04	8 Apr 25	1240	GW	X	X	X	X	8.68	2207	8.26	0.92	(see attachment)
007	15-05	8 Apr 25	1153	GW	X	X	X	X	7.74	2505	8.23	0.23	
008	16-01	8 Apr 25	1336	GW	X	X	X	X	9.38	1883	8.37	2.84	

Comments:

Relinquished By Name	Date/Time	Sample Condition Location	Temp	Received By Name	Date/Time
1 [signature]	10 Apr 25 0810	Log In / Walk In #2	0.4°C/TM 605 ROI Y/N	[signature]	10Apr25 0810
2					

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Chain of Custody Record

Report To:	Minnkota Power Cooperative
Attn:	Joseph Grosz
Address:	3401 24th St SW, Center, ND 58530
Phone:	
Email:	jgrosz@minnkota.com
CC:	
Project Name:	Minnkota - CCWDF
Event:	Spring 2025
Sampled By:	[signature]

Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4	Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
009	18-01	8 Apr 25	1550	GW	X	X	X	X	9.61	2604	8.20	0.00	THP LUFA CCWDF CCR ~~Appendix I~~ + CCWDF NDDEQ Parameter List (see attachment)
010	18-02	9 Apr 25	1520	GW	X	X	X	X	9.81	2013	8.42	2.26	
011	92-3	9 Apr 25	1206	GW	X	X	X	X	10.45	1791	8.59	0.00	
012	95-4	9 Apr 25	1129	GW	X	X	X	X	9.01	1677	8.57	1.06	
013	2023-1	8 Apr 25	1023	GW	X	X	X	X	6.22	2196	8.27	12.62	

Comments:

	Relinquished By: Name	Date/Time	Sample Condition: Location	Temp	Received By: Name	Date/Time
1	[signature]	10 Apr 25 0810	~~Log In~~ Walk In #2	0.4 °C/TM805 ROI Y/N	[signature]	10 Apr 25 0810
2						

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

CCWDF CCR DETECTION MONITORING PARAMETER LIST A		
Laboratory pH		SM4500 H+ B
Total Dissolved Solids	mg/l	SM1030-F
Fluoride	mg/l	SM4500-F-C
Sulfate	mg/l	ASTM D516-02
Chloride	mg/l	SM4500-Cl-E
Calcium-Total	mg/l	6010
Boron - Total	mg/l	6010

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

CCWDF NDDEQ PARAMETER LIST		
Field Temperature	Celsius	
Field pH		SM4500 H+ B
Field Specific Conductivity	Umhos/cm	SM2510-B
Field turbidity	Ntus's	
Laboratory pH		SM4500 H+ B
Laboratory Specific Conductivity	Umhos/cm	SM2510-B
Total Suspended Solids	mg/l	SM2540-D
Total Alkalinity	mg/l CaCO3	SM2320-B
Phenolphthalein Alk	mg/l CaCO3	SM2320-B
Bicarbonate	mg/l CaCO3	SM2320-B
Carbonate	mg/l CaCO3	SM2320-B
Hydroxide	mg/l CaCO3	SM2320-B
Total Dissolved Solids	mg/l	SM1030-F
Total Hardness as CaCO3	mg/l	SM2340-B
Cation Summation	mg/l	SM1030-F
Anion Summation	mg/l	SM1030-F
Percent Error	%	SM1030-F
Fluoride	mg/l	SM4500-F-C
Sulfate	mg/l	ASTM D516-02
Chloride	mg/l	SM4500-Cl-E
Nitrate-Nitrite as N	mg/l	EPA 353.2
Phosphorous as P-Total	mg/l	EPA 365.1
Mercury- - Dissolved	mg/l	EPA 245.1
Calcium-Total	mg/l	6010
Magnesium-Total	mg/l	6010
Sodium-Total	mg/l	6010
Potassium-Total	mg/l	6010
Iron- - Dissolved	mg/l	6010
Manganese- Dissolved	mg/l	6010
Boron- - Dissolved	mg/l	6010
Arsenic- - Dissolved	mg/l	6020
Barium- - Dissolved	mg/l	6020
Cadmium- - Dissolved	mg/l	6020
Chromium- - Dissolved	mg/l	6020
Lead- - Dissolved	mg/l	6020
Molybdenum- - Dissolved	mg/l	6020
Selenium- - Dissolved	mg/l	6020
Silver- - Dissolved	mg/l	6020
Beryllium - - Dissolved	mg/l	6020

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2025-1
Sampling Personal:	

Weather Conditions: Temp: 25 °F Wind: S @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	174.48	ft
Depth to Top of Pump:	192.43	ft
Well Volume:	35.7	liters
		ft
Water Level After Sample:	190.17	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	10 / 8.0	Sec.
Recover:	2.5 / 40	Sec.
PSI:	110 / —	
	Pump / Empty Pump	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (Filtered)
250mL Sulfuric

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
7 Apr 25	0947	Start of Well Purge									
	1049	7.44	1943	8.33	3.55	150.3	1.92	190.90	500.0	30.0	Clear
	1100	7.55	1742	8.29	2.46	121.1	25.56	Water Pump	500.0	6.5	Clear
		Purged Dry									
8 Apr 25	0650	Start of Stabilization Time						185.73			
	0900	6.55	2016	8.33	2.64	121.7	14.05	182.05	100.0	1.0	Clear
	0905	6.79	2029	8.34	1.76	97.6	8.26	183.60	100.0	0.5	Clear
	0910	6.65	1979	8.37	2.18	114.7	4.13	184.85	100.0	0.5	Clear
	0915	6.64	1942	8.36	2.09	109.6	3.25	186.16	100.0	0.5	Clear
	0920	6.59	1987	8.35	2.05	105.2	4.06	188.55	100.0	0.5	Clear
		Well Stabilized?	YES	NO				Total Volume Purged:		39.5	Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
8 Apr 25	0920	6.59	1987	8.35	2.05	105.2	4.06				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2015-2
Sampling Personal:	

Weather Conditions: Temp: 25 °F Wind: S @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	128.39	ft
Depth to Top of Pump:	142.39	ft
Well Volume:	5.4	liters
		ft
Water Level After Sample:	Below Pump	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	8 / 13	Sec.
Recover:	42 / 47	Sec.
PSI:	120 / —	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
7 Apr 25	0404	Start of Well Purge									
	0923	9.51	2024	8.45	0.88	211.1	6.40	NO.87	500.0	7.5	Clear
	0930	6.71	1914	8.27	1.10	113.4	12.48	Below Pump	500.0	4.0	Clear
		Pumped Dry									
8 Apr 25	0805	Start of Well Purge			Purge			138.23			
	0815	6.53	2012	8.27	0.55	96.1	0.27	140.55	100.0	1.0	Clear
	0820	6.06	2065	8.26	0.50	69.2	0.90	141.05	100.0	0.5	Clear
	0825	6.03	2043	8.26	0.59	71.1	1.29	141.50	100.0	0.5	Clear
	0830	6.15	2051	8.25	0.71	72.4	1.03	141.96	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 14.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	0830	6.15	2051	8.25	0.71	72.4	1.03				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Spring 2025
Sample ID: 2015-3
Sampling Personal:

Weather Conditions: Temp: 35 °F Wind: S @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	110.08	ft
Depth to Top of Pump:	130.10	ft
Well Volume:	12.3	liters
		ft
Water Level After Sample:	126.62	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	10 / 11	Sec.
Recover	20 / 49	Sec.
PSI:	100 / —	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
7 Apr 25	1340	Start of Well Purge									
	1400	8.21	2258	7.90	2.14	102.9	0.23	124.20	500.0	10.0	Clear
	1420	8.14	2202	8.04	0.51	58.9	3.84	Retrieving	500.0	10.0	Clear
		Pump	Dies								
8 Apr 25	1356	Start of Stabilization Purge						121.84			
	1406	9.31	2182	8.09	2.89	107.7	0.70	123.15	100.0	1.0	Clear
	1411	9.30	2232	8.04	2.40	115.0	1.35	123.75	100.0	0.5	Clear
	1416	9.38	2272	8.00	2.21	124.0	1.69	124.25	100.0	0.5	Clear
	1421	9.58	2291	7.99	2.18	129.6	1.46	124.76	100.0	0.5	Clear
	1426	9.65	2295	7.98	2.25	133.0	1.83	125.37	100.0	0.5	Clear
		Well Stabilized?	YES	NO				Total Volume Purged:	25.0	Liters	

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1426	9.65	2295	7.98	2.25	133.0	1.83				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2015-4
Sampling Personal:	LJM

Weather Conditions: Temp: 35°F Wind: S @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	120.98	ft
Depth to Top of Pump:	132.80	ft
Well Volume:	7.3	liters
		ft
Water Level After Sample:	131.05	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 12 Sec.
Recover: 24 / 48 Sec.
PSI: 100 / —

Bottle List:
1 Liter Raw
500ml, Nitric
500ml, Nitric (filtered)
250ml, Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
7 Apr 25	1226	Start of Well Purge									
	1238	8.04	2196	8.26	0.32	-193.2	0.70	129.50	500	6.0	Clear
	1244	8.10	2222	8.21	0.17	-182.1	0.10	Pump	500	3.0	Clear
		Paused	Dem								
8 Apr 25	1210	Start	of	Stabilization	Purge			127.15			
	1220	8.42	2251	8.20	2.55	22.6	0.53	128.55	100.0	1.0	Clear
	1225	8.57	2228	8.21	1.41	3.5	0.36	128.95	100.0	0.5	Clear
	1230	8.60	2211	8.20	0.64	-21.4	0.36	129.48	100.0	0.5	Clear
	1235	8.65	2196	8.21	0.59	-29.0	0.50	129.93	100.0	0.5	Clear
	1240	8.68	2207	8.22	0.61	-35.7	0.92	130.51	100.0	0.5	Clear

Well Stabilized? YES NO

Total Volume Purged: 12.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1240	8.68	2207	8.22	0.61	-35.7	0.92				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2015-5
Sampling Personal:	TJM

Weather Conditions: Temp: 35 °F Wind: S @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	150.58	ft
Depth to Top of Pump:	166.05	ft
Well Volume:	9.5	liters
		ft
Water Level After Sample:	154.55	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	10 / 15	Sec.
Recover:	20 / 25	Sec.
PSI:	40	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
7 Apr 25	1153	Start of Well Purge									
	1210	7.86	2497	8.09	0.66	39.1	0.30	162.05	500.0	8.5	Clear
	1220	7.83	2603	8.13	0.49	17.6	0.18	Below Pump	500.0	5.0	Clear
		Paused Purge									
8 Apr 25	1123	Start of Stabilization Purge						150.42			
	1133	7.97	2524	8.14	1.55	95.2	0.00	152.02	100.0	1.0	Clear
	1138	7.68	2557	8.18	1.08	83.9	0.02	152.43	100.0	0.5	Clear
	1143	7.61	2521	8.22	0.43	54.4	0.06	152.80	100.0	0.5	Clear
	1148	7.61	2530	8.23	0.42	51.4	0.00	153.06	100.0	0.5	Clear
	1153	7.74	2505	8.23	0.38	49.9	0.23	153.42	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 16.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1153	7.74	2505	8.23	0.38	49.9	0.23				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2016-1
Sampling Personal:	Jerry M

Weather Conditions: Temp: 35 °F Wind: S @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	127.63	ft
Depth to Top of Pump:	148.10	ft
Well Volume:	12.5	liters
		ft
Water Level After Sample:	134.10	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	10 / 11	Sec.
Recover:	40 / 49	Sec.
PSI:	100 / —	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
7 Apr 25	1251	Start of Well Purge									
	1311	8.38	1954	8.32	0.50	-160.3	0.91	140.65	500.0	10.0	Clear
	1331	8.42	1885	8.62	0.94	-58.9	5.44	Below Pump	500.0	10.0	Clear
		Pulled	Pump								
8 Apr 25	1306	Start	of Stab.	1.22/Min	Purge			129.75			
	1316	9.22	1912	8.46	2.04	65.6	2.11	139.65	100.0	1.0	Clear
	1321	9.50	1899	8.43	1.66	86.5	1.56	131.31	100.0	0.5	Clear
	1326	9.76	1872	8.43	1.42	50.3	1.65	132.05	100.0	0.5	Clear
	1331	9.41	1871	8.41	1.36	-52.3	2.30	132.55	100.0	0.5	Clear
	1336	9.38	1863	8.39	1.33	53.1	2.84	132.90	100.0	0.5	
		Well Stabilized?	YES	NO				Total Volume Purged:		23.0	Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1336	9.38	1863	8.39	1.33	53.1	2.84				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2018-1
Sampling Personal:	

Weather Conditions: Temp: 35 °F Wind: S @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	154.16	ft
Depth to Top of Pump:	186.35	ft
Well Volume:	7.5	liters
		ft
Water Level After Sample:	182.05	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	10 / 10	Sec.
Recover:	20 / 50	Sec.
PSI:	110 / 105	
	Purge / Sample	

Bottle List:
1 Liter Raw
500ml Nitric
500ml Nitric (filtered)
250ml Sulfuric

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
8 Apr 25	1445	Start of Well Purge								7.5	
	1500	8.43	2611	8.21	0.16	-163.6	0.10	180.90	500.0	7.5	Clear
	1515	8.55	2580	8.21	0.18	-174.5	0.02	183.15	500.0	7.5	Clear
	1530	8.75	2589	8.22	0.20	-162.6	0.26	184.95	500.0	7.5	Clear
	1535	9.02	2591	8.21	0.21	-155.3	0.00	184.05	100.0	0.5	Clear
	1540	9.55	2592	8.20	0.23	-147.2	0.00	183.39	100.0	0.5	Clear
	1545	9.72	2603	8.21	0.20	-152.3	0.05	182.82	100.0	0.5	Clear
	1550	9.61	2604	8.20	0.26	-157.2	0.00	182.07	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 24.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1550	9.61	2604	8.20	0.26	-157.2	0.00				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	2018-2
Sampling Personal:	[signature]

Weather Conditions: Temp: 50 °F Wind: NW 10-15 Precip: Sunny / Partly Cloudy / Cloudy (circled: Cloudy)

WELL INFORMATION

Well Locked?	YES (circled)	NO
Well Labeled?	YES (circled)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	152.49	ft
Depth to Top of Pump:	199.40	ft
Well Volume:	26.8	liters
		ft
Water Level After Sample:	153.00	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES (circled)	NO

Control Settings:			
Purge:	10	10	Sec.
Recover:	20	50	Sec.
PSI:	140	140	
	Purge	Sample	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO (NO marked)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
9 Apr 25	1205	Start of Well Purge									
	1305	8.95	1971	8.40	0.03	-190.5	2.37	156.62	500.0	30.0	Clear
	1405	8.96	1933	8.41	0.14	-137.0	1.29	156.75	500.0	30.0	Clear
	1505	9.79	1988	8.41	2.10	-11.2	0.85	155.02	500.0	30.0	Clear
	1510	10.09	1991	8.39	1.78	-13.1	1.16	154.00	100.0	0.5	Clear
	1515	10.15	2022	8.41	1.72	-13.7	1.81	153.82	100.0	0.5	Clear
	1520	9.81	2013	8.42	1.81	-15.0	2.26	153.40	100.0	0.5	Clear

Well Stabilized? YES (circled) NO Total Volume Purged: 91.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
9 Apr 25	1520	9.81	2013	8.42	1.81	-15.0	2.26				Clear

Comments:

Report Date: Thursday, April 24, 2025 4:04:14 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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Spring 2025
Sample ID:	92-3
Sampling Personal:	Ethan Cosens

Weather Conditions: Temp: 40 °F Wind: NW @ 20-25 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	91.09	ft
Depth to Top of Pump:	119.5	ft
Well Volume:	36.0	liters
		ft
Water Level After Sample:	101.87	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge:	7	Sec.
Recover:	23	Sec.
PSI:	100	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
	0815	Start of Well Purge									
9Apr25	0927	8.36	1801	8.67	0.00	-240.5	0.00	116.0	500.0	36.0	Clear
	1039	8.43	1797	8.65	0.00	-236.8	0.02	117.35	500.0	36.0	Clear
	1151	8.48	1790	8.63	0.00	-239.2	0.00	117.24	500.0	36.0	Clear
	1156	10.22	1804	8.60	0.00	-221.4	0.00	114.25	100.0	0.5	Clear
	1201	10.30	1804	8.59	0.00	-221.3	0.00	112.20	100.0	0.5	Clear
	1206	10.45	1791	8.59	0.00	-224.2	0.00	109.09	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 109.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
9Apr25	1206	10.45	1791	8.59	0.00	-24.2	0.00				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Spring 2025
Sample ID: 95-4
Sampling Personal: JH

Weather Conditions: Temp: 40 °F Wind: NW @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	92.63	ft
Depth to Top of Pump:	141.80	ft
Well Volume:	30.2	liters
		ft
Water Level After Sample:	102.30	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 13 Sec.
Recover: 20 / 97 Sec.
PSI: 90 / — (Purge / Sample)

Bottle List:
1 Liter Raw
500ml, Nitric
500ml, Nitric (filtered)
250ml, Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID: Dup 1

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
9 Apr 25	0806	Start of Well Purge									
	0903	8.21	1280	8.56	2.02	-95.4	0.80	103.40	500.0	30.5	Clear
	1008	8.29	1571	8.59	1.33	-105.1	0.41	108.52	500.0	30.5	Clear
	1109	8.43	1582	8.59	0.89	-106.6	0.39	109.50	500.0	30.5	Clear
	1114	8.39	1613	8.58	1.31	-96.6	0.55	108.80	100.0	0.5	Clear
	1119	9.19	1686	8.58	1.59	-98.7	0.59	106.60	100.0	0.5	Clear
	1124	8.96	1668	8.56	1.52	-91.4	0.96	105.75	100.0	0.5	Clear
	1129	9.01	1677	8.57	1.41	-89.4	1.06	104.45	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 93.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
9 Apr 25	1129	9.01	1677	8.57	1.41	-89.4	1.06				Clear

Comments: Collected FB1 @ 0830

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Spring 2025
Sample ID: 2023-1
Sampling Personal: Jeremy Amy

Weather Conditions: Temp: 30 °F Wind: S @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	203.55	ft
Depth to Top of Pump:	228.10	ft
Well Volume:	12.7	liters
		ft
Water Level After Sample:	215.25	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 30 Sec.
Recover: 20 / 30 Sec.
PSI: 120 / —
Purge Sample

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID: —

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
7 Apr 25	1106	Start of Well Purge									
	1126	8.06	2180	8.20	0.31	-62.8	6.63	217.52	500.0	10.0	Clear
	1146	7.91	2074	8.19	0.64	-97.3	26.36	Below Pump	500.0	10.0	Clear
		Purged	Dry								
8 Apr 25	0948	Start of Well Stabilization Purge						204.36			
	0959	6.14	2195	8.25	1.40	68.5	25.44	210.62	100.0	1.0	Clear
	1003	6.25	2185	8.26	1.12	84.9	17.86	211.05	100.0	0.5	Clear
	1008	6.26	2203	8.27	0.91	45.4	14.05	211.80	100.0	0.5	Clear
	1013	6.30	2210	8.26	0.58	-46.2	18.72	212.55	100.0	0.5	Clear
	1018	6.25	2210	8.27	0.47	-49.7	13.49	213.25	100.0	0.5	Clear
	1023	6.22	2196	8.27	0.44	-50.3	13.65	213.92	100.0	0.5	Clear

Well Stabilized? YES NO

Total Volume Purged: 23.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
8 Apr 25	1023	6.22	2196	8.27	0.44	-50.3	13.65				

Comments:

Account #: 7048 **Client:** Minnkota Power Cooperative

Sample Condition Checklist

Date: 10 Apr 25 Time: 1048 Analyst: PW

Work Order #: 83118

Containers Supplied by MVTL: ☒ Yes ☐ No (Designate customer supplied containers as "Other" in container size column)

Comments:

Number of Bottles	Container Size (mL) F-(500) = Filtered	Container Type CG = Clear Glass, P = Plastic, AG = Amber Glass	Preservation	pH	Sample IDs Preservation reagent added Date/Time Analyst	Unique ID of preservation reagent added	Sample pH after preservation	Required for HNO_3 samples only (24 hours later) Sample ID pH Recheck Result Date/Time/Analyst
13	(125) (250) (500) F-(500) **(1000)** Other	(CG) **(P)** (AG) Other	**NONE** HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
13	(125) (250) (500) **F-(500)** (1000) Other	(CG) **(P)** (AG) Other	NONE **HNO_3** H_2SO_4 NaOH NaOH/ZnAcet HCl	**<2** >12				
13	(125) (250) **(500)** F-(500) (1000) Other	(CG) **(P)** (AG) Other	NONE **HNO_3** H_2SO_4 NaOH NaOH/ZnAcet HCl	**<2** >12				
13	(125) **(250)** (500) F-(500) (1000) Other	(CG) **(P)** (AG) Other	NONE HNO_3 **H_2SO_4** NaOH NaOH/ZnAcet HCl	**<2** >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	Oil and grease	(CG) (P) (AG) Other	HCl	n/a				
	TOC Vials	(G) (AG)	H_3PO_4	n/a				
	DOC Vials	(G) (AG)	None H_3PO_4	n/a				

*All samples requiring analyses performed outside of the Bismarck laboratory (New Ulm and Sub-Contract) are not documented on this form.
*All samples requiring microbiological tests are not documented on this form.

