2022 Annual Groundwater Monitoring and Corrective Action Report

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

Prepared for
Minnkota Power Cooperative, Inc.

December 2022

(Revised March 2026)

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Summary for CCR Unit [§257.90(e)(6)]

At the beginning, end, and throughout 2022, the CCR unit was operating under the detection monitoring program in §257.94/§33.1-20-08-06-04. There were no statistically significant increase for any constituent listed in appendix III to the EPA CCR Rule and appendix I to the NDDEQ CCR Rule; therefore, no assessment monitoring program (§257.95)/(§33.1-20-08-06-05), or related corrective or remedial measures (§257.96, §257.97, and §257.98)/(§33.1-20-08-06-(06-08)), were necessary.

1.0 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. 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, which also shows the Facility CCR groundwater monitoring well network. 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 wells. Cell 1 and these downgradient wells will be referred to as the "Non-CCR unit". Groundwater monitoring of the Non-CCR unit is included in Section 3.0. Landfill Cell 2 and Surface Impoundment Cells 3 and 4 are each existing 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 "NDDEQ CCR Rule") and with the US Environmental Protection Agency (EPA) CCR Rule (40 CFR Parts 257 and 261 Disposal of Coal Combustion Residuals from Electric Utilities, US EPA 2015; 2018; 2020); herein these cells will be referred to as the "CCR unit."

This 2022 Annual Groundwater Monitoring and Corrective Action Report (AGMCAR) is required by NDAC 33.1-20-08 and the CCR Rule. Specific Rule requirements for the AGMCAR and demonstration of compliance are summarized in Table 1 and are described in more detail in Section 2.0.

Table 1 CCR Rule Requirements and Compliance

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.90(e)	**§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 2.0.
§257.90(e)(1)	**§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 2.1.1 and Figure 2.
§257.90(e)(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 2022.

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.90(e)(3)	**§33.1-20-08-06-01(e)(3)**	**Sampling Summary:** In addition to all the monitoring data obtained under §257.90 - §259.98 and §33.1-20-08-06, 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, all for detection monitoring. See Section 2.2.1, Table 3, Table 4, Table 5, Figure 3, and Figure 4.
§257.90(e)(4)	**§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 2.2.2.
§257.90(e)(5)	**§33.1-20-08-06-01(e)(5)**	**Other Information:** Other information required to be included in the annual report as specified in §257.90 - §259.98 and §33.1-20-08-06	See the responses below for the other information required in §§257.90 through 259.98.

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.90(e)(6)	**NA**	**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: • (i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95; • (ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95; • (iii) If it was determined that there was an SSI over background for one or more constituents for one or more constituents listed in appendix III to this part pursuant to §257.94(e): ○ (A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and ○ (B) Provide the date when the assessment monitoring program was initiated for the CCR unit. • (iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to §257.95(g) include all of the following: ○ (A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase; ○ (B) Provide the date when the assessment of corrective measures was initiated for the CCR unit; ○ (C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and ○ (D) Provide the date when the assessment of corrective measures was completed for the CCR unit. • (v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and • (vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Yes. See Summary page iii.

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.90(g)(1-3)	**§33.1-20-08-06-01(f)(1-2)**	**Suspension of groundwater monitoring requirements:** The department may suspend the ground water monitoring requirements of this section for a CCR unit for up to ten years if the owner or operator provides written documentation that there is no potential for migration of the constituents listed in appendices I and II to this chapter from that CCR unit to the uppermost aquifer during the active life of the CCR unit and the post closure care period. This demonstration must be certified by a qualified professional engineer and approved by the department. . . The owner or operator of the CCR unit may secure an additional ten years for the suspension of the ground water monitoring requirements provided the owner or operator provides written documentation that there continues to be no potential for migration. The documentation must be supported, at a minimum, by the same information required for the initial monitoring suspension and must be certified by a qualified professional engineer and approved by the department. The owner or operator shall submit the documentation of their re- demonstration for the department's review and approval of their extension one year before their ground water monitoring suspension is due to expire. If the existing ground water monitoring extension expires, the owner or operator shall begin ground water detection monitoring according to this section within ninety days. The owner or operator may obtain additional ten-year ground water monitoring suspensions provided the owner or operator continues to make the written demonstration. The owner or operator shall place each completed demonstration, if more than one ten-year suspension period is sought, in the facility's operating record.	No "no migration" demonstration was used.
§257.94(d)(3)	**§33.1-20-08-06-04(d)(3)**	**Detection Monitoring Program:** The owner or operator must obtain approval by the department for an alternative ground water sampling and analysis frequency. The owner or operator shall include the demonstration providing the basis for the alternative monitoring frequency in the annual ground water monitoring and corrective action report required by this section.	No alternative groundwater sampling frequency was used.