Form #80-910025-2 M:\Documents\FORMS\Approved Templates\Bismarck\Water\80-910025-2 Sample Condition Checklist Page 1 of 1 Effective Date: 1 July 2024

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative
Workorder: MPC-CCWDF Spr Resample 2025 (90295) **PO:** 251157 Line 6

Joe Grosz
Minnkota Power Cooperative
Milton R. Young Station
3401 24th St. SW
Center, ND 58530

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.

Unreported samples to add QC report. CC 1Jul25

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295001 **Date Collected:** 06/19/2025 **Matrix:** Groundwater
Sample ID: Field Blank (FB1) **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	<0.1	mg/L	0.1	1		06/20/2025 17:21	

Sample Comments

Time sampled was not supplied by the client.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295002 **Date Collected:** 06/18/2025 **Matrix:** Groundwater
Sample ID: Dup 1 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.81**	mg/L	0.1	1		06/20/2025 17:28	

Sample Comments

Time sampled was not supplied by the client.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295003 **Date Collected:** 06/19/2025 09:11 **Matrix:** Groundwater
Sample ID: 15-01 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**2.43**	mg/L	0.1	1		06/20/2025 17:34	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295004 **Date Collected:** 06/19/2025 08:14 **Matrix:** Groundwater
Sample ID: 15-02 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.76**	mg/L	0.1	1		06/20/2025 17:40	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295005 **Date Collected:** 06/19/2025 11:33 **Matrix:** Groundwater
Sample ID: 15-03 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.85**	mg/L	0.1	1		06/20/2025 17:46	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295006 **Date Collected:** 06/19/2025 10:33 **Matrix:** Groundwater
Sample ID: 15-04 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.91**	mg/L	0.1	1		06/20/2025 17:52	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295007 **Date Collected:** 06/19/2025 09:58 **Matrix:** Groundwater
Sample ID: 15-05 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.92**	mg/L	0.1	1		06/23/2025 19:25	*

Analysis Results Comments

Fluoride

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

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295008 **Date Collected:** 06/19/2025 11:00 **Matrix:** Groundwater
Sample ID: 16-01 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**2.22**	mg/L	0.1	1		06/23/2025 19:31	

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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295009 **Date Collected:** 06/18/2025 11:17 **Matrix:** Groundwater
Sample ID: 18-01 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.87**	mg/L	0.1	1		06/23/2025 19:37	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295011 **Date Collected:** 06/19/2025 16:35 **Matrix:** Groundwater
Sample ID: 92-3 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.58**	mg/L	0.1	1		06/23/2025 19:43	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295012 **Date Collected:** 06/19/2025 15:20 **Matrix:** Groundwater
Sample ID: 95-4 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.09**	mg/L	0.1	1		06/23/2025 19:49	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 90295013 **Date Collected:** 06/19/2025 09:24 **Matrix:** Groundwater
Sample ID: 2023-1 **Date Received:** 06/20/2025 08:18 **Collector:** MVTL Field Service

Temp @ Receipt (C): 2.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.85**	mg/L	0.1	1		06/23/2025 21:53	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

QC Results Summary

WO #: 90295

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 (%)
CRA-F			0.6	95.2		83.99	111.11		
CRA-F			0.6	95.2		83.99	111.11		
LFB-F			0.5	94.0		90	110		
LFB-F			0.5	100.0		90	110		
LFB-F			0.5	94.0		90	110		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	100.0		90	110		
LFB-F			0.5	104.0		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	90347005		0.5	100.0	104.0	80	120	3.9	20
MS/MSD	90275002		0.5	92.0	72.0	80	120	5.4	20
MS/MSD	90295007		0.5	122.0	106.0	80	120	3.2	20
MS/MSD	90304007		0.5	90.0	86.0	80	120	2.1	20

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Minnkota Power Cooperatih
WO: 90295

Chain of Custody Record

Report To:	Minnkota Power Cooperative	CC:	
Attn:	Joseph Grosz	Project Name:	Minnkota - CCWDF
Address:	3401 24th St SW Center, ND 58530	Event:	Spring Resample 2025
Phone:		Sampled By:	[signature]
Email:	jgrosz@minnkota.com		

Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4	Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
001	Field Blank 1 (FB1)	19 Jun 25	NA	GW	X				NA	NA	NA	NA	
002	Dup1	18 Jun 25	NA	GW	X				NA	NA	NA	NA	
003	15-01	19 Jun 25	0911	GW	X				16.92	2017	7.54	1.57	
004	15-02	19 Jun 25	0814	GW	X				19.06	2057	7.25	0.63	~~Flouride~~
005	15-03	19 Jun 25	1133	GW	X				14.58	2132	7.96	0.52	Fluoride
006	15-04	19 Jun 25	1033	GW	X				11.74	2034	8.32	1.55	@ cc
007	15-05	19 Jun 25	0958	GW	X				13.91	2339	8.23	0.00	20 Jun 25
008	16-01	19 Jun 25	1100	GW	X				13.20	1682	8.49	1.90	

Comments:

Relinquished By: Name	Date/Time	Sample Condition: Location	Sample Condition: Temp	Received By: Name	Date/Time
1 [signature]	20 Jun 25 0815	Log In Walk In #2	2.0 °C/TM 959 ROI: Y/N	C. Castro	20 Jun 25 0818
2					

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

902795

Chain of Custody Record

Report To:	Minnkota Power Cooperative	CC:	Project Name: Minnkota - CCWDF
Attn:	Joseph Grosz		Event: Spring Resample 2025
Address:	3401 24th St SW, Center, ND 58530		Sampled By:
Phone:			
Email:	jgrosz@minnkota.com		

	Sample Information				Sample Containers									Field Readings				
Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4						Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
009	18-01	19 Jun 25	1117	GW	X									12.29	2539	8.27	0.00	
010	18-02	19 Jun 25	1145	GW	~~X~~									NO SAMPLE				
011	92-3	19 Jun 25	1635	GW	X									16.97	1877	8.49	0.00	
012	95-4	19 Jun 25	1520	GW	X									10.92	1692	8.57	2.48	~~Flouride~~ Fluoride
013	2023-1	MJ Jun 25	0924	GW	X									14.23	2060	8.27	10.53	
																		(A) CC 20 Jun 25

Comments: 4 wks to 20 Jun 25

	Relinquished By		Sample Condition		Received By	
	Name	Date/Time	Location	Temp	Name	Date/Time
1		20 Jun 25 09 18	Log In Walk In #2	2.0 °C/TM 959 ROC/N	C. Gutt	20 Jun 25 0818
2						

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2015-3
Sampling Personal:	[illegible]

Weather Conditions: Temp: 75 °F Wind: N @ 5-10 Precip: (Sunny) / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES)	NO
Well Labeled?	(YES)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	109.90	ft
Depth to Top of Pump:	130.10	ft
Well Volume:	12.4	liters
		ft
Water Level After Sample:	123.90	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:		
Purge:	10	Sec.
Recover:	20	Sec.
PSI:	100	

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
18 Jun 25	1315	Start of Well Purge									
	1340	9.61	2219	7.95	1.73	141.9	0.56	124.60	500.0	12.5	Clear
	1350	10.31	2220	8.03	0.50	105.9	0.04	Below Pump	500.0	5.0	Clear
		Purged	Dry								
19 Jun 25	1108	Start of	Stabilization	Purge				120.96			
	1113	15.16	2019	8.05	2.92	75.7	0.46	121.36	100.0	0.5	Clear
	1118	14.50	2015	8.09	2.00	72.6	0.34	122.45	100.0	0.5	Clear
	1123	14.61	2044	8.03	1.89	80.5	0.47	123.05	100.0	0.5	Clear
	1128	14.45	2075	7.99	1.66	85.1	0.33	123.46	100.0	0.5	Clear
	1133	14.58	2132	7.98	1.68	89.9	0.32	123.85	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 20.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 Jun 25	1133	14.58	2132	7.98	1.68	89.9	0.32				Clear

Comments:	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Resample 2025
Sample ID: 2015-4
Sampling Personal:

Weather Conditions: Temp: 80 °F Wind: N @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	120.80	ft
Depth to Top of Pump:	132.80	ft
Well Volume:	2.9	liters
		ft
Water Level After Sample:	131.25	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 110 / 15 Sec.
Recover: 20 / 45 Sec.
PSI: 100 / —

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 June 25	1200	Start of Well Purge									
	1215	10.38	2151	8.32	0.07	-138.6	2.39	128.30	500.0	7.5	Clear
	1220	10.37	2180	8.32	0.05	-196.5	1.94	128.84	500.0	2.5	Clear
		Pump	Off								
19 June 25	1008	Start #	Stabilization Purge					126.38			
	1013	12.78	2053	8.16	0.25	-76.2	0.84	127.82	100.0	0.5	Clear
	1018	11.77	2041	8.27	0.24	-44.5	0.93	128.87	100.0	0.5	Clear
	1023	11.93	2047	8.27	0.17	-69.7	1.01	129.91	100.0	0.5	Clear
	1028	11.84	2046	8.29	0.16	-90.5	1.51	130.95	100.0	0.5	Clear
	1033	11.74	2034	8.32	0.11	-91.7	1.35	131.00	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 12.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
19 June 25	1033	11.74	2034	8.32	0.11	-91.7	1.35				Clear

Comments:

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2015-5
Sampling Personal:	[illegible]

Weather Conditions: Temp: 55 °F Wind: W @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		

Casing Diameter:	2"	
Water Level Before Purge:	150.32	ft
Depth to Top of Pump:	166.05	ft
Well Volume:	9.7 ~~70~~	liters
		ft
Water Level After Sample:	153.50	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / ~~10~~ 15 Sec.
Recover: 20 / ~~50~~ 45 Sec.
PSI: 110 / ~~100~~ –

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 June 25	1131	Start of Well Purge									
	1151	9.86	2480	8.15	0.19	21.2	1.32	161.25	500.0	10.0	Clear
	1156	9.49	2524	8.15	0.26	35.0	0.90	Below Pump	500.0	2.5	Clear
		Purged	Dry								
19 June 25	0933	Start of	Stabilization	Purge				149.31			
	0938	12.82	2380	8.11	1.41	11.5	0.24	152.20	100.0	0.5	Clear
	0943	13.50	2380	8.16	1.37	22.0	0.19	152.58	100.0	0.5	Clear
	0948	13.62	2346	8.10	0.43	-4.0	0.00	152.75	100.0	0.5	Clear
	0953	13.53	2339	8.22	0.35	-8.1	0.00	153.02	100.0	0.5	Clear
	0958	13.59	2339	8.23	0.36	-10.6	0.00	153.30	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 15.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 June 25	0958	13.59	2339	8.23	0.36	-10.6	0.00				Clear

Comments:	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2016-1
Sampling Personal:	

Weather Conditions: Temp: 70 °F Wind: NW 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	127.55	ft
Depth to Top of Pump:	146.18	ft
Well Volume:	12.2	liters
		ft
Water Level After Sample:	132.50	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:	
Purge: 10	Sec.
Recover: 20	Sec.
PSI: 100	

Bottle List:
1 Liter Raw

Duplicate Sample?
YES NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 Jun 25	1226	Start of Well Purge									
	1300	10.34	1781	8.49	0.15	~127.2	0.40	142.32	500.0	16.0	Clear
	1310	10.67	1816	8.61	0.31	-97.1	3.65	Below Pump	500.0	5.0	Clear
		Purged	Dry								
19 Jun 25	1040	Start at Stabilization Purge						129.55			
	1045	12.93	1705	8.52	1.31	21.4	1.55	129.60	100.0	0.5	Clear
	1050	13.09	1665	8.50	1.16	40.4	1.93	130.95	100.0	0.5	Clear
	1055	13.10	1694	8.50	1.06	34.8	1.81	131.65	100.0	0.5	Clear
	1100	13.20	1682	8.49	1.18	33.5	1.90	132.30	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 23.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
19 Jun 25	1100	13.20	1682	8.49	1.18	33.5	1.90				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2018-1
Sampling Personal:	

Weather Conditions: Temp: 70 °F Wind: N @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	174.23	ft
Depth to Top of Pump:	186.35	ft
Well Volume:	7.5	liters
		ft
Water Level After Sample:	183.00	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:			
Purge:	10 / 10	Sec.	
Recover:	20 / 50	Sec.	
PSI:	110 / 100		

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:
Dup 1

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 June 25	1007	Start of Well Purge									
	1054	10.16	2523	8.29	0.06	-176.4	0.00	184.75	500.0	25.0	Clear
	1102	11.95	2525	8.28	0.07	-177.0	0.00	184.30	100.0	0.5	Clear
	1107	12.61	2504	8.27	0.06	-167.2	0.00	183.90	100.0	0.5	Clear
	1112	12.54	2493	8.27	0.06	-165.5	0.00	183.62	100.0	0.5	Clear
	1117	12.39	2539	8.27	0.06	-160.8	0.00	183.30	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 27.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
18 June 25	1117	12.39	2539	8.27	0.06	-160.8	0.00				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	95-4
Sampling Personal:	

Weather Conditions: Temp: 75 °F Wind: E @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES)	NO
Well Labeled?	(YES)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	92.60	ft
Depth to Top of Pump:	141.60	ft
Well Volume:	30.5	liters
		ft
Water Level After Sample:		ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:
Purge: 10 / 70 Sec.
Recover: 20 / 50 Sec.
PSI: 80 / 80

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
19 Jun 25	1145	Start of Well Purge									
	1505	9.73	1711	8.58	0.47	-134.8	2.45	108.54	500.0	100.0	Clear
	1510	10.52	1707	8.57	0.49	-136.4	2.05	107.55	100.0	0.5	Clear
	1515	10.41	1711	8.57	0.46	-138.9	2.02	105.89	100.0	0.5	Clear
	1520	10.42	1692	8.57	0.39	-142.3	2.05	105.62	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 101.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 Jun 25	1520	10.42	1692	8.57	0.39	-142.3	2.05				Clear

Comments: 141.60 - 92.60 = 49.2 x 2 = 98.4 ÷ 0.5 = 196.8 min

MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2023-1
Sampling Personal:	[illegible]

Weather Conditions: Temp: 60 °F Wind: N @ 5-10 Precip: Sunny / (Partly Cloudy) / Cloudy

WELL INFORMATION

Well Locked?	YES	(NO)
Well Labeled?	(YES)	NO
Repairs Necessary?		

Casing Diameter:	2"	
Water Level Before Purge:	207.28	ft
Depth to Top of Pump:	228.40	ft
Well Volume:	12.6	liters
		ft
Water Level After Sample:	214.35	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:		
Purge:	10 / 10	Sec.
Recover:	20 / 50	Sec.
PSI:	120 / 110	

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 Jun 25	0910	Start of Well Purge									
	0950	12.85	2044	8.08	0.14	-56.9	32.04	222.60	500.0	15.0	Clear
	1000	10.12	2143	8.29	0.14	-85.4	27.92	Below Pump	500.0	5.0	Clear
		Purged	Dry								
19 Jun 25	0844	Start of Stabilization Purge						209.20			
	0849	14.91	2132	8.23	1.37	-123.0	27.60	210.15	100.0	0.5	Clear / waited for turbidity to decrease
	0909	14.14	2064	8.28	0.13	-146.9	16.60	213.20	100.0	2.0	Clear
	0914	14.30	2053	8.27	0.18	-149.2	11.35	213.45	100.0	0.5	Clear
	0919	14.00	2052	8.27	0.16	-148.6	11.29	212.80	100.0	0.5	Clear
	0924	14.23	2060	8.27	0.15	-142.7	10.53	214.60	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 24.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 Jun 25	0924	14.23	2060	8.27	0.15	-142.7	10.53				

Comments:	Collected Field Blank (FB) @ 0852

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Resample 2025
Sample ID: 2015-2
Sampling Personal: JTM

Weather Conditions: Temp: 60 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	128.14	ft
Depth to Top of Pump:	142.95	ft
Well Volume:	9.0	liters
		ft
Water Level After Sample:	138.55	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 15 Sec.
Recover: 20 / 97 Sec.
PSI: 100 / –

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 June 25	0730	Start of Well Purge									
	0746	9.90	1900	8.23	1.06	204.4	0.34	138.25	500.0	9.0	Clear
	0753	9.75	1906	8.18	1.27	198.5	2.01	Below Pump	500.0	2.5	Clear
		Purged	Dry								
	0744	Start of Stabilization			Purge			136.00			
19 June 25	0754	13.26	2091	8.28	3.77	202.5	0.27	137.00	100.0	1.0	Clear
	0759	13.38	2079	8.26	3.13	200.7	0.004	137.25	100.0	30.5	Clear
	0804	13.95	2062	8.26	2.58	185.8	0.03	137.50	100.0	0.5	Clear
	0809	13.99	2094	8.26	2.10	178.4	0.00	137.75	100.0	0.5	Clear
	0814	14.05	2057	8.25	1.60	175.9	0.03	137.90	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 11.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 June 25	0814	14.05	2057	8.25	1.60	175.9	0.03				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2015-1
Sampling Personal:	JM

Weather Conditions: Temp: 60 °F Wind: N/S @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	134.05	ft
Depth to Top of Pump:	191.95	ft
Well Volume:	35.6	liters
		ft
Water Level After Sample:	187.08	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:		
Purge: 10 / 20	Sec.	
Recover: 20 / 40	Sec.	
PSI: 110 / —		

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
18 June 25	0756	Start of Well Purge									
	0911	11.41	1939	8.31	1.57	159.4	0.33	Below Pump	500	37.5	
		Pump Off									
	0836	Start of Sampling Purge						183.75			
19 June 25	0846	12.48	2058	8.27	4.39	212.1	0.47	184.55	100.0	1.0	Clear
	0851	12.95	2056	8.28	4.23	212.0	0.51	184.86	100.0	0.5	Clear
	0856	16.25	2038	8.30	4.08	212.3	1.45	185.22	100.0	0.5	Clear
	0901	15.96	2035	8.33	3.29	199.8	0.817	185.72	100.0	0.5	Clear
	0906	16.32	2053	8.33	2.75	193.3	0.60	186.10	100.0	0.5	Clear
	0911	16.42	2017	8.34	2.21	191.8	1.47	186.37	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 37.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 June 25	0911	16.42	2017	8.34	2.21	191.8	1.47				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2018 - 2
Sampling Personal:	Ethan Gress

Weather Conditions: Temp: 65 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES)	NO
Well Labeled?	(YES)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	152.45	ft
Depth to Top of Pump:	199.40	ft
Well Volume:	28.9	liters
		ft
Water Level After Sample:		ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:		
Purge:	10 / 5	Sec.
Recover:	20 / 10	Sec.
PSI:	120 / 120	

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
19 June 25	0948	Start of Well Purge							500.0	Purge	
	1130	22.46	2149	8.19	2.43	100.3	0.220	152.70	100.0	40.0	clear
	1135	22.36	2136	8.18	2.48	101.8	0.30	152.76	100.0	0.5	clear
	1140	22.30	2137	8.19	2.42	101.2	0.37	152.7	100.0	0.5	clear
	1146	22.36	2137	8.18	2.40	106.9	0.40	152.7	100.0	0.5	clear

Well Stabilized? YES NO Total Volume Purged: _____ Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 June 25	1145	ISSUE WITH BLADDER PUMP NO SAMPLE									

Comments: Issue with bladder pump. Unable to purge complete volume of 99.0 L at 0.5 L per min. Changed to 0.1 L per min after taking reading at 1130

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	9275
Sampling Personal:	Ethan Gross

Weather Conditions: Temp: 80 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	90.82	ft
Depth to Top of Pump:	199.50	ft
Well Volume:	56.1	liters
		ft
Water Level After Sample:		ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:	
Purge: 7 / 4	Sec.
Recover: 23/56	Sec.
PSI: 100	

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level (ft)	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0		mL/Min		clear, slightly turbid, turbid
	1215	Start of Well Purge									
19 Jun 25	1610	9.65	1866	8.59	0.08	-179.3	0.00	105.73	100.0	117.5	Clear
	1615	9.88	1945	8.59	0.08	-179.2	0.12	105.80	100.0	0.5	Clear
	1620	14.72	1988	8.52	0.19	-176.1	0.06	105.83	100.0	0.5	Clear
	1625	16.04	1993	8.46	0.19	-169.3	0.00	102.00	100.0	0.5	Clear
	1630	16.35	1888	8.44	0.21	-166.0	0.00	102.00	100.0	0.5	Clear
	1635	16.47	1897	8.41	0.23	-161.2	0.00	102.00	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 120.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
19 Jun 25	1635	16.47	1897	8.41	0.23	-161.2	0.00				Clear

Comments:

Account #: 7048 **Client:** Minnkota Power Cooperative

Sample Condition Checklist

Date: 20Jun25 Time: 1155 Analyst: CC

Work Order #: 96295

Containers Supplied by MVTL: ☒ Yes ☐ No (Designate customer supplied containers as "Other" in container size column)

Comments:

Number of Bottles	Container Size (mL) F-(500) = Filtered	Container Type CG = Clear Glass, P = Plastic, AG = Amber Glass	Preservation	pH	Sample IDs Preservation reagent added Date/Time Analyst	Unique ID of preservation reagent added	Sample pH after preservation	Required for HNO_3 samples only (24 hours later) Sample ID pH Recheck Result Date/Time/Analyst
12	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	Oil and grease	(CG) (P) (AG) Other	HCl	n/a				
	TOC Vials	(G) (AG)	H_3PO_4	n/a				
	DOC Vials	(G) (AG)	None H_3PO_4	n/a				

(First row: 1000, P and NONE circled.)

*All samples requiring analyses performed outside of the Bismarck laboratory (New Ulm and Sub-Contract) are not documented on this form.
*All samples requiring microbiological tests are not documented on this form.

Form #80-910025-2 M:\Documents\FORMS\Approved Templates\Bismarck\Water\80-910025-2 Sample Condition Checklist Page 1 of 1 Effective Date: 1 July 2024

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative
Workorder: Minnkota - CCWDF (95385) **PO:** 251157 Line 6

Joe Grosz
Minnkota Power Cooperative
Milton R. Young Station
3401 24th St. SW
Center, ND 58530

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.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 95385001 **Date Collected:** 08/11/2025 16:49 **Matrix:** Groundwater
Sample ID: 2018-2 **Date Received:** 08/11/2025 18:00 **Collector:** MVTL Field Service

Temp @ Receipt (C): 7.0 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: SM4500-F-C-2021							
Fluoride	**1.43**	mg/L	0.1	1		08/12/2025 14:47	*

Analysis Results Comments

Fluoride

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

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

QC Results Summary

WO #: 95385

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 (%)
CCV-F			0.24	100.0		82.83	111.37		
LFB-F			0.5	96.0		90	110		
LFB-F			0.5	96.0		90	110		
MB-F		<0.1							
MB-F		<0.1							
MS/MSD	95385001		0.5	114.0	118.0	80	120	5.8	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Minnkota Power Cooperati
WO: 95385

Chain of Custody Record

Report To: Minnkota Power Cooperative
Attn: Joseph Grosz
Address: 3401 24th St SW
Center, ND 58530
Phone:
Email: jgrosz@minnkota.com

CC:

Project Name: Minnkota - CCWDF
Event:
Sampled By: Ethan Gross

Sample Information					Sample Containers									Field Readings				
Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4	TOC (set of 3)					Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
061	2018-2	11 Aug 25	1649	GW	X									16.25	2065	8.33	0.00	Fluoride cc 13 Aug 29

Comments:

Relinquished By			Sample Condition		Received By	
	Name	Date/Time	Location	Temp	Name	Date/Time
1		11 Aug 25 1600	Log In / Walk In	7.0 °C/TM 805 RON ON		12 Aug 25 0830
2						

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Resample 2025
Sample ID:	2018-2
Sampling Personal:	Ethan Cress

Weather Conditions: Temp: 78 °F Wind: NW @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES)	NO
Well Labeled?	(YES)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	132.90	ft
Depth to Top of Pump:	199.40	ft
Well Volume:	28.9	liters
		ft
Water Level After Sample:		ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:
Purge: ~~10~~ ~~5~~ ~~40~~ Sec: ~~0~~ 10
Recover: ~~20~~ ~~5~~ ~~360~~ Sec: ~~0~~ 20
PSI: ~~120~~ 100

Bottle List:
1 Liter Raw

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ext.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
	1550	Start of Well Purge							300.0	18.9	
	~~1624~~								~~300.0~~	~~29.2~~	Clear
11 Aug 25	~~1638~~	11.86	2091	8.39	0.00	-149.1	0.00	139.72	~~500.0~~	~~39.0~~	~~Clear~~ Clear
	1629	11.68	2056	8.39	0.00	-155.0	0.00	139.91	~~300.0~~ 500.0	0.5	Clear
	1634	12.91	2067	8.35	0.00	-156.0	0.00	139.00	100.0	0.5	Clear
	1639	12.99	2068	8.33	0.00	-150.8	0.00	154.09	100.0	0.5	Clear
	1644	15.13	2071	8.32	0.01	-130.8	0.00	154.10	100.0	0.5	Clear
	1649	15.35	2065	8.33	0.01	-121.8	0.00		100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: ~~96.2~~ Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ext.
11 Aug 25	1649	15.35	2065	8.33	0.01	-121.8	0.00				Clear

Comments: Purge and Recover Settings were Purge: 10 and Recover 20
First reading at ~~1658~~ 1624*
Changed pumping rate at 1454 to 500.0 mL/min

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Sample Condition Checklist

Date: 12 Aug 25 Time: 0849 Analyst: PW

Work Order #: 95385

Containers Supplied by MVTL: ☒ Yes ☐ No (Designate customer supplied containers as "Other" in container size column)

Comments:

Number of Bottles	Container Size (mL) F-(500) = Filtered	Container Type CG = Clear Glass, P = Plastic, AG = Amber Glass	Preservation	pH	Sample IDs Preservation reagent added Date/Time Analyst	Unique ID of preservation reagent added	Sample pH after preservation	Required for HNO_3 samples only (24 hours later) Sample ID pH Recheck Result Date/Time/Analyst
1	(125) (250) (500) F-(500) ((1000)) Other	(CG) ((P)) (AG) Other	(NONE) HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	Oil and grease	(CG) (P) (AG) Other	HCl	n/a				
	TOC Vials	(G) (AG)	H_3PO_4	n/a				
	DOC Vials	(G) (AG)	None H_3PO_4	n/a				

*All samples requiring analyses performed outside of the Bismarck laboratory (New Ulm and Sub-Contract) are not documented on this form.
*All samples requiring microbiological tests are not documented on this form.

Form #BD-910025-2 M:\Documents\FORMS\Approved Templates\Bismarck\Water\BD-910025-2 Sample Condition Checklist Page 1 of 1 Effective Date : 1 July 2024

Report Date: Thursday, August 14, 2025 1:57:15 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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative
Workorder: Minnkota - CCWDF (101774) **PO:** 251157 Line 6

Joe Grosz
Minnkota Power Cooperative
Milton R. Young Station
3401 24th St. SW
Center, ND 58530

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.

For each sample submitted: a portion of the unpreserved sample was filtered in the laboratory and then preserved as necessary. This filtered, preserved sample was used for the analysis of any dissolved parameters.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774001 **Date Collected:** 09/24/2025 **Matrix:** Groundwater
Sample ID: Field Blank 1 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	<5	mg/L	5	1		10/01/2025 08:48	
Method: EPA 6010D							
Boron	<0.1	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:06	
Calcium	<1	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:03	
Method: SM4500 H+ B-2021							
pH	**6.0**	units	0.1	1		09/25/2025 15:27	*
Method: SM4500-Cl-E 2021							
Chloride	<2.0	mg/L	2.0	1		09/30/2025 09:44	
Method: SM4500-F-C-2021							
Fluoride	<0.1	mg/L	0.1	1		09/25/2025 15:27	
Method: USGS I-1750-85							
Total Dissolved Solids	<10	mg/L	10	1		09/26/2025 15:06	

Sample Comments

Time sampled was not supplied by the client.

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774002 **Date Collected:** 09/23/2025 **Matrix:** Groundwater
Sample ID: Dup1 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**358**	mg/L	25	5		10/01/2025 09:01	
Method: EPA 6010D							
Boron	**0.48**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:07	
Calcium	**3.70**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:09	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 15:43	*
Method: SM4500-Cl-E 2021							
Chloride	**4.5**	mg/L	2.0	1		09/30/2025 09:46	
Method: SM4500-F-C-2021							
Fluoride	**2.03**	mg/L	0.1	1		09/25/2025 15:43	
Method: USGS I-1750-85							
Total Dissolved Solids	**1700**	mg/L	10	1		09/26/2025 15:06	

Sample Comments

Time sampled was not supplied by the client.

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774003 **Date Collected:** 09/23/2025 08:46 **Matrix:** Groundwater
Sample ID: 15-01 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**263**	mg/L	5	1		10/01/2025 08:50	
Method: EPA 6010D							
Boron	**0.42**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:08	
Calcium	**2.61**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:10	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 16:02	*
Method: SM4500-Cl-E 2021							
Chloride	**2.3**	mg/L	2.0	1		09/30/2025 09:47	
Method: SM4500-F-C-2021							
Fluoride	**2.62**	mg/L	0.1	1		09/25/2025 16:02	
Method: USGS I-1750-85							
Total Dissolved Solids	**1250**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774004 **Date Collected:** 09/23/2025 07:59 **Matrix:** Groundwater
Sample ID: 15-02 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**247**	mg/L	5	1		10/01/2025 08:51	
Method: EPA 6010D							
Boron	**0.46**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:08	
Calcium	**3.99**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:11	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 16:21	*
Method: SM4500-Cl-E 2021							
Chloride	**2.5**	mg/L	2.0	1		09/30/2025 09:48	
Method: SM4500-F-C-2021							
Fluoride	**1.92**	mg/L	0.1	1		09/25/2025 16:21	
Method: USGS I-1750-85							
Total Dissolved Solids	**1340**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774005 **Date Collected:** 09/23/2025 11:49 **Matrix:** Groundwater
Sample ID: 15-03 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**81.3**	mg/L	5	1		10/01/2025 08:52	
Method: EPA 6010D							
Boron	**0.47**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:10	
Calcium	**3.78**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:12	
Method: SM4500 H+ B-2021							
pH	**8.2**	units	0.1	1		09/25/2025 16:40	*
Method: SM4500-Cl-E 2021							
Chloride	**5.1**	mg/L	2.0	1		09/30/2025 09:49	
Method: SM4500-F-C-2021							
Fluoride	**1.92**	mg/L	0.1	1		09/25/2025 16:40	
Method: USGS I-1750-85							
Total Dissolved Solids	**1470**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774006 **Date Collected:** 09/23/2025 10:20 **Matrix:** Groundwater
Sample ID: 15-04 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**82.6**	mg/L	5	1		10/01/2025 08:53	
Method: EPA 6010D							
Boron	**0.48**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:11	
Calcium	**2.99**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:13	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 16:57	*
Method: SM4500-Cl-E 2021							
Chloride	**5.4**	mg/L	2.0	1		09/30/2025 09:50	
Method: SM4500-F-C-2021							
Fluoride	**2.09**	mg/L	0.1	1		09/25/2025 16:57	
Method: USGS I-1750-85							
Total Dissolved Solids	**1410**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774007 **Date Collected:** 09/23/2025 09:38 **Matrix:** Groundwater
Sample ID: 15-05 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**339**	mg/L	25	5		10/01/2025 08:54	
Method: EPA 6010D							
Boron	**0.48**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:12	
Calcium	**4.08**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:14	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 17:16	*
Method: SM4500-Cl-E 2021							
Chloride	**3.4**	mg/L	2.0	1		09/30/2025 09:59	
Method: SM4500-F-C-2021							
Fluoride	**2.10**	mg/L	0.1	1		09/25/2025 17:16	
Method: USGS I-1750-85							
Total Dissolved Solids	**1600**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774008 **Date Collected:** 09/23/2025 11:02 **Matrix:** Groundwater
Sample ID: 16-01 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**134**	mg/L	5	1		10/01/2025 08:55	
Method: EPA 6010D							
Boron	**0.47**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:13	
Calcium	**2.80**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:15	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		09/25/2025 17:35	*
Method: SM4500-Cl-E 2021							
Chloride	**4.0**	mg/L	2.0	1		09/30/2025 10:00	
Method: SM4500-F-C-2021							
Fluoride	**2.46**	mg/L	0.1	1		09/25/2025 17:35	
Method: USGS I-1750-85							
Total Dissolved Solids	**1210**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774009 **Date Collected:** 09/23/2025 14:35 **Matrix:** Groundwater
Sample ID: 18-01 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**348**	mg/L	25	5		10/01/2025 08:57	
Method: EPA 6010D							
Boron	**0.48**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:13	
Calcium	**3.79**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:17	
Method: SM4500 H+ B-2021							
pH	**8.4**	units	0.1	1		09/25/2025 19:50	*
Method: SM4500-Cl-E 2021							
Chloride	**4.3**	mg/L	2.0	1		09/30/2025 10:01	
Method: SM4500-F-C-2021							
Fluoride	**2.08**	mg/L	0.1	1		09/25/2025 19:50	
Method: USGS I-1750-85							
Total Dissolved Solids	**1670**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774010 **Date Collected:** 09/22/2025 12:40 **Matrix:** Groundwater
Sample ID: 18-02 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**187**	mg/L	5	1		10/01/2025 08:58	
Method: EPA 6010D							
Boron	**0.42**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:16	
Calcium	**2.94**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:18	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		09/25/2025 20:08	*
Method: SM4500-Cl-E 2021							
Chloride	**7.9**	mg/L	2.0	1		09/30/2025 10:02	
Method: SM4500-F-C-2021							
Fluoride	**1.65**	mg/L	0.1	1		09/25/2025 20:08	
Method: USGS I-1750-85							
Total Dissolved Solids	**1330**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774011 **Date Collected:** 09/24/2025 11:15 **Matrix:** Groundwater
Sample ID: 92-3 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**120**	mg/L	5	1		10/01/2025 09:09	
Method: EPA 6010D							
Boron	**0.45**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:16	
Calcium	**2.49**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:19	
Method: SM4500 H+ B-2021							
pH	**8.6**	units	0.1	1		09/25/2025 20:27	*
Method: SM4500-Cl-E 2021							
Chloride	**6.3**	mg/L	2.0	1		09/30/2025 10:03	
Method: SM4500-F-C-2021							
Fluoride	**1.69**	mg/L	0.1	1		09/25/2025 20:27	
Method: USGS I-1750-85							
Total Dissolved Solids	**1190**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774012 **Date Collected:** 09/24/2025 16:08 **Matrix:** Groundwater
Sample ID: 95-4 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**113**	mg/L	5	1		10/01/2025 09:10	
Method: EPA 6010D							
Boron	**0.43**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:17	
Calcium	**2.17**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:25	
Method: SM4500 H+ B-2021							
pH	**8.6**	units	0.1	1		09/25/2025 20:46	*
Method: SM4500-Cl-E 2021							
Chloride	**5.4**	mg/L	2.0	1		09/30/2025 10:04	
Method: SM4500-F-C-2021							
Fluoride	**1.20**	mg/L	0.1	1		09/25/2025 20:46	
Method: USGS I-1750-85							
Total Dissolved Solids	**1120**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 101774013 **Date Collected:** 09/24/2025 12:15 **Matrix:** Groundwater
Sample ID: 2023-1 **Date Received:** 09/24/2025 17:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 4.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: ASTM D516-16							
Sulfate	**89.3**	mg/L	5	1		10/01/2025 09:11	
Method: EPA 6010D							
Boron	**0.49**	mg/L	0.1	1	09/25/2025 16:47	10/09/2025 11:19	
Calcium	**4.28**	mg/L	1	1	09/25/2025 16:47	09/26/2025 13:32	
Method: SM4500 H+ B-2021							
pH	**8.5**	units	0.1	1		09/25/2025 21:05	*
Method: SM4500-Cl-E 2021							
Chloride	**17.6**	mg/L	2.0	1		09/30/2025 10:06	
Method: SM4500-F-C-2021							
Fluoride	**2.01**	mg/L	0.1	1		09/25/2025 21:05	
Method: USGS I-1750-85							
Total Dissolved Solids	**1490**	mg/L	10	1		09/26/2025 15:06	

Analysis Results Comments

Nitrate + Nitrite as N

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

pH

Sample analyzed beyond holding time.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

QC Results Summary

WO #: 101774

Sulfate Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB			100	103.0		85	115		
LFB			100	100.0		85	115		
LFB			100	94.0		85	115		
LFB			100	98.8		85	115		
LFB			100	92.4		85	115		
LFB			100	90.8		85	115		
LFB			100	90.8		85	115		
LFB			100	89.7		85	115		
LFB			100	89.8		85	115		
LFB			100	91.3		85	115		
LFB			100	89.8		85	115		
LFB			100	101.0		85	115		
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MB		<5							
MS/MSD	101177004		100	80.1	82.8	85	115	3.9	20
MS/MSD	101773002		100	86.9	88.0	85	115	2.0	20
MS/MSD	101774010		100	108.9	105.2	85	115	3.1	20
MS/MSD	101788001		1000	97.1	90.1	85	115	3.1	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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	[illegible]		100	71.0	69.6	85	115	2.0	20
MS/MSD	[illegible]		4000	101.1	91.7	85	115	4.1	20
MS/MSD	[illegible]		1000	86.4	86.7	85	115	0.0	20
MS/MSD	[illegible]		1000	83.4	82.1	85	115	0.1	20
MS/MSD	[illegible]		100	92.7	91.2	85	115	1.8	20
MS/MSD	[illegible]		1000	82.7	85.8	85	115	1.6	20
MS/MSD	[illegible]		1000	101.5	96.1	85	115	1.8	20

Nitrate + Nitrite as N 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			0.5	100.0		90	110		
LFB			0.5	90.0		90	110		
LFB			0.5	98.0		90	110		
LFB			0.5	98.0		90	110		
LFB			0.5	98.0		90	110		
LFB			0.5	99.0		90	110		
LFB			0.5	100.0		90	110		
LFB			0.5	100.0		90	110		
LFB			0.5	94.0		90	110		
MS/MSD	[illegible]		1	70.0	71.0	90	110	1.4	20
MS/MSD	[illegible]		1	75.0	74.0	90	110	0.9	20
MS/MSD	[illegible]		1	93.0	93.0	90	110	0.0	20
MS/MSD	[illegible]		1	107.0	108.0	90	110	0.9	20
MS/MSD	[illegible]		1	91.0	91.0	90	110	0.0	20
MS/MSD	[illegible]		1	98.0	98.0	90	110	0.0	20
MS/MSD	[illegible]		1	98.0	98.0	90	110	0.0	20
MS/MSD	[illegible]		1	86.0	87.0	90	110	1.2	20

Phosphorus as P 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			0.5	96.0		90	110		
LFB			0.5	100.0		90	110		
MB		<0.2							

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Phosphorus as P — 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		<0.2							
MS/MSD	101767001		1	117.0	114.0	90	110	0.9	20
MS/MSD	101774010		1	109.0	107.0	90	110	1.5	20
MS/MSD	101844001		1	110.0	110.0	90	110	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	98.2		90	110		
LFB			30	98.9		90	110		
LFB			30	98.7		90	110		
LFB			30	98.2		90	110		
LFB			30	98.0		90	110		
LFB			30	98.0		90	110		
LFB			30	97.4		90	110		
LFB			30	97.0		90	110		
LFB			30	97.2		90	110		
LFB			30	96.3		90	110		
LFB			30	96.1		90	110		
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MB		<2.0							
MS/MSD	101577007		30	95.1	94.7	80	120	0.3	20
MS/MSD	101774006		30	100.3	99.5	80	120	0.6	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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 (%)
MS/MSD	101921003		30	102.3	91.4	80	120	2.1	20
MS/MSD	101926009		30	99.0	98.3	80	120	0.6	20
MS/MSD	102078001		30	96.6	96.0	80	120	0.4	20

Boron				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	93.5		85	115		
LFB-OE			0.4	94.9		85	115		
MB		<0.1							
MB		<0.1							
MS/MSD	101774004		0.4	87.6	88.6	75	125	0.5	20
MS/MSD	101774013		0.4	94.6	95.6	75	125	0.5	20

Boron, Dissolved				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-OE			0.4	93.5		85	115		
LFB-OE			0.4	94.9		85	115		
MB		<0.1							
MB		<0.1							
SPK/SPKD	101351001		2	80.8	82.6	75	125	0.7	20
SPK/SPKD	101929019		0.4	84.8	87.0	75	125	2.5	20
SPK/SPKD	102347007		2	84.5	82.6	75	125	1.3	20

Calcium				Units: mg/L					
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MI			100	109.0		85	115		
LFB-MI			100	105.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	100987001		100	96.5	96.1	75	125	0.3	20
PDS/PDSD	101569001		100	98.2	98.3	75	125	0.1	20
PDS/PDSD	101576003		100	91.3	92.2	75	125	0.5	20
DUP	101761002							1.1	20
PDS/PDSD	101774001		100	101.0	100.0	75	125	0.3	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota 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/PDSD	101774011		100	98.4	97.9	75	125	0.5	20
DUP	101774012							1.8	20
DUP	101799003							0.4	20
PDS/PDSD	101844001		100	88.0	86.9	75	125	0.5	20

Iron, Dissolved				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 (%)
FB		<0.1							
FB		<0.1							
LFB-OE			0.4	104.0		85	115		
LFB-OE			0.4	105.0		85	115		
MB		<0.1							
MB		<0.1							
SPK/SPKD	101352002		10	97.9	96.6	75	125	0.8	20
SPK/SPKD	101774001		0.4	97.6	97.9	75	125	0.3	20
SPK/SPKD	101921002		2	80.7	78.1	75	125	1.3	20
SPK/SPKD	101922001		2	92.5	93.1	75	125	0.7	20
SPK/SPKD	101929001		0.4	108.0	105.0	75	125	2.8	20
SPK/SPKD	101929013		0.4	89.0	88.5	75	125	0.6	20
SPK/SPKD	101929019		0.4	97.9	98.2	75	125	0.3	20

Magnesium				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	109.0		85	115		
LFB-MI			100	105.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	100987001		100	99.4	99.2	75	125	0.2	20
PDS/PDSD	101569001		100	97.9	98.1	75	125	0.1	20
PDS/PDSD	101576003		100	86.7	87.8	75	125	0.4	20
DUP	101761002							1.4	20
PDS/PDSD	101774001		100	100.0	100.0	75	125	0.3	20
PDS/PDSD	101774011		100	97.7	97.5	75	125	0.2	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Magnesium — 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 (%)
DUP	101774012							0.8	20
DUP	101799003							0.6	20
PDS/PDSD	101844001		100	82.1	80.0	75	125	0.7	20