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.94(e)(2)	**§33.1-20-08-06-04(e)(2)**	**Detection Monitoring Program:** 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 ground water quality. The owner or operator shall complete the written demonstration within ninety days of detecting a statistically significant increase over background levels. If a successful demonstration is completed within the ninety-day period, the owner or operator of the CCR unit shall continue with a detection monitoring program under this section, with approval by the department. If a successful demonstration is not completed within the ninety-day period, the owner or operator of the CCR unit shall initiate an assessment monitoring program as required under subsection 5. The owner or operator also shall include the demonstration in the annual ground water monitoring and corrective action report.	There was no SSI over background levels for any appendix III/I constituent. See Section 2.2.2.
§257.95(c)(3)	**§33.1-20-08-06-05(c)(3)**	**Assessment monitoring program:** The owner or operator shall obtain approval by the department for an alternative ground water sampling and analysis frequency. The owner or operator shall include the demonstration providing the basis for the alternative monitoring frequency in the annual ground water monitoring and corrective action report required by this section.	No transition to assessment monitoring was necessary. See Section 2.2.2.
§257.95(d)(3)	**§33.1-20-08-06-05(d)(3)**	**Assessment monitoring program:** Include the recorded concentrations required by the assessment monitoring program, identify the background concentrations established under the detection monitoring program, and identify the ground water protection standards in the annual ground water monitoring and corrective action report.	No transition to assessment monitoring was necessary. See Section 2.2.2.

EPA CCR Rule Reference (40 CFR)	NDDEQ CCR Rule Reference (NDAC)	Content Required in the Annual Groundwater Monitoring and Corrective Action Report	Compliance with CCR Rules
§257.95(g)(3)(ii)	§33.1-20-08-06-05(g)(3)(b)	**Assessment monitoring program:** Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be approved by the department. If a successful demonstration is made, the owner or operator shall continue monitoring in accordance with the assessment monitoring program pursuant to this subsection and may return to detection monitoring if the constituents in appendices I and II to this chapter are at or below the established background. The owner or operator also shall include the demonstration in the annual ground water monitoring and corrective action report.	No transition to assessment monitoring was necessary. See Section 2.2.2.
§257.96(a)	§33.1-20-08-06-06(a)	**Assessment of corrective measures:** Within ninety days of finding that any constituent listed in appendix III/I or IV/II has been detected at a statistically significant level exceeding the ground water protection standard, or immediately upon detection of a release from a CCR unit, the owner or operator shall initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected areas to original conditions. The assessment of corrective measures must be completed within ninety days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstance and obtains approval by the department. The ninety-day deadline to complete the assessment of corrective measures may be extended for no longer than sixty days. The owner or operator also shall include the demonstration and approval in the annual ground water monitoring and corrective action report.	No transition to assessment monitoring was necessary. See Section 2.2.2.
§257.93(c)	§33.1-20-08-06-03(c)	**Groundwater sampling and analysis requirements:** Ground water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator of the CCR unit shall determine the rate and direction of ground water flow each time ground water is sampled. Ground water elevations in wells which monitor the same CCR management area must be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water flow rate and direction.	Yes. See Figure 3, Figure 4, and their attachments.

2.0 CCR Groundwater Monitoring and Corrective Action Program

Section 2.0 documents the status of the groundwater monitoring and corrective action program for the CCR unit for 2022. This section has two major divisions: (2.1) Groundwater Monitoring System and (2.2) 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 2022.

2.1 Groundwater Monitoring System

Documentation of the CCR unit groundwater monitoring system and discussion of key actions completed in 2022 and planned for 2023 are discussed below.

2.1.1 Documentation of Monitoring System

Figure 2 shows the three upgradient (2015-1, 2015-2, and 2018-2) and the five downgradient (2015-3, 2015-4, 2015-5, 2016-1, and 2018-1) monitoring wells for the CCR unit groundwater monitoring system. Table 2 provides the construction details, including 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, 2022).

2.1.2 Key Actions Completed/Problems Encountered

The following key actions for the monitoring system were completed in 2022:

- A qualified professional engineer (QPE) certified the third revision to the *Groundwater Monitoring System Certification Report* (Barr, 2022a), which was updated as a part of a permit modification application to comply with provisions of NDAC Chapter 33.1-20-08 (Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments).
- The second revisions of the *CCR Unit Groundwater Sampling and Analysis Plan* (Barr, 2022b) and the *Groundwater Statistical Analysis Plan* (Barr, 2022c) were updated as part of the aforementioned permit modification application.
- Two sets of semiannual detection monitoring groundwater samples were collected from each of the eight monitoring wells and were analyzed for the constituents listed in appendix III of the EPA CCR Rule [§257.94(a-b)] and appendix I of the NDDEQ CCR Rule [§33.1-20-08-06-04(a-b)]
- Both semiannual detection monitoring sample sets from the eight monitoring wells were also analyzed for lithium at a reporting limit of 20 µg/L.

No significant problems were encountered for the CCR unit groundwater monitoring system in 2022.

2.1.3 Key Activities for Upcoming Year

The following key activities for the groundwater monitoring system are planned for 2023:

- Wells in the CCR groundwater monitoring system and dedicated bladder pumps will be operated and maintained so that they perform to their design specifications [§257.91(e)(2)]/[§33.1-20-08-02(e)(2)].
- Sampling events for semiannual detection monitoring are scheduled for April and August of 2023.
- One downgradient well, 2023-1, will be installed to correspond with expansion of the CCR unit to include Cell 5.

2.2 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 2022 and planned for 2023.

2.2.1 Documentation of Results and Evaluation

Table 3 provides a summary of the dates and analytical results for the two semiannual sampling events completed in 2022 for the eight wells in the CCR unit groundwater monitoring system. Table 4 shows the field blank results for the same sampling period. All 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 [§257.93(c)]/[§33.1-20-08-03(c)]. All groundwater elevations are shown on Table 5. Figure 3 and Figure 4 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, 2022), 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.