Manganese, Dissolved — 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 (%)
FB		<0.05							
FB		<0.05							
LFB-OE			0.4	106.0		85	115		
LFB-OE			0.4	108.0		85	115		
MB		<0.05							
MB		<0.05							
SPK/SPKD	101352002		0.4	83.9	87.6	75	125	2.4	20
SPK/SPKD	101352002		10	100.0	99.5	75	125	0.7	20
SPK/SPKD	101774001		0.4	98.0	98.0	75	125	0.0	20
SPK/SPKD	101921002		0.4	80.6	80.3	75	125	0.3	20
SPK/SPKD	101921002		2	86.2	84.8	75	125	1.5	20
SPK/SPKD	101922001		2	90.3	90.6	75	125	0.3	20
SPK/SPKD	101929001		0.4	74.2	75.8	75	125	0.6	20
SPK/SPKD	101929013		0.4	85.5	85.0	75	125	0.6	20
SPK/SPKD	101929019		0.4	98.2	98.3	75	125	0.1	20

Potassium — 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	107.0		85	115		
LFB-MI			100	103.0		85	115		
MB		<1							
MB		<1							
PDS/PDSD	100987001		100	99.5	99.3	75	125	0.2	20
PDS/PDSD	101569001		100	99.8	99.4	75	125	0.4	20
PDS/PDSD	101576003		100	96.8	97.4	75	125	0.5	20
DUP	101761002							2.3	20
PDS/PDSD	101774001		100	98.3	98.3	75	125	0.0	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Potassium 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 (%)
[illegible]									

Sodium 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 (%)
[illegible]									

Arsenic, Dissolved 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 (%)
[illegible]									

Barium, Dissolved 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 (%)
[illegible]									

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Barium, Dissolved 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							
MB		<0.002							
SPK/SPKD	101774001		0.1	103.0	106.0	75	125	3.5	20
SPK/SPKD	101777001		2	112.0	102.0	75	125	7.4	20

Beryllium, Dissolved 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	116.0		80	120		
LFB-MS			0.1	106.0		80	120		
MB		<0.0005							
MB		<0.0005							
SPK/SPKD	101774001		0.1	91.4	93.8	75	125	2.6	20
SPK/SPKD	101777001		2	94.4	94.3	75	125	0.1	20

Cadmium, Dissolved Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	94.5		80	120		
LFB-MS			0.1	86.2		80	120		
MB		<0.0005							
MB		<0.0005							
SPK/SPKD	101774001		0.1	99.5	99.0	75	125	0.5	20
SPK/SPKD	101777001		2	90.3	95.7	75	125	5.9	20

Chromium, Dissolved Units: mg/L

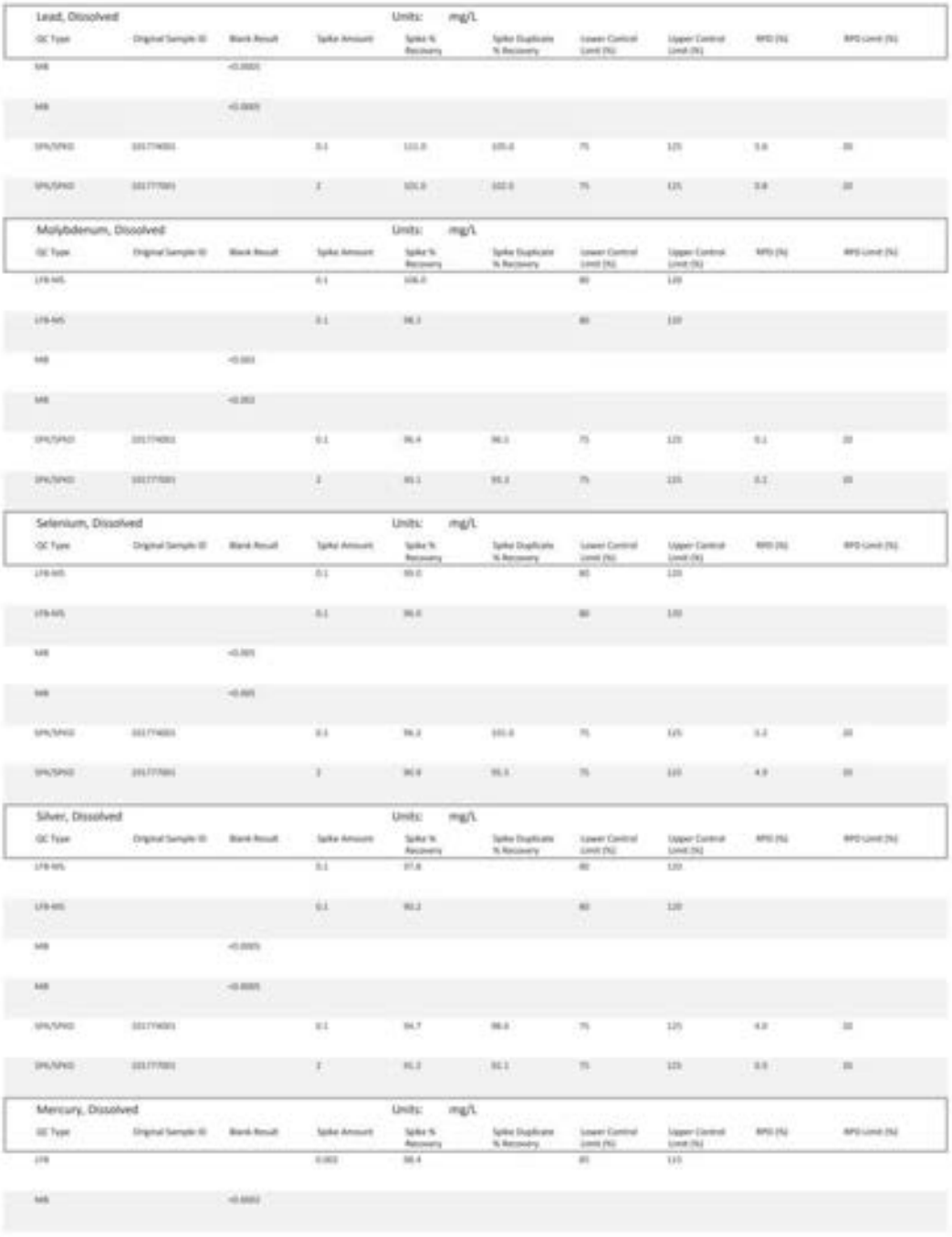
QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	106.0		80	120		
LFB-MS			0.1	107.0		80	120		
MB		<0.002							
MB		<0.002							
SPK/SPKD	101774001		0.1	91.7	94.8	75	125	3.3	20
SPK/SPKD	101777001		2	96.0	93.4	75	125	2.9	20

Lead, Dissolved Units: mg/L

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
LFB-MS			0.1	102.0		80	120		
LFB-MS			0.1	99.6		80	120		

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative



Lead, Dissolved 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									
MB									
SPK/SPKD									
SPK/SPKD									

Molybdenum, Dissolved 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-WS									
LFB-WS									
MB									
MB									
SPK/SPKD									
SPK/SPKD									

Selenium, Dissolved 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-WS									
LFB-WS									
MB									
MB									
SPK/SPKD									
SPK/SPKD									

Silver, Dissolved 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-WS									
LFB-WS									
MB									
MB									
SPK/SPKD									
SPK/SPKD									

Mercury, Dissolved 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									
MB									

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Mercury, Dissolved 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	101351001		0.002	82.9	83.4	70	130	0.6	20
MS/MSD	101774013		0.002	104.0	103.0	70	130	0.9	20

Alkalinity, Total 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			100	89.7		80	120		
LFB			400	96.1		90	110		
LFB			400	91.3		90	110		
LFB			400	90.8		90	110		
LFB			400	93.5		90	110		
MB		<20.5							
MB		<20.5							
MB		<20.5							
MB		<20.5							
MS/MSD	101761001		400	86.5	87.0	80	120	0.6	10
MS/MSD	101774001		400	91.6	92.0	80	120	0.4	10
MS/MSD	101774012		400	94.6	94.4	80	120	0.2	10

Specific Conductance Units: umhos/cm

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-C			1413	99.2		95	105		
CRM-C			1413	100.3		95	105		
CRM-C			1413	101.1		95	105		
CRM-C			1413	101.0		95	105		
CRM-C			1413	100.5		95	105		
CRM-C			1413	98.9		95	105		
DUP	101769001							0.0	10
DUP	101775001							0.1	10
DUP	101774010							0.3	10
DUP	101995007							0.4	10

pH Units: units

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-PH			8	99.8					

Report Date: Tuesday, October 14, 2025 2:49:50 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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

pH Units: units

QC Type	Original Sample ID	Blank Result	Spike Amount	Spike % Recovery	Spike Duplicate % Recovery	Lower Control Limit (%)	Upper Control Limit (%)	RPD (%)	RPD Limit (%)
CRM-PH			6	99.5					
CRM-PH			6	99.5					
CRM-PH			6	99.5					
DUP	101768001							0.6	10
DUP	101773001							1.6	10
DUP	101774010							0.5	10

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			1.14	94.3		83.83	111.57		
LFB-F			0.5	102.0		90	110		
LFB-F			0.5	104.0		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	101774007		0.5	102.0	96.0	80	120	2.3	10
MS/MSD-F	101788001		0.5	102.0	94.0	80	120	4.3	10

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		89.16	110.33		
MB		<10							
DUP	101771003							1.0	20
DUP	101774008							3.7	20
DUP	101774013							9.1	20

Total Suspended 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			50	94.7		77.2	105.2		
CRM			50	93.3		77.2	105.2		
MB		<2							
MB		<2							
DUP	101767001							0.0	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Total Suspended 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 (%)
DUP	101774006							0.0	20
DUP	101808001							40.0	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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Minnkota Power Cooperati
WO: 101774

Chain of Custody Record

Report To: Minnkota Power Cooperative
Attn: Joseph Grosz
Address: 3401 24th St SW
Center, ND 58530
Phone:
Email: jgrosz@minnkota.com

CC:

Project Name: Minnkota - CCWDF
Event: Fall 2025
Sampled By:

Lab Number	Sample Information: Sample ID	Date	Time	Sample Type	Sample Containers: 1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4	Field Readings: Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
001	Field Blank 1 (FB1)	24Sep25	NA	GW	X	X	X	X	NA	NA	NA	NA	CCWDF CCR DMP LIST A CCWDF NDDEQ LIST (see attachment)
002	Dup1	23Sep25	NA	GW	X	X	X	X	NA	NA	NA	NA	
003	15-01	23Sep25	0846	GW	X	X	X	X	11.38	1915	8.47	1.07	
004	15-02	23Sep25	0759	GW	X	X	X	X	10.90	1951	8.32	0.59	
005	15-03	23Sep25	1149	GW	X	X	X	X	14.42	2158	8.05	0.07	
006	15-04	23Sep25	1020	GW	X	X	X	X	12.44	2171	8.33	0.99	
007	15-05	23Sep25	0938	GW	X	X	X	X	11.35	2438	8.33	0.90	
008	16-01	23Sep25	1102	GW	X	X	X	X	13.51	1849	8.67	1.34	

Comments:

Relinquished By	Name	Date/Time	Sample Condition: Location	Temp	Received By	Name	Date/Time
1		24Sep25 1740	Log In Walk In	4.5 °C/TM005 RBL Y/N			25Sep25 0805
2							

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Chain of Custody Record

Report To:	Minnkota Power Cooperative	CC:	
Attn:	Joseph Grosz	Project Name:	Minnkota - CCWDF
Address:	3401 24th St SW, Center, ND 58530	Event:	Fall 2025
Phone:		Sampled By:	[signature]
Email:	jgrosz@minnkota.com		

Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4						Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
009	18-01	23 Sept 25	1435	GW	X	X	X	X						11.53	2523	8.31	0.76	
010	18-02	22 Sept 25	1240	GW	X	X	X	X						13.05	2073	8.75	0.02	
011	92-3	24 Sept 25	1115	GW	X	X	X	X						10.89	1848	8.57	0.00	
012	95-4	24 Sept 25	1608	GW	X	X	X	X						12.04	1831	8.59	0.35	CCWDF CCR DMP LIST A
013	2023-1	24 Sept 25	1215	GW	X	X	X	X						12.35	2161	8.31	8.42	CCWDF NDDEQ LIST
																		(see attachment)

Comments:

	Relinquished By: Name	Date/Time	Sample Condition: Location	Temp	Received By: Name	Date/Time
1	[signature]	24 Sep 25 1740	Log In / Walk In #2	4.5 °C/TM 605 ROI Y/N	[signature]	25 Sep 25 0800
2						

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

CCWDF NDDEQ PARAMETER LIST		
Field Temperature	Celsius	
Field pH		SM4500 H+ B
Field Specific Conductivity	Umhos/cm	SM2510-B
Field turbidity	Ntus's	
Laboratory pH		SM4500 H+ B
Laboratory Specific Conductivity	Umhos/cm	SM2510-B
Total Suspended Solids	mg/l	SM2540-D
Total Alkalinity	mg/l CaC03	SM2320-B
Phenolphthalein Alk	mg/l CaC03	SM2320-B
Bicarbonate	mg/l CaC03	SM2320-B
Carbonate	mg/l CaC03	SM2320-B
Hydroxide	mg/l CaC03	SM2320-B
Total Dissolved Solids	mg/l	SM1030-F
Total Hardness as CaC03	mg/l	SM2340-B
Cation Summation	mg/l	SM1030-F
Anion Summation	mg/l	SM1030-F
Percent Error	%	SM1030-F
Fluoride	mg/l	SM4500-F-C
Sulfate	mg/l	ASTM D516-02
Chloride	mg/l	SM4500-Cl-E
Nitrate-Nitrite as N	mg/l	EPA 353.2
Phosphorous as P-Total	mg/l	EPA 365.1
Mercury- - Dissolved	mg/l	EPA 245.1
Calcium-Total	mg/l	6010
Magnesium-Total	mg/l	6010
Sodium-Total	mg/l	6010
Potassium-Total	mg/l	6010
Iron- - Dissolved	mg/l	6010
Manganese- Dissolved	mg/l	6010
Boron- - Dissolved	mg/l	6010
Arsenic- - Dissolved	mg/l	6020
Barium- - Dissolved	mg/l	6020
Cadmium- - Dissolved	mg/l	6020
Chromium- - Dissolved	mg/l	6020
Lead- - Dissolved	mg/l	6020
Molybdenum- - Dissolved	mg/l	6020
Selenium- - Dissolved	mg/l	6020
Silver- - Dissolved	mg/l	6020
Beryllium - - Dissolved	mg/l	6020

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

CCWDF CCR DETECTION MONITORING PARAMETER LIST A		
Laboratory pH		SM4500 H+ B
Total Dissolved Solids	mg/l	SM1030-F
Fluoride	mg/l	SM4500-F-C
Sulfate	mg/l	ASTM D516-02
Chloride	mg/l	SM4500-Cl-E
Calcium-Total	mg/l	6010
Boron - Total	mg/l	6010

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2015-1
Sampling Personal:

Weather Conditions: Temp: 50 °F Wind: N @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	134.10	ft
Depth to Top of Pump:	191.75	ft
Well Volume:	35.5	liters
		ft
Water Level After Sample:	134.10	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 5 / 10 Sec.
Recover: 22 / 50 Sec.
PSI: 120 / 100

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
22 Sept 25	0758	Start of Well Purge									
	11.46	1942	8.43	0.30	96.2	6.60	Below Pump	500.0	36.0	Clear	
		Purged Dry									
	0821	Start of Stabilization Run Pump						186.08			
23 Sept 25	0826	11.62	1963	8.44	2.90	122.5	1.65	—	100.0	0.5	Clear
	0831	11.32	1950	8.46	1.48	116.8	1.08	—	100.0	0.5	Clear
	0836	11.42	1926	8.48	0.82	98.4	0.45	—	100.0	0.5	Clear
	0841	11.36	1930	8.48	0.96	101.2	0.67	—	100.0	0.5	Clear
	0846	11.38	1915	8.47	0.98	103.2	1.07	186.20	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 38.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
23 Sept 25	0846	11.38	1915	8.47	0.98	103.2	1.07				Clear

Comments:

Account #: 7048 **Client:** Minnkota Power Cooperative

Field Datasheet

Groundwater Assessment

2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Company:	Minnkota - CCWDF
Event:	Fall 2025
Sample ID:	2015-2
Sampling Personal:	[signature]

Weather Conditions: Temp: 55 °F Wind: N @ 5-?? Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES) NO
Well Labeled?	(YES) NO
Repairs Necessary?	
Casing Diameter:	2"
Water Level Before Purge:	128.06 ft
Depth to Top of Pump:	142.75 ft
Well Volume:	9.0 liters
	ft
Water Level After Sample:	141.05 ft
Measurement Method:	Electric Water Level Indicator

SAMPLING INFORMATION

Purging Method:	Bladder
Sampling Method:	Bladder
Dedicated Equipment?	(YES) NO

Control Settings:		
Purge:	8 / 13	Sec.
Recover:	22 / 47	Sec.
PSI:	120 / —	

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / (NO)
Duplicate Sample ID:
—

FIELD READINGS

Stabilization Parameters (3 Consecutive) Purge Date	Time	Temp. (°C) ±0.5°	Spec. Cond. ±5%	pH ±0.1	DO (mg/L) ±10%	ORP (mV) ±10	Turbidity (NTU) <5.0	Water Level (ft)	Pumping Rate mL/Min	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
22 Sept 25	0739	Start of Well Purge									
	~~0854~~ 0952	10.27	1985	8.38	0.67	210.0	0.96	Below Pump	500.0	~~[illegible]~~ 10	Clear
		Purged	Dry								
23 Sept 25	0734	Start	of stabilization	Purge				128.46			
	0739	11.61	1921	8.42	1.22	112.5	3.13	138.74	100.0	0.5	Clear
	0744	11.41	1943	8.41	0.74	94.1	2.07	[illegible]	100.0	0.5	Clear
	0749	11.15	1961	8.34	0.29	86.8	0.56	—	100.0	0.5	Clear
	0754	10.97	1985	8.32	0.30	80.5	0.16	—	100.0	0.5	Clear
	0759	10.90	1951	8.32	0.35	81.3	0.59	140.92	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 11.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
23 Sept 25	0759	10.90	1951	8.32	0.35	81.3	0.59				Clear

Comments:	

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2015-3
Sampling Personal: JM

Weather Conditions: Temp: 60 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	109.85	ft
Depth to Top of Pump:	130.10	ft
Well Volume:	12.5	liters
		ft
Water Level After Sample:	123.93	ft
Measurement Method	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 15 Sec.
Recover: 15 Sec.
PSI: 90

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
22 Sept 25	1454	Start of Well Purge									
	1520	11.49	2264	8.00	1.02	118.6	0.03	126.45	500.0	13.0	Clear
	1530	11.63	2234	8.08	0.48	92.9	0.03	Bladder	500.0	5.0	Clear
		Purged Dry									
23 Sept 25	1124	Start of Stabilization Purge						121.18			
	1129	14.74	2151	8.10	3.01	137.5	0.09	—	100	0.5	Clear
	1134	14.25	2153	8.13	2.87	142.5	0.00	—	100.0	0.5	Clear
	1139	14.43	2186	8.10	2.79	145.4	0.15	—	100.0	0.5	Clear
	1144	14.28	2178	8.07	2.82	147.1	1.47	—	100.0	0.5	Clear
	1149	14.42	2158	8.05	2.79	149.3	0.07	123.32	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 20.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
23 Sept 25	1149	14.42	2158	8.05	2.79	149.3	0.07				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2015-4
Sampling Personal:

Weather Conditions: Temp: 60 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	120.78	ft
Depth to Top of Pump:	132.20	ft
Well Volume:	7.4	liters
		ft
Water Level After Sample:	130.82	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 12 Sec.
Recover: 20 / 48 Sec.
PSI: 100 / —

Bottle List:
1 Liter Raw
500ml Nitric
500ml Nitric (filtered)
250ml Sulfuric

Duplicate Sample?
YES (NO)
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect.
											clear, slightly turbid, turbid
22Sept25	1351	Start of Well Purge									
	1355	14.01	2060	8.26	0.42	-49.0	0.69	[illegible]	500.0	7.5	Clear
	1400	Purged Dry									
23 Sept 25	0955	Start	at	Stabilization	Range			127.79			
	1000	12.90	2159	8.23	0.41	87.6	0.01	—	100.0	0.5	Clear
	1005	12.41	2165	8.31	0.45	86.0	0.31	—	100.0	0.5	Clear
	1010	12.63	2180	8.31	0.51	41.5	0.95	—	100.0	0.5	Clear
	1015	12.71	2166	8.32	0.49	37.2	0.33	—	100.0	0.5	Clear
	1020	12.44	2171	8.33	0.45	36.6	0.99	130.70	100.0	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 10.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment
											Clarity, Color, Odor, Ect.
23 Sept 25	1020	12.44	2171	8.33	0.45	36.6	0.99				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2015-S
Sampling Personal:

Weather Conditions: Temp: 60 °F Wind: NW @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	150.28	ft
Depth to Top of Pump:	166.05	ft
Well Volume:	9.2	liters
		ft
Water Level After Sample:	153.35	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 15 Sec.
Recover: 20 / 45 Sec.
PSI: 100 /

Bottle List:
1 Liter Raw
500ml, Nitric
500ml, Nitric (filtered)
250ml, Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
22 Sept 25	1320	Start of Well Purge									
	1340	10.98	2511	8.13	0.40	39.1	0.00	163.05	500.0	10.0	Clear
	1345	11.39	2435	8.15	0.37	32.9	0.99	Below Bar	500.0	2.5	Clear
		Prod	Pump								
23 Sept 25	0917	Start of Stabilization Purge						150.47			
	0918	12.81	2353	8.26	1.65	132.0	0.78	—	100.0	0.5	Clear
	0923	11.25	2497	8.25	3.38	141.2	0.00	—	100.0	0.5	Clear
	0928	11.24	2481	8.31	1.56	123.6	0.19	—	100.0	0.5	Clear
	0933	11.32	2446	8.33	1.42	119.2	0.09	—	100.0	0.5	Clear
	0938	11.35	2438	8.33	1.40	118.7	0.00	153.65	100.0	0.5	Clear

Well Stabilized? YES NO

Total Volume Purged: 15.0 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
23 Sept 25	0938	11.35	2438	8.33	1.40	118.7	0.00				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: Zeke-1
Sampling Personal:

Weather Conditions: Temp: 60°F Wind: NW 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	123.58	ft
Depth to Top of Pump:	148.18	ft
Well Volume:	12.7	liters
		ft
Water Level After Sample:	132.36	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 15 Sec.
Recover: 15 Sec.
PSI: 60

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
22 Sept 25	1420	Start of Well Purge									
	1446	10.91	1823	8.55	0.33	-84.8	0.52	143.60	500.2	13.0	Clear
	1450	11.00	1819	8.32	0.52	-63.5	3.12	Below Pump	500.2	2.0	Clear
		Purged Dry									
23 Sept 25	1042	Start at 5ft above Pump						123.73			
	1047	14.94	1767	8.70	1.81	85.3	2.29	—	140.0	0.5	Clear
	1052	13.61	1850	8.71	1.82	88.1	4.23	—	140.0	0.5	Clear
	1057	13.45	1845	8.69	1.78	89.6	1.25	—	140.0	0.5	Clear
	1102	13.51	1849	8.67	1.77	89.3	1.34	131.70	140.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: _____ Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
23 Sept 25	1102	13.51	1849	8.67	1.77	89.3	1.34				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2018-1
Sampling Personal:

Weather Conditions: Temp: 70 °F Wind: NW 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	174.56	ft
Depth to Top of Pump:	180.35	ft
Well Volume:	7.3	liters
		ft
Water Level After Sample:	178.55	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 10 Sec.
Recover: 50 / 50 Sec.
PSI: 100 / 100

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID: Dup 1

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
23 Sept 25	1332	Start of Well Purge									
1352	1357	11.09	2535	8.31	0.44	-119.7	0.00	182.73	500.0	24.0	Clear
1402	1407	11.48	2528	8.31	0.49	-108.6	0.03	181.59	100.0	0.5	Clear
1407	1412	11.49	2493	8.31	0.53	-103.2	0.00	180.25	100.0	0.5	Clear
1412		11.53	2523	8.31	0.55	-100.6	0.96	179.03	100.0	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 25.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
23 Sept 25	1435	11.53	2523	8.31	0.55	-100.6	0.76				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2018-2
Sampling Personal:

Weather Conditions: Temp: 50 °F Wind: S @ 5-10 Precip: (Sunny) / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	(YES)	NO
Well Labeled?	(YES)	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	152.51	ft
Depth to Top of Pump:	199.40	ft
Well Volume:	28.9	liters
		ft
Water Level After Sample:	154.10	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	(YES)	NO

Control Settings:
Purge: 5 / 10 Sec.
Recover: 22 / 20 Sec.
PSI: 120 / 100

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample? YES / (NO)
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
22 Sept 25	0915	Start of Well Purge									
	1215	17.65	2040	8.32	0.33	-82.1	0.00	153.70	500.0	90.0	Clear
	1225	14.53	2035	8.33	0.27	-94.4	0.00	153.92	500.0	450	Clear
	1230	14.25	2028	8.34	0.24	-92.1	0.00	154.00	100.2	0.5	Clear
	1235	13.96	2024	8.35	0.23	-94.1	0.00	154.03	100.2	0.5	Clear
	1240	13.85	2033	8.35	0.23	-102.4	0.00	154.05	100.2	0.5	Clear

Well Stabilized? (YES) NO Total Volume Purged: 97.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
22 Sept 25	1240	13.85	2033	8.35	0.23	-102.4	0.00				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 92-3
Sampling Personal: [illegible]

Weather Conditions: Temp: 50 °F Wind: W @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	91.02	ft
Depth to Top of Pump:	149.50	ft
Well Volume:	36.0	liters
		ft
Water Level After Sample:	10.45	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 Sec.
Recover: 20 Sec.
PSI: 90

Bottle List:
1 Liter Raw
500ml, Nitric
500ml, Nitric (filtered)
250ml, Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID: —

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
24 Sept 25	0920	Start of Well Purge									
	1100	10.24	1840	8.59	0.06	-211.5	0.00	119.02	500.0	120.0	Clear
	1105	10.88	1838	8.56	0.13	-209.4	0.00	—	100.0	9.5	Clear
	1110	10.83	1838	8.58	0.09	-205.7	0.72	—	100.0	0.5	Clear
	1115	10.89	1848	8.57	0.10	-201.6	0.00	111.87	100.0	0.5	Clear

Well Stabilized? YES NO

Total Volume Purged: 121.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
24 Sept 25	1115	10.89	1848	8.57	0.10	-201.6	0.00				Clear

Comments: Collected Field Blank @ 0920

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
3616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Fall 2025
Sample ID:	95-4
Sampling Personal:	JM

Weather Conditions: Temp: 70°F Wind: L @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	92.72	ft
Depth to Top of Pump:	141.80	ft
Well Volume:	30.2	liters
		ft
Water Level After Sample:	105.65	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 / 10 Sec.
Recover: 30 / 30 Sec.
PSI: 90 / 80

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ect. clear, slightly turbid, turbid
24 Sep 25	1233	Start of Well Purge									
	1553	11.15	1802	8.58	1.01	-110.1	0.56	107.50	500	100.0	Clear
	1558	12.21	1829	8.56	1.08	-103.5	0.92	—	1000	0.5	Clear
	1603	12.01	1830	8.56	1.12	-97.9	0.49	—	1000	0.5	Clear
	1608	12.04	1831	8.59	1.22	-98.1	0.35	106.05	1000	0.5	Clear

Well Stabilized? YES NO Total Volume Purged: 101.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment Clarity, Color, Odor, Ect.
24 Sep 25	1608	12.04	1831	8.59	1.22	-98.1	0.35				Clear

Comments:

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company: Minnkota - CCWDF
Event: Fall 2025
Sample ID: 2023-1
Sampling Personal:

Weather Conditions: Temp: 70 °F Wind: N @ 5-10 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	203.17	ft
Depth to Top of Pump:	228.10	ft
Well Volume:	12.9	liters
		ft
Water Level After Sample:	217.85	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 15 / 10 Sec.
Recover: 15 / 50 Sec.
PSI: 120 / 100

Bottle List:
1 Liter Raw
500mL Nitric
500mL Nitric (filtered)
250mL Sulfuric

Duplicate Sample? YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment: Clarity, Color, Odor, Ect.
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		clear, slightly turbid, turbid
22 Sept 25	1535	Start of Well Purge									
	1601	11.97	2054	8.29	0.43	-2.6	104.2	Below Pump	500.0	13.0	Clear
		Purged Dry									
23 Sept 25	1220	Start of Well Purge						Pump	108.32		
	1225	19.66	2495	8.17	2.18	124.8	26.35	—	100.0	0.5	Clear
	1255	21.44	2190	8.15	1.28	91.9	49.43	210.55	100.0	3.0	Clear
	1325	12.48	2154	8.25	0.22	-38.2	25.92	Below Pump	500.0	15.0	Clear
		Purged Dry.	Second	Time to	try to	reduce	Turbidity				
24 Sept 25	1137	Start of	Second	Stabilization	Parameters		24.80	209.80	—		Turbidity Still above parameters
	1209	12.49	213	8.31	0.32	-44.9	8.89	—	100.0	3.0	Clear
	1212	12.48	2142	8.31	0.33	-42.4	8.05	—	100.0	0.5	Clear

Well Stabilized? YES NO

Total Volume Purged: 35.5 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment: Clarity, Color, Odor, Ect.
24 Sept 25	1215	12.35	2161	8.31	0.40	-37.6	8.42	217.90	100.0	0.5	Clear

Comments: *Turbidity high after well purged dry. Turbidity stayed above 5 NTU

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Sample Condition Checklist

Date: 25Sep25 Time: 0949 Analyst: BN

Work Order #: 101774

Containers Supplied by MVTL: ☒ Yes ☐ No (Designate customer supplied containers as "Other" in container size column)

Comments:

Number of Bottles	Container Size (mL) F-(500) = Filtered	Container Type CG = Clear Glass, P = Plastic, AG = Amber Glass	Preservation	pH	Sample IDs Preservation reagent added Date/Time Analyst	Unique ID of preservation reagent added	Sample pH after preservation	Required for HNO_3 samples only (24 hours later) Sample ID pH Recheck Result Date/Time/Analyst
13	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
13	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
13	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
13	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	Oil and grease	(CG) (P) (AG) Other	HCl	n/a				
	TOC Vials	(G) (AG)	H_3PO_4	n/a				
	DOC Vials	(G) (AG)	None H_3PO_4	n/a				

*All samples requiring analyses performed outside of the Bismarck laboratory (New Ulm and Sub-Contract) are not documented on this form.
*All samples requiring microbiological tests are not documented on this form.

Form #80-910025-2

M:\Documents\FORMS\Approved Templates\Bismarck\Water\80-910025-2 Sample Condition Checklist
Page 1 of 1

Effective Date : 1 July 2024

Report Date: Tuesday, October 14, 2025 2:49:50 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 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative
Workorder: Minnkota - CCWDF (110750) **PO:** 251157 Line 6

Joe Grosz
Minnkota Power Cooperative
Milton R. Young Station
3401 24th St. SW
Center, ND 58530

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.

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

Analytical Results

Lab ID: 110750001 **Date Collected:** 12/18/2025 11:10 **Matrix:** Groundwater
Sample ID: 2023-1 **Date Received:** 12/18/2025 12:40 **Collector:** MVTL Field Service

Temp @ Receipt (C): 0.5 **Received on Ice:** Yes

Parameter	Results	Units	RDL	DF	Prepared	Analyzed	Qual
Method: EPA 6010D							
Calcium	**4.14**	mg/L	1	1	12/18/2025 16:43	12/23/2025 10:12	

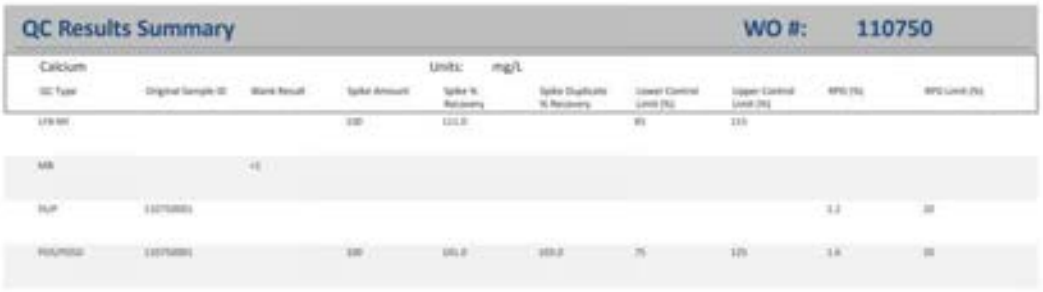
MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

QC Results Summary

WO #: 110750

Calcium Units: mg/L



Report Date: Tuesday, December 23, 2025 4:06:20 PM

Account #: 7048 **Client:** Minnkota Power Cooperative

Minnesota Valley Testing Laboratories
2616 E. Broadway Ave
Bismarck, ND 58501
(701) 258-9720

Minnkota Power Cooperati
WO: 110750

Chain of Custody Record

Report To: Minnkota Power Cooperative
Attn: Joseph Grosz
Address: 3401 24[th] St SW
Center, ND 58530
Phone:
Email: jgrosz@minnkota.com

CC:

Project Name: Minnkota - CCWDF
Event:
Sampled By: [signature]

Lab Number	Sample ID	Date	Time	Sample Type	1 Liter Raw	500 mL HNO3	500 mL HNO3 (filtered)	250 mL H2SO4		TOC (set of 3)					Temp (°C)	Spec. Cond.	pH	Turbidity (NTU)	Analysis Required
	2023-1	15 Dec 25	1110	GW		x									12.83	1985	6.31	52.61	Calcium

Comments:

Relinquished By Name	Date/Time	Sample Condition Location	Sample Condition Temp	Received By Name	Date/Time
1 [signature]	18 Dec 25 1240	Cooler Walk In #2	0.5 °C/TM 6-5 ROI Y/N	[signature]	18 Dec 25 1240
2					

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Account #: 7048 **Client:** Minnkota Power Cooperative

MVTL
2616 E. Broadway Ave, Bismarck, ND
Phone: (701) 258-9720

Field Datasheet

Groundwater Assessment

Company:	Minnkota - CCWDF
Event:	Fall 2025
Sample ID:	2023-1
Sampling Personal:	

Weather Conditions: Temp: 5 °F Wind: NW @ 10-15 Precip: Sunny / Partly Cloudy / Cloudy

WELL INFORMATION

Well Locked?	YES	NO
Well Labeled?	YES	NO
Repairs Necessary?		
Casing Diameter:	2"	
Water Level Before Purge:	209.51	ft
Depth to Top of Pump:	226.10	ft
Well Volume:	11.5	liters
		ft
Water Level After Sample:	24.05	ft
Measurement Method:	Electric Water Level Indicator	

SAMPLING INFORMATION

Purging Method:	Bladder	
Sampling Method:	Bladder	
Dedicated Equipment?	YES	NO

Control Settings:
Purge: 10 Sec.
Recover: 5.0 Sec.
PSI: 100

Bottle List:
4 Liter Raw
500mL Nitric
500mL Nitric (filtered)
~~250mL Sulfuric~~

Duplicate Sample?
YES / NO
Duplicate Sample ID:

FIELD READINGS

Stabilization Parameters (3 Consecutive)		Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Water Level	Pumping Rate	Liters Removed	Appearance or Comment
Purge Date	Time	±0.5°	±5%	±0.1	±10%	±10	<5.0	(ft)	mL/Min		Clarity, Color, Odor, Ext. clear, slightly turbid, turbid
16 Dec 25	1015	Start of Well Purge									
	1045	11.32	1908	8.34	0.19	22.3	43.51	213.89	500	1.5	Clear
	1100	12.93	1905	8.33	0.13	1.3	50.35	215.05	500	0.75	Clear
	1110	12.83	1925	8.31	0.33	8.9	52.61	215.38	500	0.5	Slow
	1115	13.16	1901	8.30	0.30	12.3	85.41	216.05	500	0.5	Clear

Well Stabilized? YES (NO) High Turbidity Total Volume Purged: 3.25 Liters

Sample Date	Time	Temp. (°C)	Spec. Cond.	pH	DO (mg/L)	ORP (mV)	Turbidity (NTU)				Appearance or Comment
											Clarity, Color, Odor, Ext.
16 Dec 25	1110	12.83	1925	8.31	0.33	8.9	52.61				Clear

Comments: well purged dry on 16 Dec 25 by Minnkota staff

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com

Member ACIL

Account #: 7048 **Client:** Minnkota Power Cooperative

Sample Condition Checklist

Date: 18 DEC 25 Time: 1445 Analyst: PN

Work Order #: 116750

Containers Supplied by MVTL: [X] Yes [ ] No (Designate customer supplied containers as "Other" in container size column)

Comments:

Number of Bottles	Container Size (mL) F-(500) = Filtered	Container Type CG = Clear Glass, P = Plastic, AG = Amber Glass	Preservation	pH	Sample IDs Preservation reagent added Date/Time Analyst	Unique ID of preservation reagent added	Sample pH after preservation	Required for HNO_3 samples only (24 hours later) Sample ID pH Recheck Result Date/Time/Analyst
1	(125) (250) (500) F-(500) (1000) Other — (500) circled	(CG) (P) (AG) Other — (P) circled	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl — HNO_3 circled	<2 >12 — <2 circled				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	(125) (250) (500) F-(500) (1000) Other	(CG) (P) (AG) Other	NONE HNO_3 H_2SO_4 NaOH NaOH/ZnAcet HCl	<2 >12				
	Oil and grease	(CG) (P) (AG) Other	HCl	n/a				
	TOC Vials	(G) (AG)	H_3PO_4	n/a				
	DOC Vials	(G) (AG)	None H_3PO_4	n/a				

*All samples requiring analyses performed outside of the Bismarck laboratory (New Ulm and Sub-Contract) are not documented on this form.
*All samples requiring microbiological tests are not documented on this form.

Form #80-910025-2 M:\Documents\FORMS\Approved Templates\Bismarck\Water\80-910025-2 Sample Condition Checklist Page 1 of 1 Effective Date: 1 July 2024

Report Date: Tuesday, December 23, 2025 4:06:20 PM

Appendix H

Alternate Source Demonstration for 2025 Event 2

Technical Memorandum

To: Scott Hopfauf & Joe Grosz, Minnkota Power Cooperative, Inc.
From: Barr Engineering Co.
Subject: Alternative Source Demonstration (ASD), Minnkota (Fall 2025)
Date: January 31, 2026

1 Introduction

Minnkota Power Cooperative, Inc. (MPC) owns and operates Milton R. Young Station (MRYS), a coal-fired generating station consisting of two power generating units, located near Center, North Dakota (Figure 1). Coal combustion residuals (CCR) generated at MRYS are managed in MPC's Coal Combustion Waste Disposal Facility (CCWDF). The CCWDF was permitted by the North Dakota Department of Environmental Quality (NDDEQ) under Permit SP-159 (now designated 0159) and began accepting coal combustion residuals (CCR) in 1997. The most recent Permit 0159 was issued by NDDEQ in 2022. The CCWDF consists of a series of Cells that store both wet and dry CCR. The most recent cell, cell 5, was constructed in 2023 and included a composite liner system and leachate collection system. MPC utilizes a consulting firm, Barr Engineering Co. (Barr), to assist in groundwater reporting and analysis. Barr is familiar with the site and installed and certified the most recent well installed downgradient of cell 5 in 2023 (MW-2023-1). Barr has reviewed the historical groundwater data and CCR information for the site and is knowledgeable about facility design and operation.

The CCRs, including fly ash, bottom ash, and flue gas desulfurization (FGD) waste, are managed at the CCWDF along with other minor wastes accepted as per the NDDEQ permit. The CCR unit is required to comply with the provisions of the NDDEQ CCR Rule (NDAC Title 33.1, Article 20, Chapter 8), herein referred to as The CCR Rule.

MPC has implemented a Detection Monitoring Program in accordance with the NDAC 33.1-20-08-06. As part of the Detection Monitoring Program, statistically significant increases (SSIs) in monitored groundwater quality parameters over background were identified at the CCWDF for the following monitoring well – parameter pair during semi-annual detection monitoring completed in the fall of 2025 on September 22 - 24, 2025:

- MW-2023-1– Calcium

The CCR Rule (33.1-20-08-06.4(e)(2)) allows for an alternative source demonstration (ASD) in the event of an identified SSI in a water quality parameter in a downgradient monitoring well over background levels:

> *The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator shall complete the written demonstration within ninety days of detecting a statistically significant increase over background levels.*

The purpose of this work is to evaluate the data collected as part of the September 2025 monitoring event, along with historical data, to demonstrate if the SSI is the results of a "source other than the CCR unit" or due to natural variation in groundwater quality or an error in sampling, analysis, or statistical evaluation. Nothing in the foregoing citation of the rule requires that the owner/operator disprove any and all potential counterarguments that others may offer to refute this demonstration. Such arguments if valid, would need to follow requirements of the rule to show a basis in fact that includes rule requirements that are based on site-specific information. This memorandum provides a science-based reason for the data results that indicate a source other than the CCR unit.

This memorandum provides written documentation of an Alternative Source Demonstration (ASD) and certification of accuracy as described in the CCR Rule (33.1-20-08-06.4(e)(2)).

1.1 Background Information

Figure 1 shows the site location, and Figure 2 provides well locations. A piezometric surface map showing groundwater elevations in the Water Table Aquifer, which represents the uppermost aquifer in the vicinity of the CCR landfill, is presented in Figure 3 and Figure 4, using measurements from April and September 2025. Groundwater generally flows from west to east.

In 2023, a new landfill expansion well, MW-2023-1, was installed at the Site. Baseline sampling was initiated in late 2023, and the well was first evaluated in the detection monitoring program in July 2024. There is limited data at the location for historical comparison. A comparison of the detection monitoring groundwater results with the intrawell control limit calculated using the background assessment data is included in **Table 1**. Concentrations for Appendix I parameters observed in September 2025 (and the December 2025 resample) are shown on time series graphs in Attachment A.

Table 1 SSIs Compared to Control Limits

Event	Well	Parameter (units)	Measured	Resample	Intrawell Control Limit
Detection Monitoring – 2025 #2 (Fall)	MW-2023-1	Calcium (mg/L)	4.28	4.14	3.90

1.2 Rule Requirements

As referenced above, 33.1-20-08-06.4(e)(2) requires that the written demonstration of an ASD shall be completed within 90 days of the SSI determination. In accordance with this requirement, this memorandum is being issued within 90 days of the SSI determination (January 12, 2025) following the review and analysis of the results provided in the final laboratory report, which was received on October 14, 2025.