2.2.2 Key Actions Completed/Problems Encountered

The following key actions were completed with respect to analytical results and statistical evaluation in 2022:

- *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance (*US EPA, 2009) recommends updating the background water quality dataset when at least four to eight new measurements have been collected, approximately every 2-3 years when sampling semi-

annually. The appendix III/I constituent backgrounds in all eight wells of the CCR unit monitoring network were last updated in the Spring of 2019, and 5 new measurements had been recorded. As a result, the background data were updated to incorporate measurements collected prior to the spring 2022 sampling into the background.

- Analytical results for the first semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (Appendix A), as described in the *Groundwater Statistical Analysis Plan* (Barr, 2022). No SSIs were identified; therefore, there was no transition to assessment monitoring.

- Analytical results for the second semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (Appendix B), as described in the *Groundwater Statistical Analysis Plan* (Barr, 2022). Time-series graphs for the appendix III/I constituents for both upgradient and downgradient wells are provided in Appendix C. No SSIs were identified; therefore, there was no transition to assessment monitoring.

- Amendments to the EPA CCR Rule were published on July 30, 2018 (US EPA, 2018) and included in the NDDEQ CCR Rule. One of the amendments [§257.95(h)(2)(iii)]/[§33.1-20-08-06-05(h)(2)(c)] set the default lithium groundwater protection standard at 40 µg/L. In July 2018, in anticipation of this amendment, the laboratory analyzing Facility groundwater samples lowered its lithium reporting limit from 100 µg/L to 40 µg/L. In September 2018, the lab further lowered its lithium reporting limit to 20 µg/L. Lithium concentrations for all upgradient and downgradient wells in 2022 and earlier are shown on the time-series graph in Appendix D. All lithium concentrations in all upgradient and downgradient wells are above the default groundwater protection standard of 40 µg/L. Because the ranges of lithium concentrations in samples from both upgradient and downgradient wells overlap, these values are likely indicative of background concentrations, not a release from the CCR unit. In the event of assessment monitoring, a groundwater protection standard for lithium will be established based on background concentrations [§257.95(h)(3)]/[§33.1-20-08-06-05(h)(3)]. At the conclusion of the second semiannual sampling event in 2022, all eight wells in the CCR monitoring network have recorded a full baseline dataset of eight lithium samples; therefore, future semiannual sampling events as part of the detection monitoring program will not include analysis for lithium.

No significant problems were encountered during sampling, analysis, and statistical evaluation of the results for the CCR unit groundwater monitoring system in 2022.

2.2.3 Key Activities for Upcoming Year

The following key activities for analytical results and statistical evaluation are planned for 2023:

- Evaluate analytical results from the 2023 semiannual detection monitoring events for SSIs for appendix III/I constituents according to the *Groundwater Statistical Analysis Plan* (Barr, 2022c).

3.0 Non-CCR Groundwater Monitoring and Corrective Action Program

Section 3.0 documents the status of the groundwater monitoring and corrective action program for the Non-CCR unit for 2022. The NDDEQ regulates the operation of Minnkota's CCR disposal facility under NDAC §33.1-20, special waste permit SP-0159 located at 3401 24th St SW, Center, ND 58530. This section satisfies the groundwater monitoring requirements of 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 2022.

3.1 Groundwater Monitoring System

Documentation of the Non-CCR unit groundwater monitoring system and discussion of key actions completed in 2022 and planned for 2023 are discussed below.

3.1.1 Documentation of Monitoring System

Figure 2 shows the two downgradient (92-3 and 95-4) monitoring wells of 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 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, 2022).*

3.1.2 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 NDDEQ 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 2022.

3.1.3 Key Activities for Upcoming Year

The following key activities for the groundwater monitoring system are planned for 2023:

- Wells in the Non-CCR 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 2023.

3.2 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 2022 and planned for 2023. The Non-CCR unit is monitored for constituents listed in appendix I of NDAC 33.1-20-08 to be consistent with the CCR unit. Additionally, background data sets of the Non-CCR monitoring wells were updated to match the datasets of the CCR monitoring wells (i.e., to include semiannual sampling data collected between 2016 and 2021). This ensures a uniform approach to groundwater monitoring for the facility across both the CCR and Non-CCR units.

3.2.1 Documentation of Results and Evaluations

Table 6 provides a summary of the dates and analytical results for the two semiannual sampling events completed in 2022 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.

3.2.2 Key Actions Completed/Problems Encountered

The following key actions were completed with respect to analytical results and statistical evaluation in 2022:

- Analytical results for the first semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (Appendix E), as described in the *Groundwater Statistical Analysis Plan* (Barr, 2022c). No SSIs were identified; therefore, there was no transition to assessment monitoring.
- Analytical results for the second semiannual sampling event for the downgradient wells were analyzed for SSIs using intrawell control charts (Appendix F), as described in the *Groundwater Statistical Analysis Plan* (Barr, 2022c). Time-series graphs for the appendix I constituents for upgradient wells and for downgradient wells are provided in Appendix G. No SSIs were identified; therefore, there was no transition to assessment monitoring.

No significant problems were encountered during sampling, analysis, and statistical evaluation of the results for the Non-CCR unit groundwater monitoring system in 2022, and there were no conditions that prevented compliance with the permit.

3.2.3 Key Activities for Upcoming Year

The following key activities for analytical results and statistical evaluation are planned for 2023:

- Evaluate analytical results from the 2023 semiannual ground water quality (detection) monitoring events for SSIs for appendix I constituents according to the *Groundwater Statistical Analysis Plan* (Barr, 2022c).

4.0 References

Barr, 2022a, *Groundwater Monitoring System Certification Report*, Revision 3, June 2022.