2 Potential Alternative Sources Review

The CCR Rule provides five potential alternative source categories:

- A source other than the CCR unit
- Sampling (or sampling equipment) methods
- Laboratory methods

- Statistical methods
- Natural variation in groundwater quality

Site data were evaluated to identify potential causes for the increased calcium concentration in monitoring well 2023-1. Calcium is naturally occurring and may not necessarily be the result of a release from a CCR unit; therefore, a source other than the CCR unit and natural variation in groundwater quality were further investigated as part of the ASD.

2.1 Travel Time from Source of Release

Monitoring well 2023-1 was added to the monitoring network in July 2023 in anticipation of the waste placement in the newly constructed Cell 5 surface impoundment. Waste was first placed in Cell 5 in November 2023. Groundwater travel time was considered both vertically as groundwater moves through the unsaturated zone and horizontally as groundwater moves in the saturated zone.

2.1.1 Migration through Liner

Vertical migration of leachate would be controlled by the presence of a driving head on the surface impoundment liner and then migration through the unsaturated zone.

Cell 5 currently has a max operating level of 2076 feet (MSL) and a base liner at approximately 2020 feet MSL, resulting in a maximum liquid depth of 56 feet. Even if the 60-mil thick synthetic liner were breached (there is no evidence that this has occurred), the underlying 4-foot-thick clay liner was tested and verified to exhibit a vertical permeability of 1×10^{-7} cm/s (2.8×10^{-4} feet/day) or less. Assuming a 56-foot driving head over a 4-foot-thick liner yields a vertical hydraulic gradient of 14 ft/ft.

The vertical advective velocity (average linear velocity or seepage velocity) of vertical saturated groundwater flow is calculated using the following equation:

$$v = \left(\frac{Kv}{n_e}\right)\left(\frac{dHv}{dLv}\right)$$

Or, stated in a more compact form:

$v = \frac{Ki}{n_e}$, where K = hydraulic conductivity, *i* = gradient, and n_e = effective porosity.

Using an effective porosity for clay of 0.40, the above equation yields an advective velocity 9.8×10^{-3} ft/day. Dividing the distance by the velocity yields a travel time of 408 days to transit the liner.

2.1.2 Migration through the Unsaturated Zone

Assuming that the leachate fully breached the liner, the release would then need to transit through the entire unsaturated zone to reach the water table below the facility. Although unsaturated flow can be complex, its calculation can be greatly simplified by making a conservative assumption that the flow is saturated. This is a conservative assumption because unsaturated flow would be characterized by a wetting front (and possible drying cycles) that would result in much lower velocities (longer travel time) than are estimated by assuming saturated flow.

Geologic cross sections and well logs indicate that Cell 5 is underlain by the low-permeable claystone and siltstone beds of the Sentinel Butte Formation, referred to as the Upper Confining Unit. This unit overlies the coarser grained clayey-sand lithofacies of the Sentinel Butte Formation referred to as the Water Table Aquifer, in which well 2023-1 is screened. The lowest elevation at the base of the surface impoundment is 2020 feet (MSL). The boring log for 2023-1 indicates that the contact between the Upper Confining Unit and Water Table Aquifer is located at 1965 ft. The groundwater elevation near the eastern edge of Cell 5 is 1900 ft within the Water Table Aquifer. Thus, a potential release from Cell 5 would need to migrate downward through 55 feet of the Upper confining Unit, followed by 65 ft of the Water Table Aquifer, before reaching the water table.

Geotechnical testing conducted for the investigation of Cells, 4, 5, and 6 included hydraulic conductivity estimates for the clayey units within the Upper Confining Unit. Combined results from previous testing (n=24) indicate a geometric mean of 2.4×10^{-8} cm/sec (6.8×10^{-5} ft/day) for these units. These estimates for hydraulic conductivity are not specific to vertical flow, and vertical hydraulic conductivity may be an order of magnitude lower on average. More permeable lignite beds exist within the Upper Confining Unit, but these units comprise <10 ft of the vertical thickness of the Upper Confining Unit below the base of Cell 5 and are expected to divert groundwater laterally, rather than accelerating vertical migration.

The maximum gradient possible would be for a constant head of 56 feet above the liner from the maximum leachate depth during the entire travel time through the Upper Confining Unit, which results in a gradient of 1.018 ft/ft (56 ft / 55 ft). This is a conservative estimate because it is likely that the gradient would be much lower and that there would be intervals of unsaturated transport beneath the clay liner, which is slower than saturated transport.

Porosity of the variable shale and lignite beds within the upper confined unit is estimated at 0.35. Effective porosities are unknown but may be as low as 0.05 for typical shales. Lower effective porosity results in higher flow velocity, so assuming $n_e = 0.05$ is a conservative estimate. Using the values described above, vertical groundwater flow velocity through the Upper Confining Unit is (v) = 6.8×10^{-5} ft/day * 1.018 ft/ft / 0.05 = 0.505 ft/year. Assuming a thickness of 55 feet, travel time through the upper confining unit is estimated to take 55 ft / 0.505 ft/year = 109 years.

For the more-permeable water table aquifer unit, hydraulic conductivities for nine monitoring wells at the CCR unit were estimated from slug test results using the Hvorslev and Bouwer-Rice methods. The geometric mean for the nine wells is 8.9×10^{-7} cm/s (2.5×10^{-3} ft/day). (Barr Engineering Co., January 2025) As above, these estimates for hydraulic conductivity are not specific to vertical hydraulic conductivity, which may be an order of magnitude lower on average.

The maximum gradient is assumed to be the maximum liquid depth, which is a constant head of 56 ft above the liner during the entire travel time through the 65 ft thickness of the Water Table Aquifer above the water table, or (56 ft / 65 ft = 0.862 ft/ft).

The effective porosity of the water table aquifer is estimated as 0.15, based on typical values for silty-clayey sandstone. Using the values described above, the vertical flow velocity (v) through the Water Table Aquifer is estimated as v = 2.5×10^{-3} ft/day * 0.862 ft/ft / 0.15 = 5.24 ft/year. Given the thickness of the Water Table Aquifer above the water table is approximately 65 feet, travel time is 65 ft / 5.24 ft/year = 12 years. This is a conservative estimate because it excludes the thickness of the Upper Confining above, which, if factored in, would reduce the gradient and therefore the resulting flow velocity

Conservatively, this scenario is calculated assuming a breach in the geomembrane liner and a continuous 56 foot of head. The estimated minimum travel time for CCR leachate to travel through the unsaturated zone and reach the water table is 122 years (1 year for the clay liner, 109 years for the upper confining unit, and 12 years for the water table aquifer).

2.1.3 Horizontal Migration in Groundwater

Once a hypothetical release has migrated through the liner and unsaturated zone, it could then reach the water table in the Water Table Aquifer and eventually reach the detection monitoring well. The velocity of horizontal groundwater flow is calculated using the following equation:

$$v = \left(\frac{K}{n_e}\right)\left(\frac{dH}{dL}\right)$$

Based on April 2025 water table elevation contours for the water table aquifer in the area of the CCR Monitoring Unit area, groundwater flow is generally to the east-southeast under a horizontal hydraulic gradient $\left(\frac{dH}{dL}\right)$ of about 0.008 ft/ft. Hydraulic gradients are lower in the area of Cell 5, but using this average value of 0.008 ft/ft serves as a conservative estimate. The average hydraulic conductivity of the Water Table Aquifer is 8.9×10^{-7} cm/s (2.5×10^{-3} ft/day) (Barr Engineering Co., January 2025) and the effective porosity is estimated as 0.15. Using this information in the above equation, groundwater velocity in the area of Cell 5 is 0.049 ft/year.

Well 2023-1 is located approximately 400 ft to the east of Cell 5, representing the minimum lateral distance that a release would have to travel to reach well 2023-1. Using a flow velocity of 0.049 ft/year, the minimum estimated migration time is estimated to be 8,163 years. Therefore, it is not plausible that the elevated calcium concentrations at well 2023-1 are due to a release from the CCR Unit.

Assuming that some unidentified preferential flow pathway were to exist, it would have to result in an over two order of magnitude (100x) increase in flow rate (through some combination of increased hydraulic gradient or hydraulic conductivity, or decreased effective porosity) to allow for a release to reach the boundary. Even in this extreme case, it would still take approximately 80 years to reach the downgradient boundary after a release reached the water table. As discussed above, migration through the low permeability clay liner and shales of the upper confining unit would additionally add over 100 years to the minimum travel time.

The long time of travel supports the hypothesis that the CCR unit is not the source of calcium observed at monitoring well 2023-1.

2.2 Natural Variability in Groundwater

Calcium concentrations at the site display variability between monitoring locations and throughout time at a given monitoring well. Since the initiation of CCR monitoring in 2016, calcium concentrations in upgradient background wells (2015-1, 2015-2, and 2018-2) have ranged from 2.1 to 5.7 mg/L. Downgradient wells (2015-3, 2015-4, 2015-5, 2016-1, 2018-1, 2023-1) exhibit a similar range from 2.3 to 5.4 mg/L. Among individual wells, calcium concentrations have also varied throughout the sampling period. For example, calcium concentrations in background wells 2015-2 and 2018-2 exhibit maximum variability (calculated as the difference between the wells maximum and minimum reported concentrations) of 2.9 and 2.7 mg/L, respectively. Individual downgradient wells exhibit lower variability, with maximum variabilities between 1.1 mg/L (2015-3) and 1.8 mg/L (2018-1). Such variability across the

site is attributed to natural processes such as mineralogical and geochemical heterogeneity in the aquifer and natural spatial and temporal fluctuations in groundwater chemistry.

Calcium concentrations at monitoring well 2023-1 have varied from 2.89 to 3.45 mg/L prior to the Fall 2025 sampling event, which resulted in a value of 4.14 mg/L. This latest measurement is within the natural range of calcium concentrations observed elsewhere at the site, including at both background and downgradient monitoring well locations. The maximum variability in calcium levels observed at 2023-1 (1.39 mg/L) is also consistent with the maximum variability observed at other individual monitoring wells. Thus, the value of 4.14 mg/L measured in fall 2025 can be reasonably attributed to natural fluctuations in groundwater chemistry. It is noted that this value falls below the control limit for three other downgradient monitoring wells in the CCR network (2015-3 control limit = 4.6 mg/L; 2015-5 control limit = 5.2 mg/L; 2018-1 control limit = 5.2 mg/L), which supports the hypothesis that the calcium concentrations at 2023-1 are within the natural variability of the native groundwater.

The September 2025 concentration for calcium at 2023-1 is within approximately 10 percent of its updated control limit (3.9 mg/L). This difference is within the typical relative percent difference expected between field or laboratory duplicate measurements, indicating that the low-level exceedance is within the range of normal sampling or analytical variability and likely does not represent a meaningful change in groundwater quality.

Further evaluation of other Appendix III parameters demonstrate that monitoring well 2023-1 is not impacted by a release from the CCR impoundments. Boron and sulfate are principal indicators of CCR unit releases to groundwater. Boron concentrations at 2023-1 decreased in the Fall 2025 sampling event to a value of 0.43 mg/L, as compared to a previous measurement of 0.53 mg/L in April 2025 and an average of 0.50 mg/L since sampling began. Sulfate concentrations have remained relatively steady, with a value of 89.3 mg/L in Fall 2025, compared to the average of 76.3 mg/L. These sulfate values are low in comparison to the rest of the CCR monitoring well network, with concentrations up to 328 mg/L observed at background well 2015-1 and concentrations up to 405 mg/L observed at well 2015-5.

Therefore, because background calcium concentrations are variable within the Water Table Aquifer, and because other indicators of the CCR unit release are not apparent, we reject the hypothesis that the CCR unit is the source of the calcium observed in monitoring well 2023-1.

2.3 Comparison to CCR Impoundment Waters

To further test whether a CCR unit release has led to increased calcium concentrations at 2023-1, groundwater chemistry at 2023-1 is compared to water sampled from the CCR impoundments. Data characterizing the composition of a potential release from the impoundments considered in this comparison are based on water sampled from Cells 1-5, using the latest water samples analyzed for a full suite of major and trace elements collected in June 2025 (State reporting data). It is noted that the concentrations of most Appendix I parameters in the pond return water from Cell 5 are lower than in samples taken directly from the Cell 1–4 sumps, and thus provide a more conservative comparison for testing potential impact on downgradient groundwater.

Monitoring well 2023-1 and other CCR monitoring wells exhibit distinct water types and significantly lower total dissolved solids (TDS) when compared to water sampled from Cells 1–5. These differences are highlighted on the Piper Diagram in Figure 5. Piper diagrams are a tool for visualizing the composition of water samples based on the relative proportions of major cations (calcium, magnesium, potassium, sodium) and anions (chloride, sulfate, and [bi]carbonate), and can help to differentiate between water

types and to identify potential relationships. On the Piper diagram depicted in Figure 5, groundwaters from the CCR monitoring network are shown as blue symbols, and pond waters are shown as red symbols. These two groups plot on distinct portions of the diagram, indicating unique chemical compositions. CCR monitoring well groundwaters are sodium-bicarbonate type waters with TDS ranging from 1,210 to 1670 mg/L. In comparison, pond waters are sodium-sulfate type waters with higher TDS ranging from 35,900 to 95,200 mg/L.

Based on the major ion compositions, there is no indication that pond waters from a potential CCR unit release have contributed to the composition of groundwater sampled at 2023-1. If such mixing had occurred, the groundwater composition of 2023-1 would shift towards the composition of the pond waters, and as a result would plot between the pond waters and other unimpacted monitoring wells on the Piper diagram. Instead, 2023-1 plots furthest from the pond waters (along with 2015-3 and 2015-4) due to its high bicarbonate/sulfate ratio, giving no indication that mixing with water from the CCR units has influenced the groundwater composition.

Evaluation of minor and trace element concentrations in well 2023-1 in comparison to CCR impoundment water samples provides additional evidence that downgradient groundwater has not been impacted by a release from the CCR impoundments. Pond return water contains substantially higher concentrations of key CCR indicators than 2023-1, including boron (103 mg/L vs. 0.49 mg/L) and fluoride (41.6 mg/L vs. 2.01 mg/L). If the increase in calcium concentrations measured at 2023-1 were due to a contribution of water released from a CCR impoundment, a contemporaneous increase in these parameters would also be expected, which is not observed. This is particularly true for conservative solutes such as boron, which are unlikely to be attenuated by the aquifer matrix. As previously discussed, boron concentrations at monitoring well 2023-1 were lower in Fall 2025 than in the preceding sampling events.

Based on a comparison of pond water with downgradient groundwater sampled at 2023-1, both major-element trends and trace-element concentrations support the hypothesis that the increase in calcium at 2023-1 is due to natural variability in groundwater chemistry rather than a release from the CCR unit.

3 Conclusion

An alternative source demonstration for calcium at monitoring well 2023-1 is supported by the following lines of evidence:

- Based on conservative estimates for groundwater flow velocities and timing of CCR placement, the elevated calcite concentrations cannot be attributed to the CCR unit.
- Calcium levels at monitoring well 2023-1 remain within the natural variability observed across the site, and the Fall 2025 value of 4.14 mg/L is consistent with expected geochemical fluctuations and below several downgradient control limits. Other key indicators of CCR influence—particularly boron and sulfate—do not show increases and remain low relative to the broader monitoring network. Together, these lines of evidence indicate that calcium concentrations at 2023-1 reflect natural groundwater variability rather than impacts from the CCR unit. Groundwater at 2023-1 has a distinctly different chemistry than water from the CCR impoundments and shows no evidence of mixing. Key CCR indicator elements (e.g., boron, fluoride, arsenic, molybdenum, selenium) are far lower at 2023-1 than what would be anticipated if elevated calcium concentrations were the result of mixing, with several not detected. These major- and

trace-element differences confirm that the calcium increase at 2023-1 reflects natural variability rather than a CCR release.

As this report demonstrates, the SSI for calcium at monitoring well 2023-1 is attributed to a source other than the CCR Unit. Instead, the SSI for calcium is attributed to natural variability in the native groundwater at the site. Future monitoring data will add to our understanding of the site and the results are expected to augment this ASD and conclusions.

4 References

Barr Enginneering Co. (December 2025). *Groundwater Monitoring System Certification Report, Revision6.*

Barr Engineering Co. (September 2012). *Site Characterization Investigation Report and Environmental System Proposal, Milton R. Young Station, Center, North Dakota.*

Barr Engineering Co. (May 2012). *Letter to Minnkota Power Cooperative, Inc., Regarding Cells 4, 5, and 6 Drilling Report.*

NDDEQ, 2024, *Solid Waste Management and Land Protection Rules, NDAC Article 33.1-20.*

United States Environmental Protection Agency (USEPA). (March 2009). *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. .*

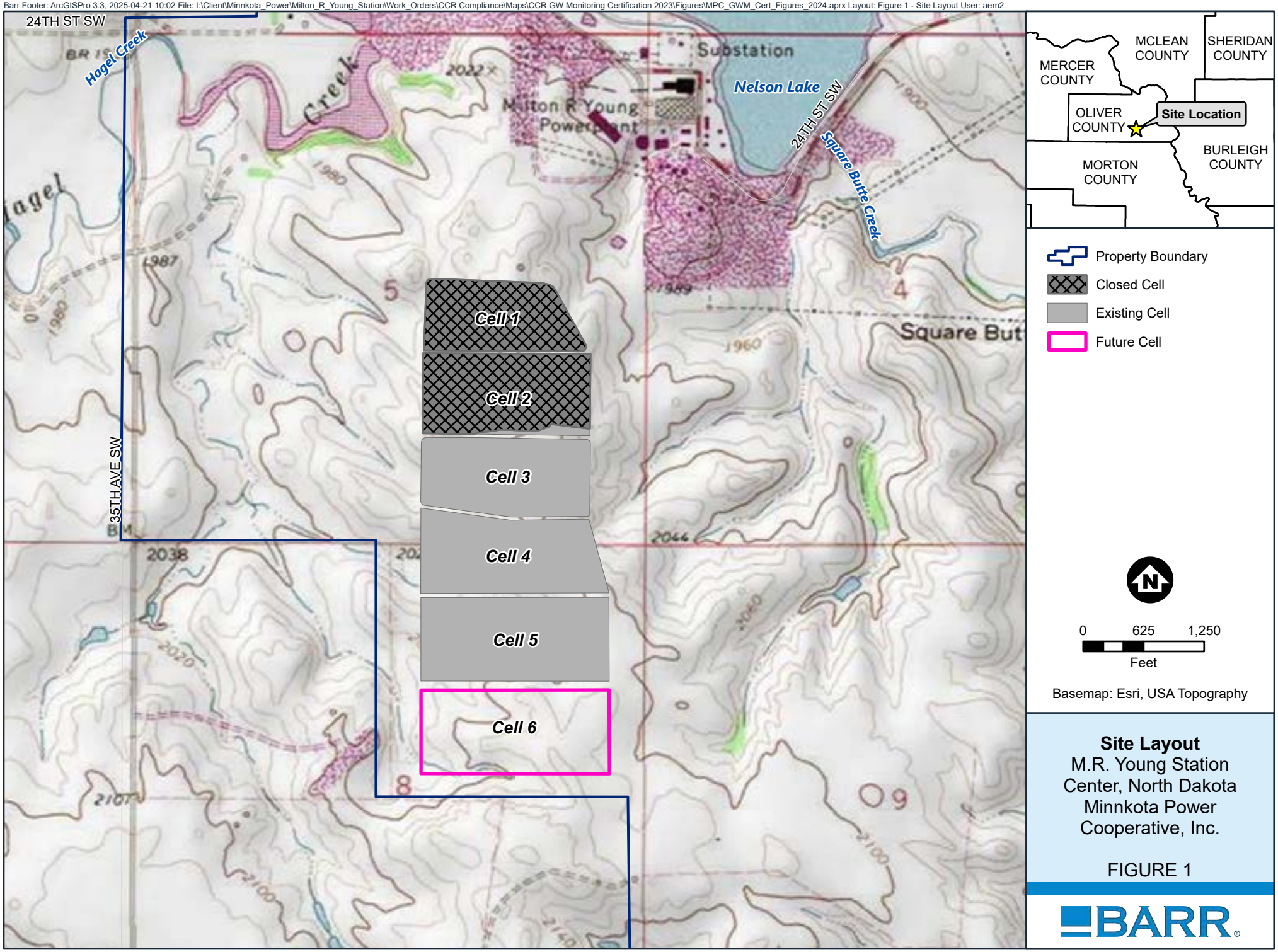
5 Certification

I certify that the written demonstration provided (above) for calcium in monitoring well 2023-1 is supported by the data, accurate, and consistent with our review of the groundwater data collected to date, and as required under the CCR Rule (33.1-20-08-06.4(e)(2)). I further certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.

Kevin Solie, P.E.
P.E. #: 9488

January 31, 2026
Date

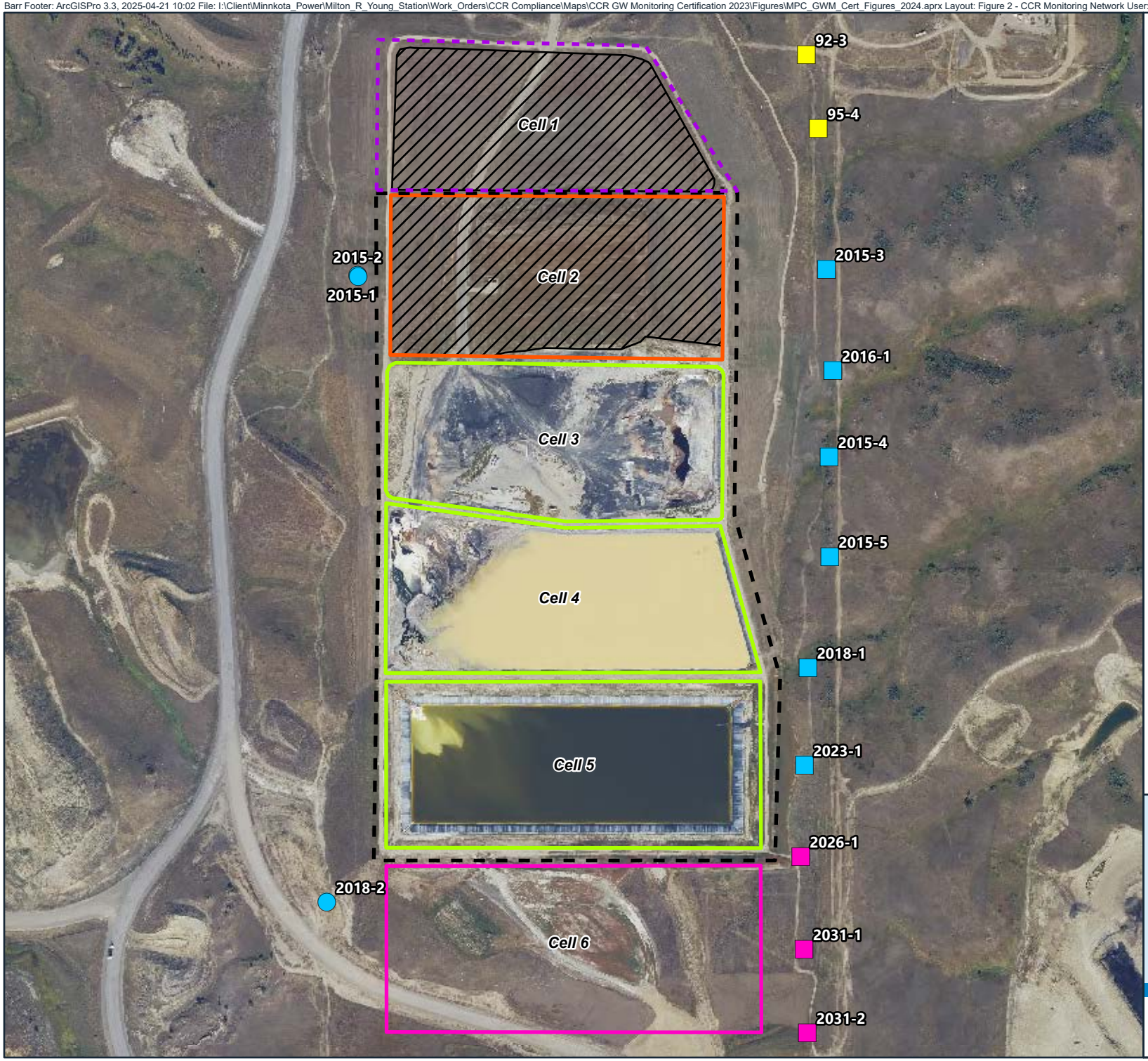
Figures



Site Layout
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 1

BARR



- CCR Unit Downgradient Monitoring Well
- Non-CCR Unit Groundwater Monitoring Well
- Upgradient Monitoring Well
- Future Groundwater Monitoring Well*
- Closed Landfill
- Landfill Area
- Surface Impoundment - Existing
- Future Cell
- CCR Monitoring Unit
- Non-CCR Unit

*Actual locations of future groundwater monitoring wells may vary and will be determined at the time of installation: 2026-1, 2031-1, 2031-2.

N

0 350 700
Feet

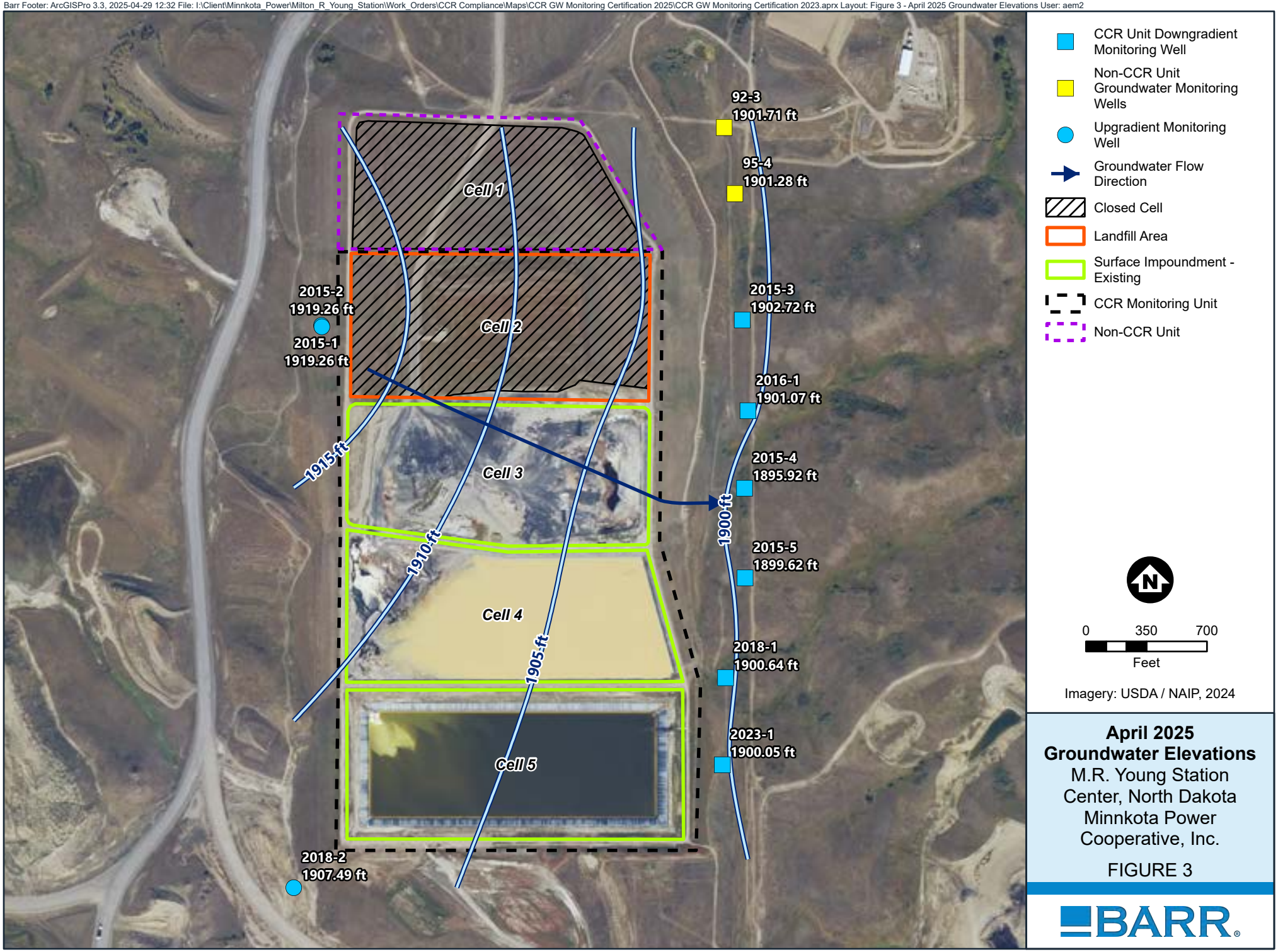
Imagery: USDA / NAIP, 2024

CCR Monitoring Network
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 2

BARR

Barr Footer: ArcGISPro 3.3, 2025-04-29 12:32 File: I:\Client\Minnkota_Power\Milton_R_Young_Station\Work_Orders\CCR Compliance\Maps\CCR GW Monitoring Certification 2025\CCR GW Monitoring Certification 2023.aprx Layout: Figure 3 - April 2025 Groundwater Elevations User: aem2

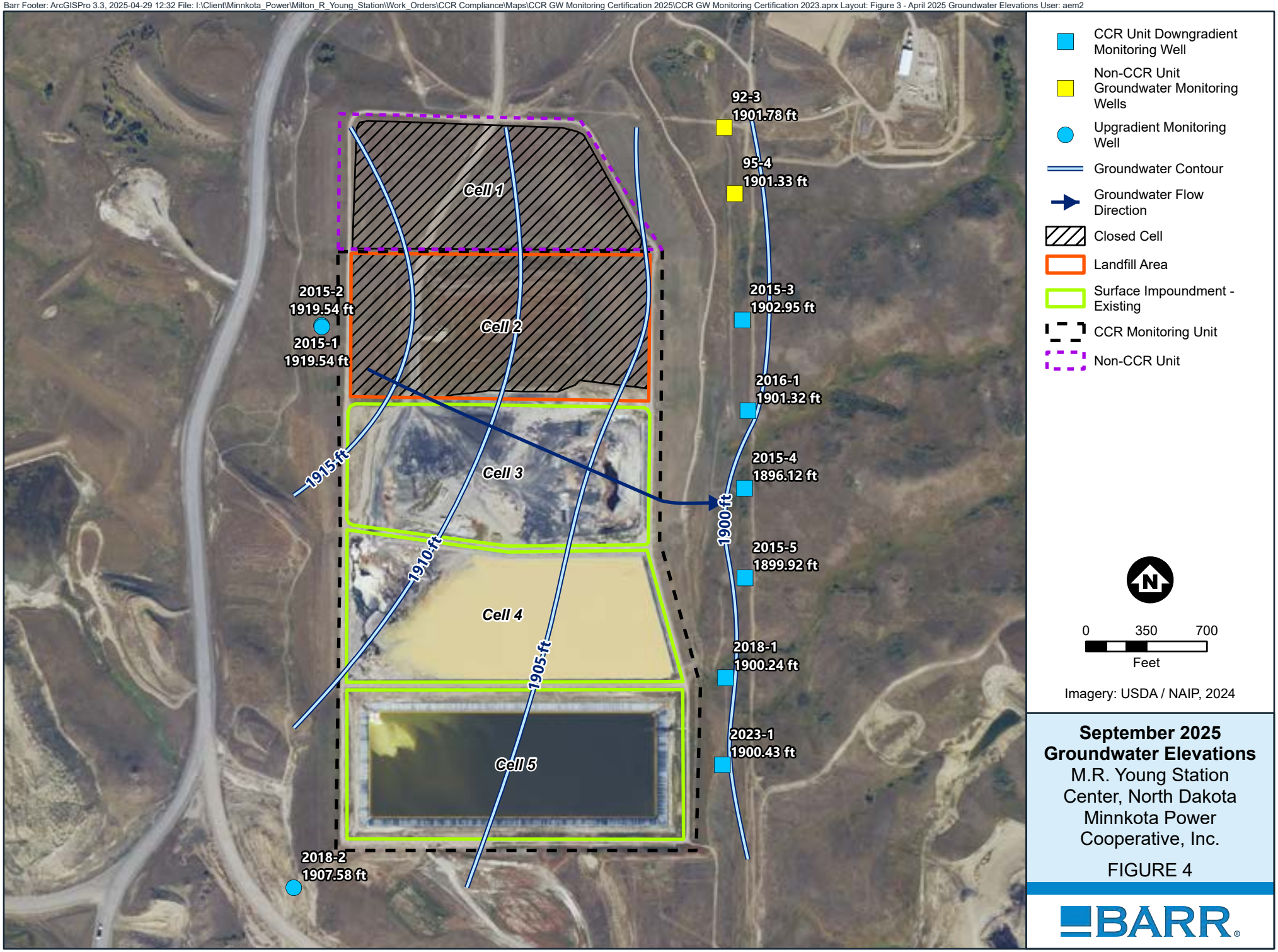


April 2025
Groundwater Elevations
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 3

BARR

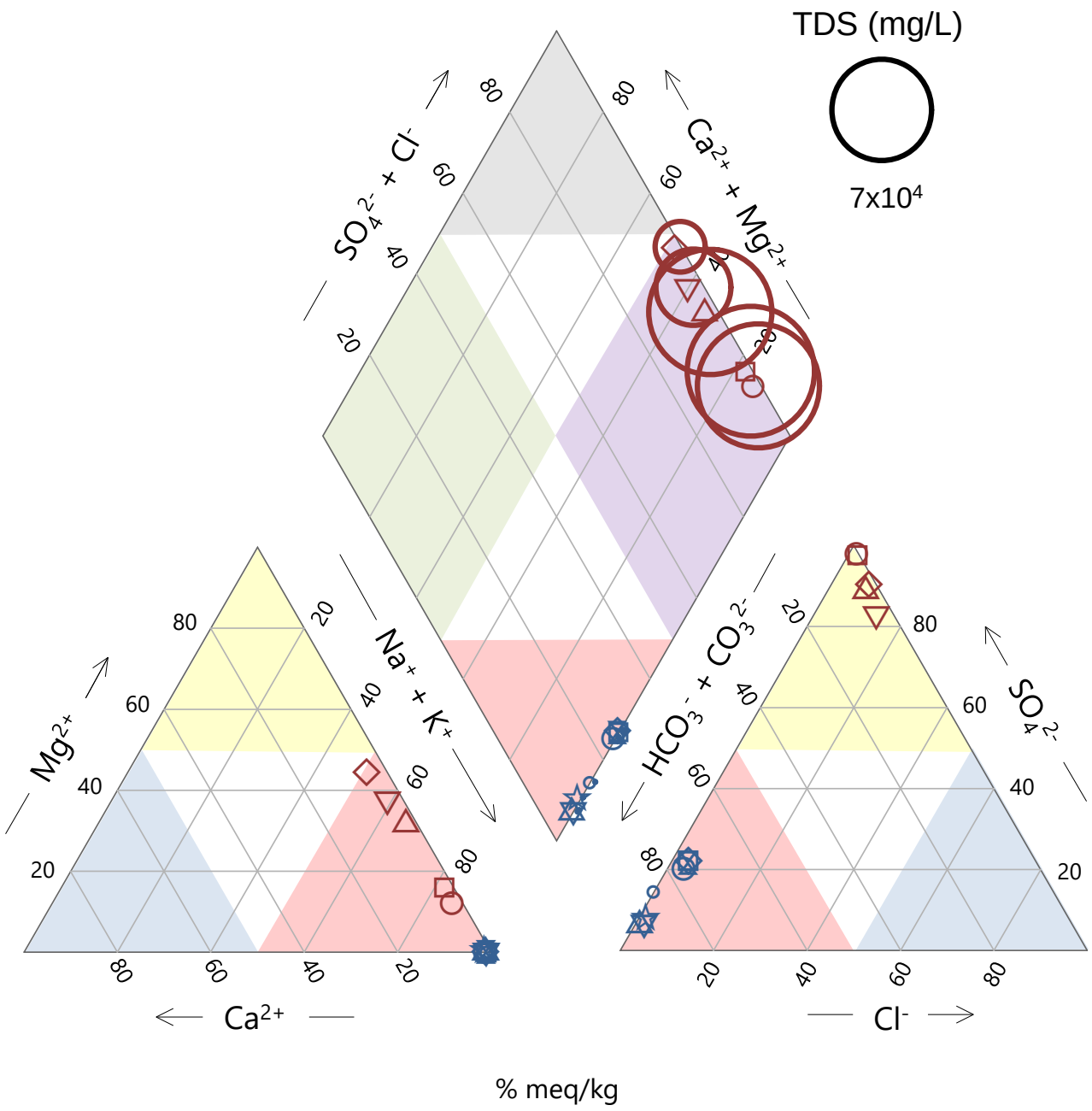
Barr Footer: ArcGISPro 3.3, 2025-04-29 12:32 File: I:\Client\Minnkota_Power\Milton_R_Young_Station\Work_Orders\CCR Compliance\Maps\CCR GW Monitoring Certification 2025\CCR GW Monitoring Certification 2023.aprx Layout: Figure 3 - April 2025 Groundwater Elevations User: aem2



September 2025 Groundwater Elevations
M.R. Young Station
Center, North Dakota
Minnkota Power Cooperative, Inc.

FIGURE 4

BARR



Piper Diagram for CCR Monitoring Wells and Impoundment Water Samples

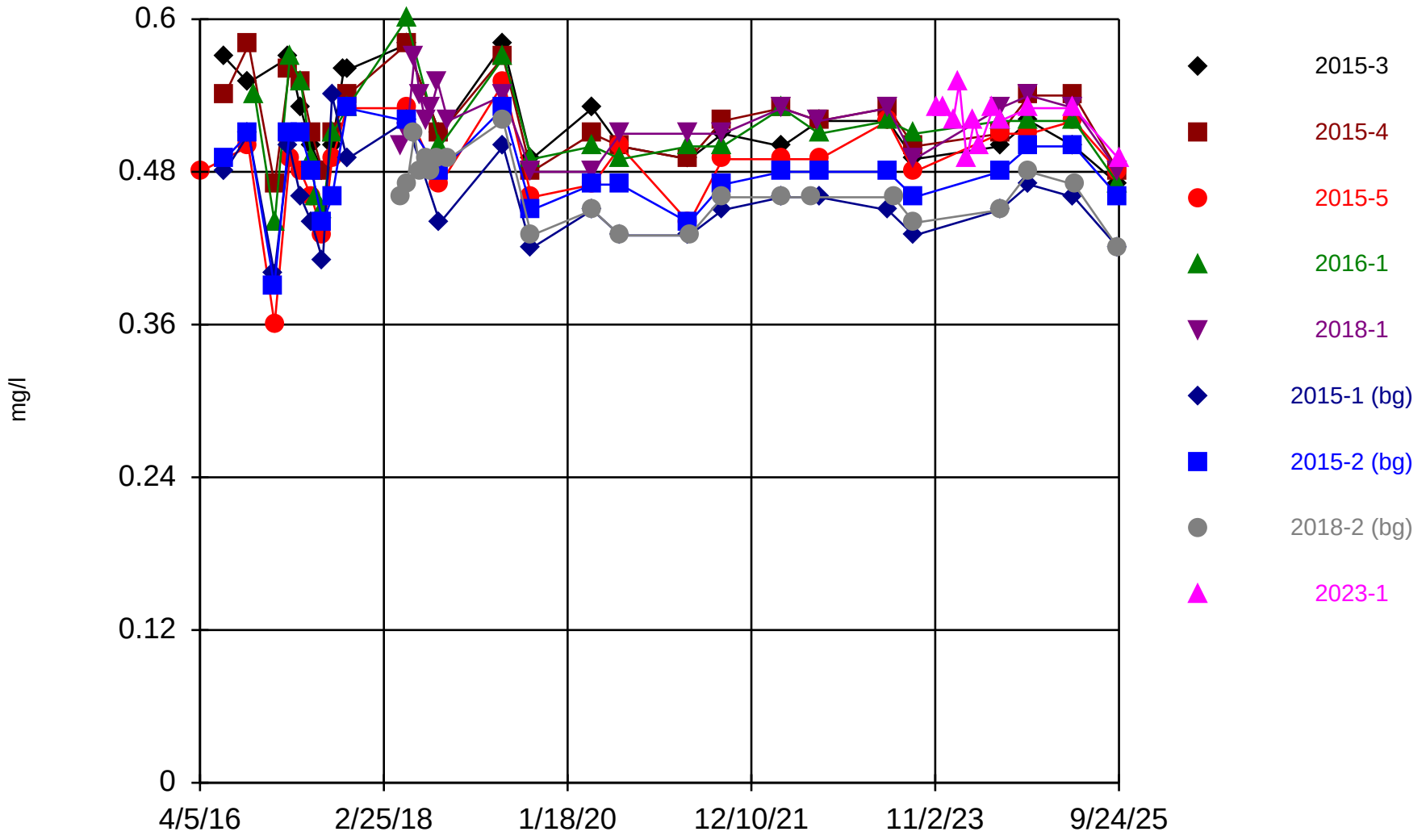
M.R. Young Station Center, North Dakota Minnkota Power Cooperative, Inc.