Barr, 2022b, *CCR Unit Groundwater Sampling and Analysis Plan*, Revision 2, June 2022.

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

NDDEQ, 2020, Solid Waste Management and Land Protection Rules, NDAC Article 33.1-20

US EPA, 2020, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; A Holistic Approach to Closure Part A: Deadline To Initiate Closure, Federal Register, Vol. 85, No. 168.

US EPA, 2018, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Amendments to the National Minimum Criteria (Phase one, Part One), Federal Register, Vol. 83, No. 146.

US EPA, 2015, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, Federal Register, Vol. 80, No. 74.

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)
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
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	N/A
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	N/A

* WGS84 Datum

BGS - Below ground surface.
MSL - Mean sea level.
PVC - Polyvinyl chloride.
Sch - Schedule.
TOC - Top of casing.
N/A - Not Available

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

			Upgradient Background						Downgradient SSI Evaluation											
		Location	2015-1	2015-1	2015-2	2015-2	2018-2	2018-2	2015-3	2015-3	2015-4	2015-4	2015-5		2015-5	2016-1	2016-1		2018-1	2018-1
		Date	4/5/22	8/23/22	4/5/22	8/23/22	4/4/22	7/27/22	4/5/22	8/23/22	4/5/22	8/23/22	4/5/22		8/23/22	4/5/22	8/23/22		4/4/22	8/22/22
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	N
Parameter	Total or Dissolved	Units																		
Appendix III/I Constituents																				
Boron	Total	mg/l	0.46	0.46	0.48	0.48	0.46	0.46	0.50	0.52	0.53	0.52	0.49	0.49	0.49	0.53	0.51	0.51	0.53	0.52
Calcium	Total	mg/l	2.92	2.66	3.31	3.45	3.11	3.00	3.73	3.82	3.50	3.07	4.15	4.20	4.33	2.63	2.54	2.51	4.02	3.80
Chloride	NA	mg/l	3.8	3.3	3.2	3.3	9.5	8.9	6.9	6.8	7.1	7.0	4.7	4.8	4.6	5.2	5.1	5.1	6.2	6.0
Fluoride	NA	mg/l	2.46	2.41 H	2.00	1.65	1.50	1.53	1.83	1.79	1.91	1.90	1.87	1.88	1.75	2.24	2.20	2.20	1.84	1.83
pH, Field	NA	pH units	8.41	8.38	8.44	8.48	8.28	8.12	8.05	8.00	8.27	8.02	8.22	--	8.01	8.42	8.44	--	8.25	8.26
Sulfate, as SO4	NA	mg/l	257	248	240	311	202	186	83.3	23.0	80.0	64.8	350	349	343	135	131	114	359	380
Solids, total dissolved	NA	mg/l	1270	1270	1220	1310	1320	1350	1440	1490	1380	1420	1610	1600	1650	1130	1180	1180	1650	1710
Appendix IV/II Constituents																				
Lithium	Total	mg/l	0.0484	0.0486	0.0604	0.0621	0.0521	0.0424	0.0556	0.0577	0.0627	0.0647	0.0594	0.0606	0.0619	0.0441	0.0443	0.0441	0.0674	0.0659
Other Constituents																				
Temperature, Field	NA	deg C	7.49	15.17	7.47	11.67	9.48	--	7.49	13.42	7.58	16.51	7.41	--	17.58	8.03	12.63	--	8.83	15.00
Turbidity, Field	NA	NTU	19.24	16.75	1.45	0.98	< 0.1 U	--	2.23	17.50	1.31	1.57	0.24	--	1.55	1.10	0.11	--	< 0.1 U	0.12
Specific conductance @ 25 ºC, Field	NA	umhos/cm	1792	1621	1848	1872	1882	--	2137	2207	1938	2118	2251	--	2120	1709	1767	--	2319	2442

-- Not analyzed/Not available.
N Sample Type: Normal
FD Sample Type: Field Duplicate
NA (not applicable) indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.

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

		Location	QC	QC
		Date	4/06/2022	8/23/2022
		Sample Type	Field Blank	Field Blank
Parameter	Total or Dissolved	Units		
Appendix III/I Constituents				
Boron	Total	mg/l	< 0.1 U	< 0.1 U
Calcium	Total	mg/l	< 1 U	< 1 U
Chloride	NA	mg/l	< 2.00 U	< 2.0 U
Fluoride	NA	mg/l	< 0.1 U	< 0.1 U
pH (lab)	NA	pH units	**6.0 H**	**7.1 H**
Sulfate, as SO4	NA	mg/l	< 5 U	< 5 U
Solids, total dissolved	NA	mg/l	< 10 U	< 10 U
Appendix IV/II Constituents				
Lithium	Total	mg/l	< 0.02 U	< 0.02 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	5/5/2022	134.65	2047.70	1913.05
2015-1			8/23/2022	134.38	2047.70	1913.32
2015-2	Upgradient	Background	5/5/2022	128.56	2047.60	1919.04
2015-2			8/23/2022	128.51	2047.60	1919.09
2018-2	Upgradient	Background	5/4/2022	152.57	2053.40	1900.83
2018-2			7/27/2022	152.71	2053.40	1900.69
2015-3	Downgradient	SSI Evaluation	5/5/2022	110.06	2012.80	1902.74
2015-3			8/23/2022	110.22	2012.80	1902.58
2015-4	Downgradient	SSI Evaluation	5/5/2022	120.98	2016.90	1895.92
2015-4			8/23/2022	121.05	2016.90	1895.85
2015-5	Downgradient	SSI Evaluation	5/5/2022	150.02	2050.20	1900.18
2015-5			8/23/2022	150.52	2050.20	1899.68
2016-1	Downgradient	SSI Evaluation	5/5/2022	127.73	2028.90	1901.17
2016-1			8/23/2022	127.84	2028.90	1901.06
2018-1	Downgradient	SSI Evaluation	5/4/2022	174.11	2074.80	1900.69
2018-1			8/22/2022	174.50	2074.80	1900.30
92-3	Downgradient	SSI Evaluation	4/7/2022	91.28	1992.84	1901.56
92-3			8/24/2022	91.10	1992.84	1901.74
95-4	Downgradient	SSI Evaluation	4/7/2022	93.05	1994.10	1901.05
95-4			8/24/2022	92.87	1994.10	1901.23

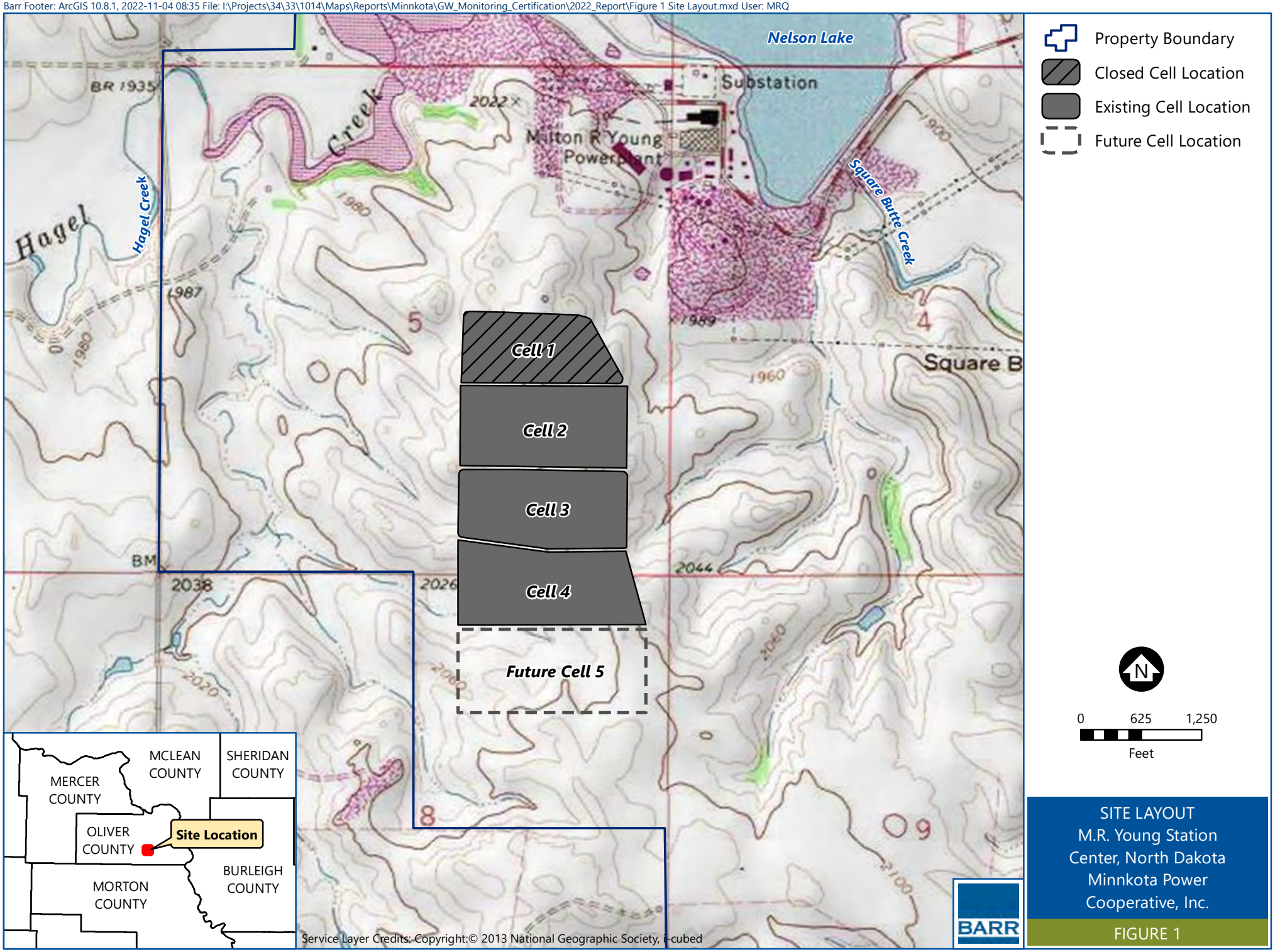
Table 6
Historic Water Quality Results
Minnkota Power Cooperative, Inc.

		Location	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3	92-3
		Date	6/6/16	10/3/16	5/30/17	10/11/17	5/23/18	9/25/18	5/28/19	9/5/19	4/23/20	8/5/20	4/21/21	8/25/21	4/7/22	8/24/22
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Data Status	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource
Parameter	Total or Dissolved	Units														
Appendix III/I Constituents																
Calcium	Total	mg/l	2.9	2.3	2.4	2.4	2.5	2.4	2	2.4	2.4	2.4	2.5	2.5	2.88	2.46
Chloride	NA	mg/l	4.4	4.2	3.7	4.2	4.7	5.9	5.3	4.5	5	6.2	6	7.6	7.2	7.1
Fluoride	NA	mg/l	1.59	1.58	1.6	1.61	1.55	1.61	1.63	1.64	1.64	1.63	1.6	1.59	1.54	1.67
pH (lab)	NA	pH units	8.4	8.2	8.7	8.7	8.7	8.6	8.6	8.7	8.7	8.8	8.6	8.4	8.4	8.7
Sulfate, as SO4	NA	mg/l	121	141	146	119	148	117	116	124	124	117	127	132	136	112
Solids, total dissolved, sum of constituents	NA	mg/l	1060	1100	1090	1080	1150	1130	1120	1140	1110	1120	1130	1180	1180	1100
Other Constituents																
Boron	Dissolved	mg/l	0.51	0.48	0.46	0.5	0.51	0.46	0.47	0.45	0.47	0.45	0.46	0.45	0.48	0.48

		Location	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4	95-4
		Date	6/7/16	10/3/16	5/31/17	10/11/17	5/23/18	9/25/18	5/28/19	9/5/19	4/23/20	8/5/20	4/21/21	8/25/21	4/7/22	8/24/22
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Data Status	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource	SSource
Parameter	Total or Dissolved	Units														
Appendix III/I Constituents																
Calcium	Total	mg/l	2.1	2.1	2	3	< 1 U	2.2	1.7	2.2	2.1	2.2	2.3	2.2	2.26	2.22
Chloride	NA	mg/l	4.4	4	4.1	2.4	4.9	6	5.2	4.4	4.9	6.2	5.8	7.3	6.9	6.9
Fluoride	NA	mg/l	1.13	1.09	1.1	1.63	1.07	1.12	1.15	1.12	1.12	1.13	1.16	1.14	1.1	1.16
pH (lab)	NA	pH units	8.4	8.3	8.6	8.5	8.7	8.6	8.6	8.7	8.6	8.7	8.6	8.4	8.4	8.23
Sulfate, as SO4	NA	mg/l	122	117	109	83.4	132	110	104	113	122	109	119	118	127	132
Solids, total dissolved, sum of constituents	NA	mg/l	1060	1070	1080	1330	1130	1120	1110	1200	1090	1100	1120	1160	1180	1160
Other Constituents																
Boron	Dissolved	mg/l	0.51	0.47	0.46	0.53	0.5	0.45	0.47	0.45	0.47	0.46	0.45	0.45	0.48	0.47

Ssource: Data has not undergone Standard Barr QA/QC Review.
-- Not analyzed/Not available.
N Sample Type: Normal
NA (not applicable) indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.

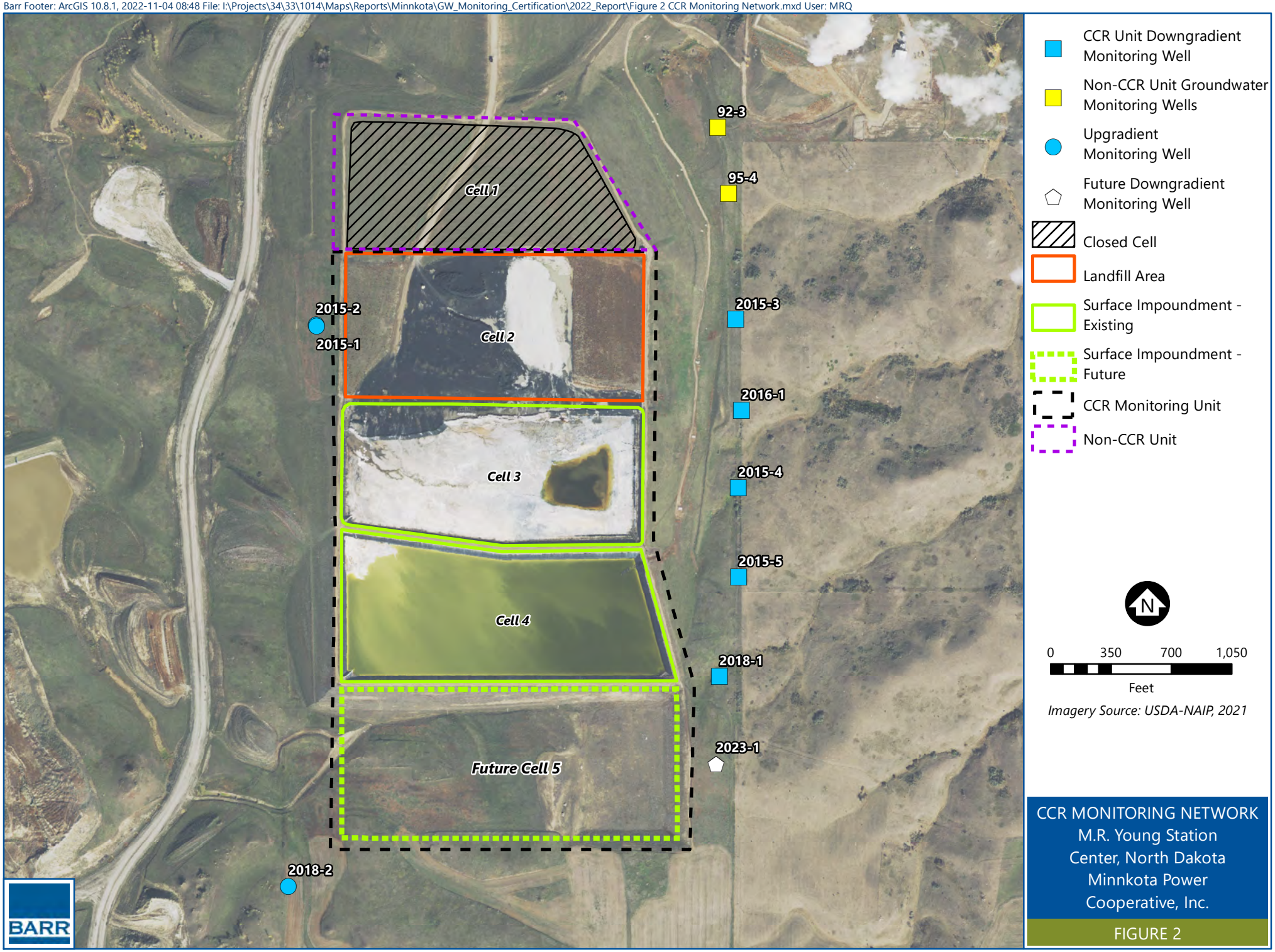
Figures



SITE LAYOUT
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

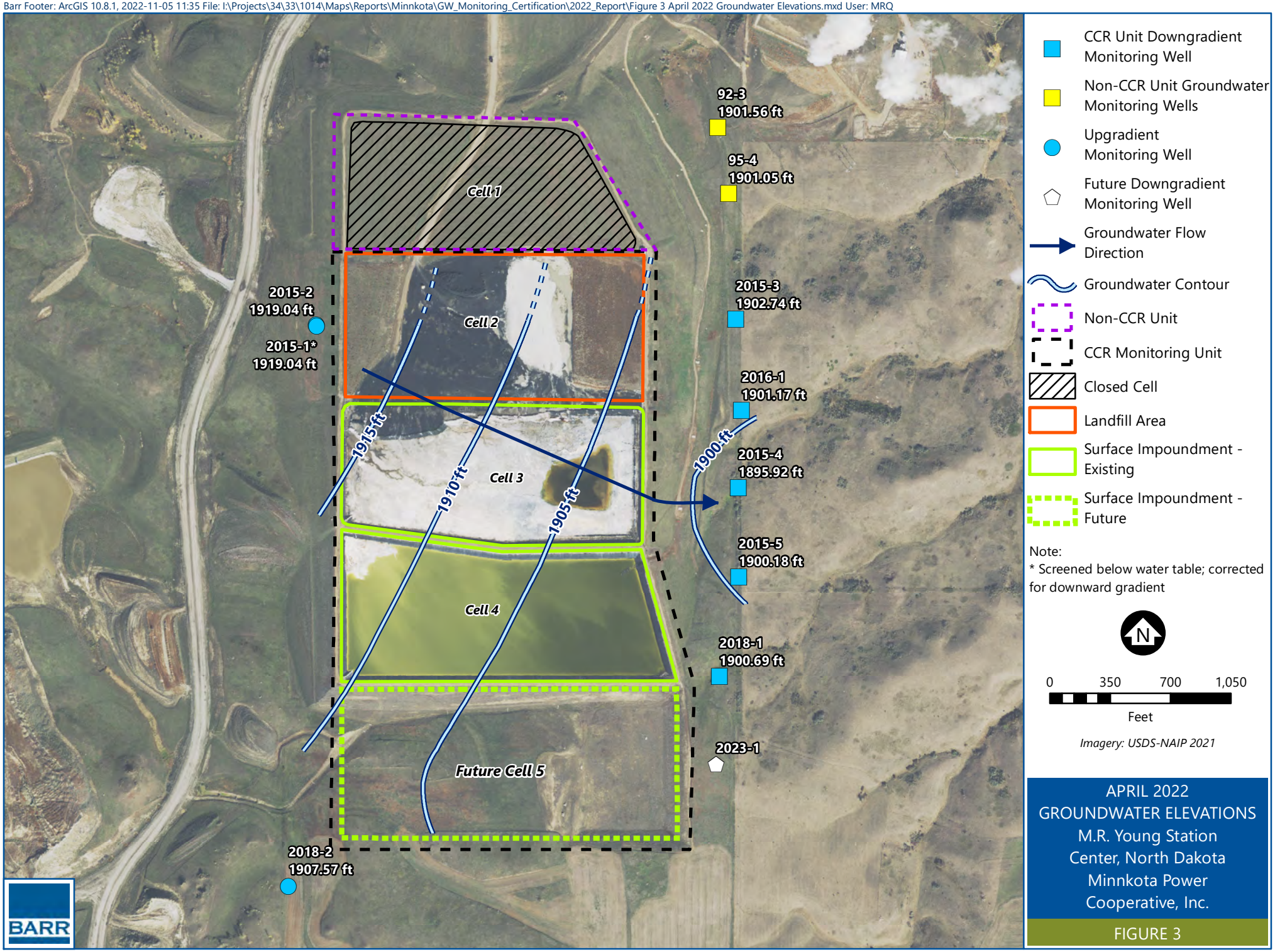
FIGURE 1

Barr Footer: ArcGIS 10.8.1, 2022-11-04 08:48 File: I:\Projects\34\33\1014\Maps\Reports\Minnkota\GW_Monitoring_Certification\2022_Report\Figure 2 CCR Monitoring Network.mxd User: MRQ



CCR MONITORING NETWORK
M.R. Young Station
Center, North Dakota
Minnkota Power
Cooperative, Inc.

FIGURE 2



CCR Unit Downgradient Monitoring Well

Non-CCR Unit Groundwater Monitoring Wells

Upgradient Monitoring Well

Future Downgradient Monitoring Well

Groundwater Flow Direction

Groundwater Contour

Non-CCR Unit

CCR Monitoring Unit

Closed Cell

Landfill Area

Surface Impoundment - Existing

Surface Impoundment - Future

Note:
* Screened below water table; corrected for downward gradient

N

0 350 700 1,050

Feet

Imagery: USDS-NAIP 2021

APRIL 2022 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 [§257.93(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 2022. 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 1,230 ft.

The horizontal average linear flow velocity (rate) under the CCR unit can be estimated as follows (Barr, 2022):

$$V = K * i/n_e$$

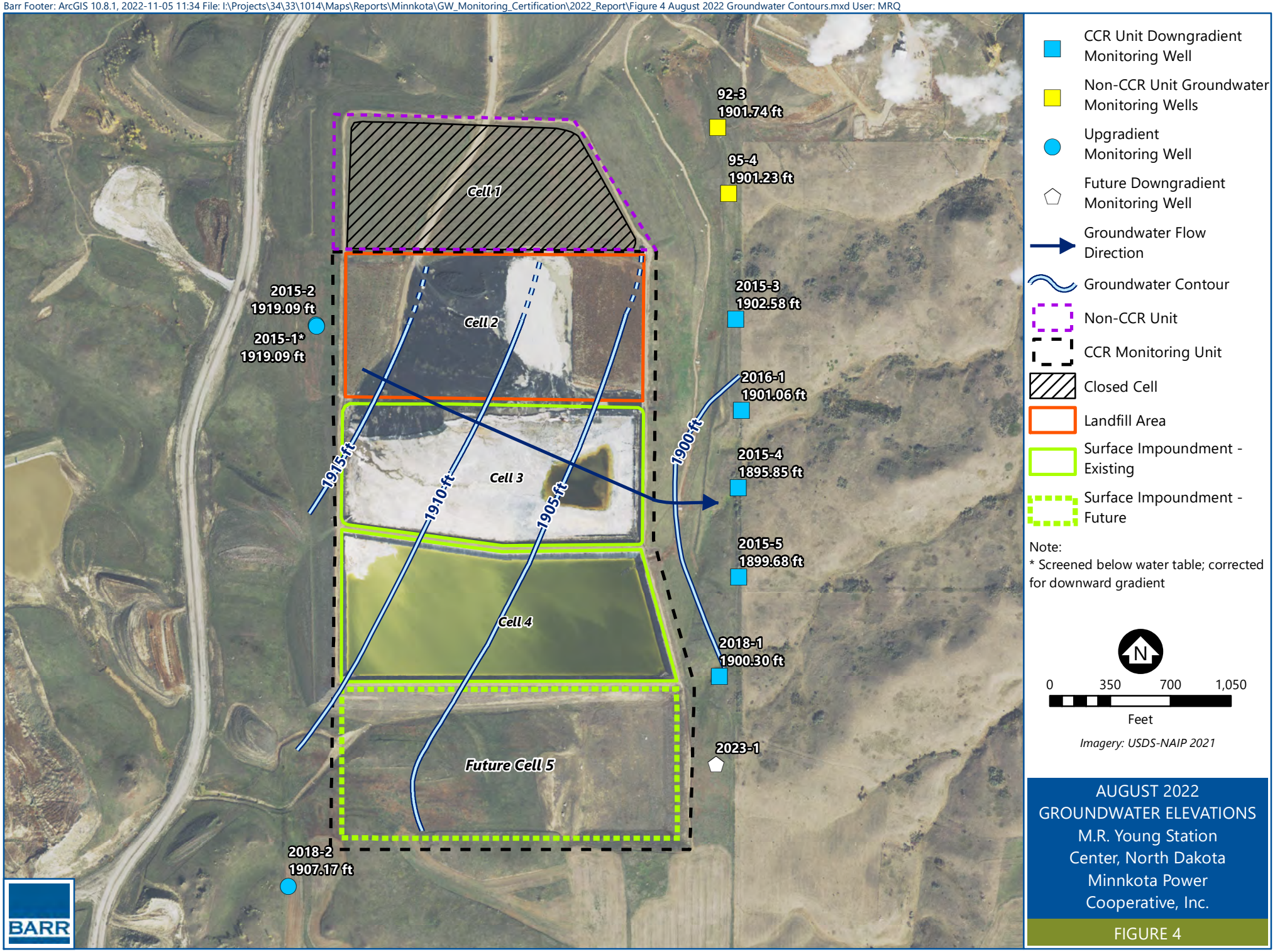
Where: V = horizontal average linear flow velocity

K = hydraulic conductivity

i = gradient = 10 ft/1,230 ft = 0.0081 for April 2022

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 2.6×10^{-3} ft/day (Barr, 2022). Therefore, the groundwater flow rate for April 2022 is estimated to be 1.41×10^{-4} ft/day, or 0.051 ft/year.



CCR Unit Downgradient Monitoring Well

Non-CCR Unit Groundwater Monitoring Wells

Upgradient Monitoring Well

Future Downgradient Monitoring Well

Groundwater Flow Direction

Groundwater Contour

Non-CCR Unit

CCR Monitoring Unit

Closed Cell

Landfill Area