FIGURE 5

BARR

Attachment A – Time Series Plots

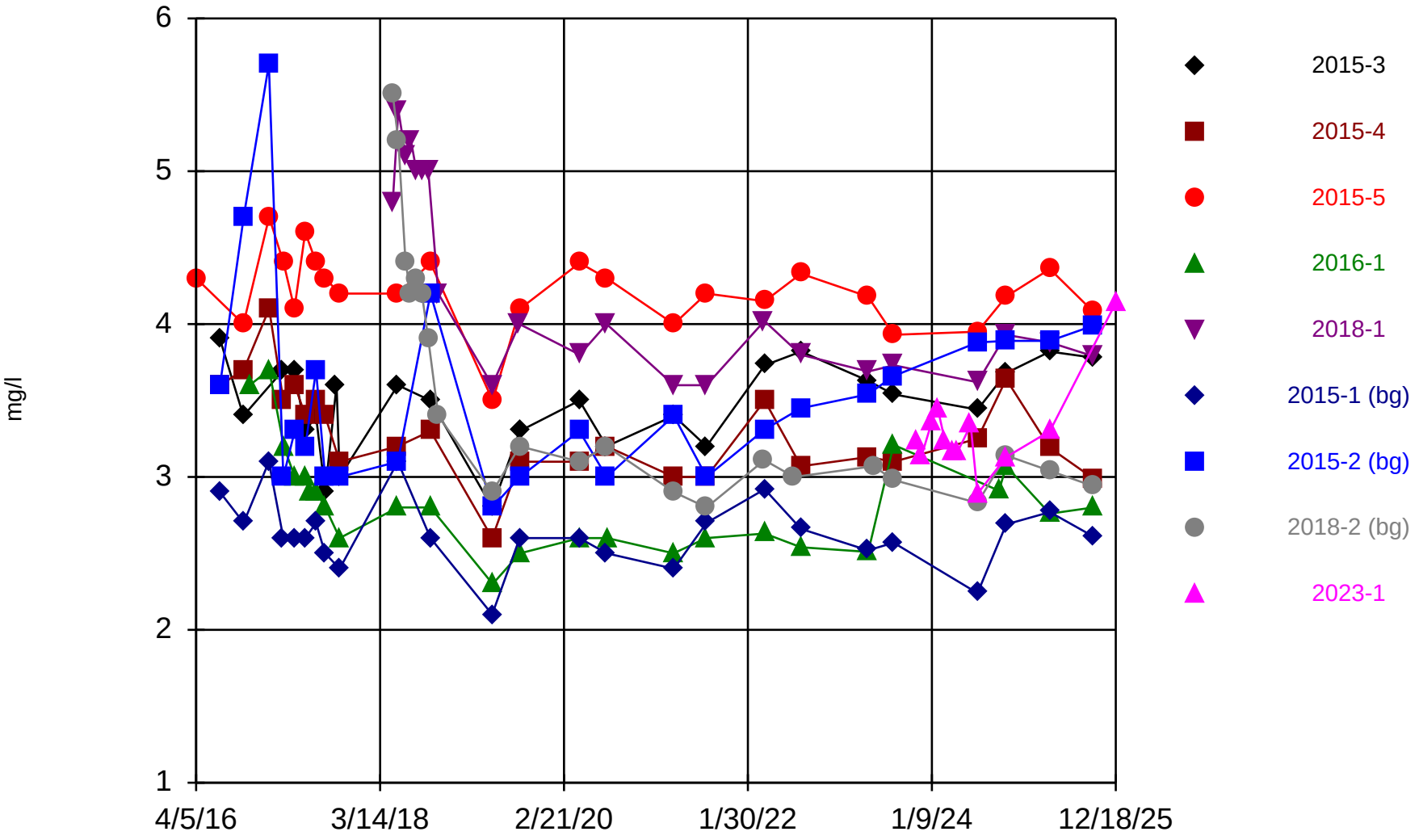
Boron, total



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

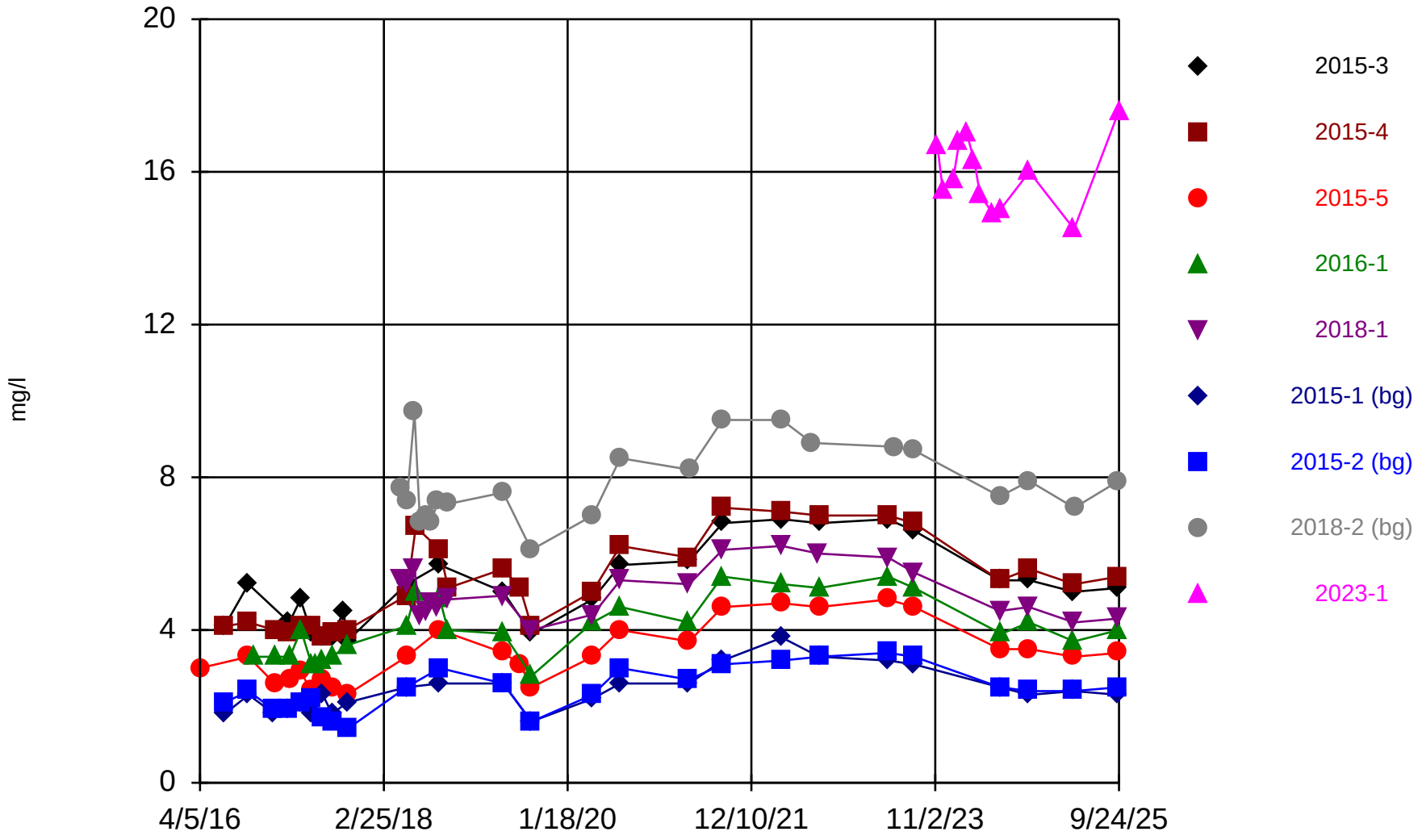
Calcium, total



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

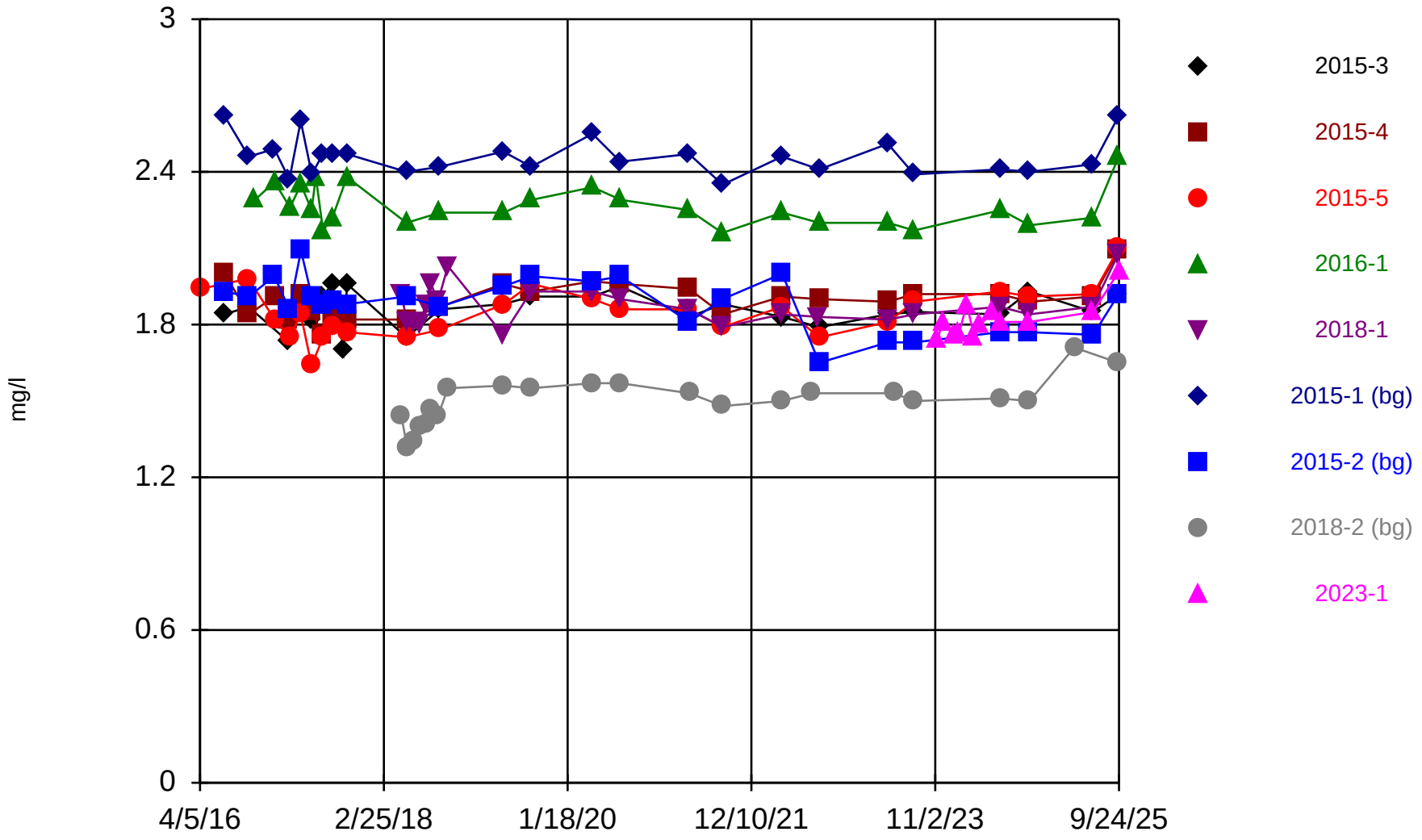
Chloride



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

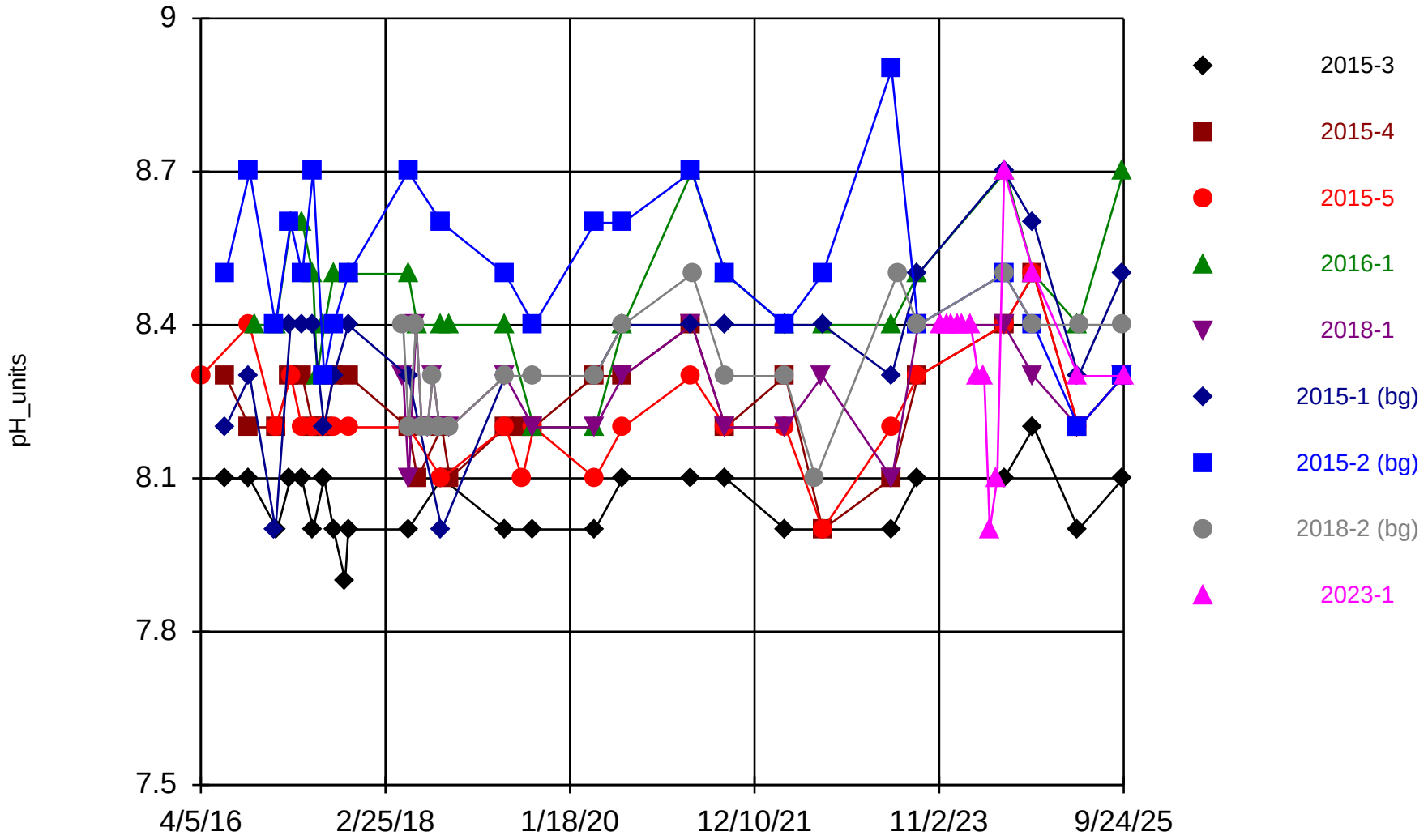
Fluoride



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

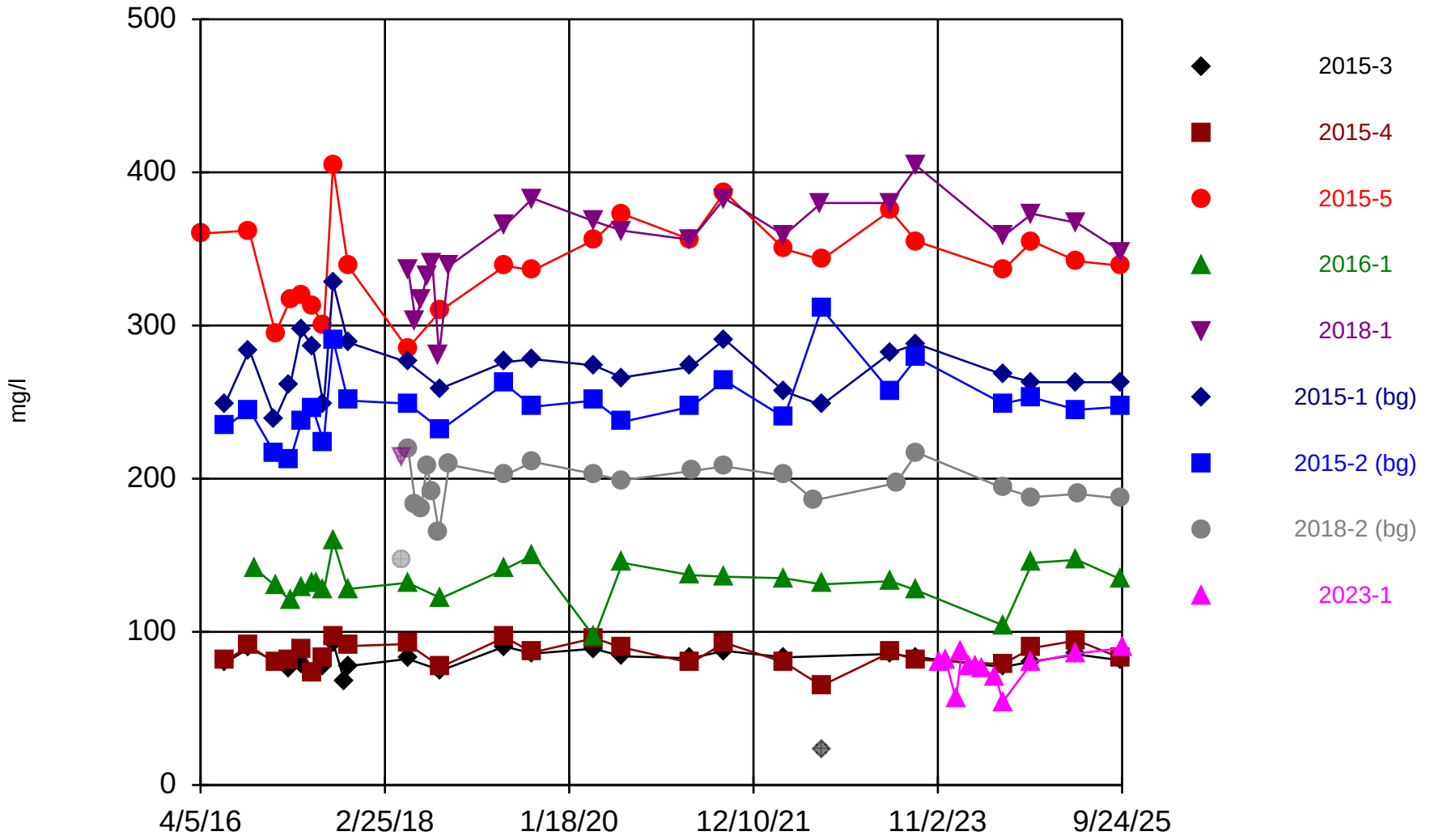
pH, field



Time Series Analysis Run 11/17/2025 4:46 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

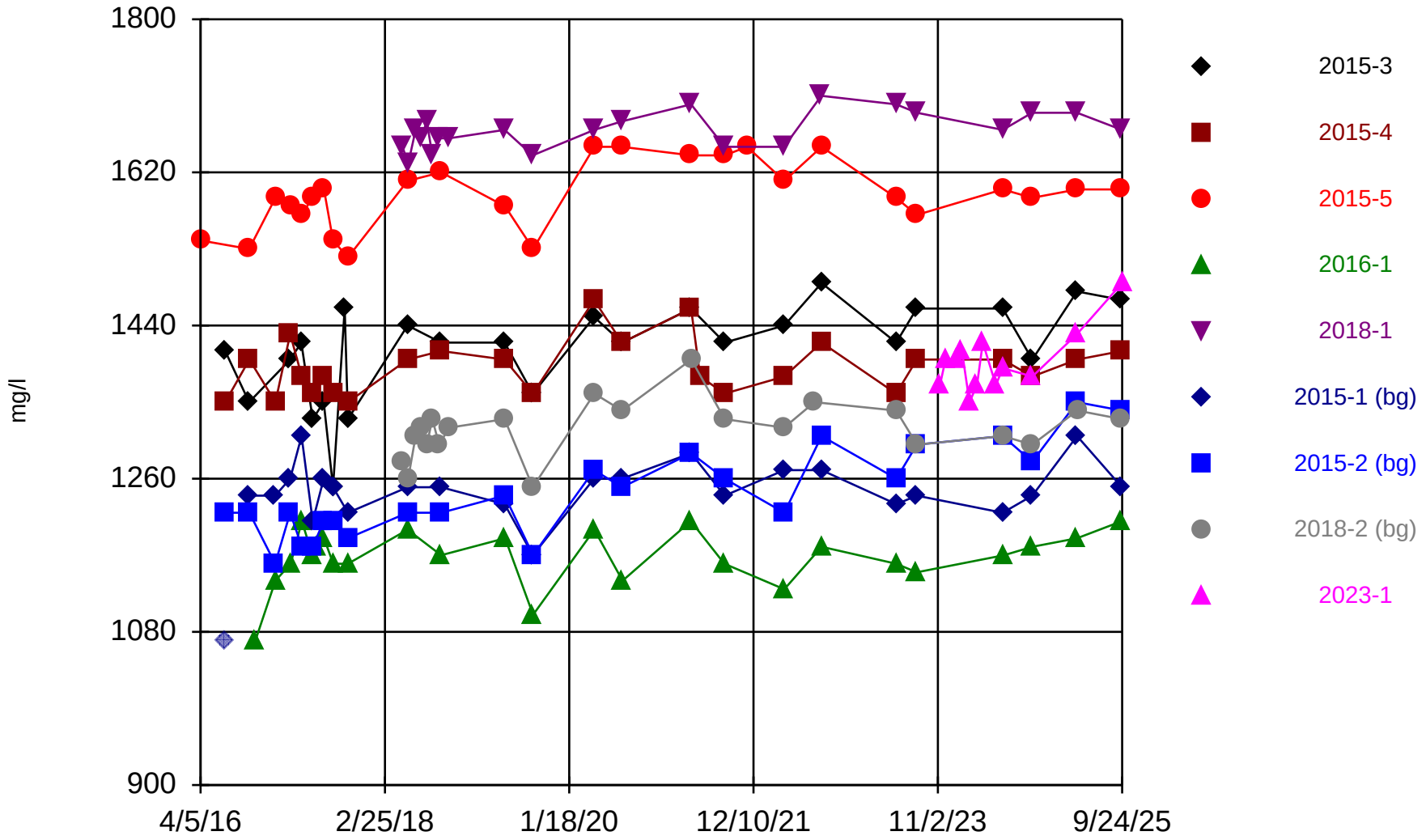
Sulfate, as SO4



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Total Dissolved Solids



Time Series Analysis Run 1/19/2026 12:35 PM View: AppxIII

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly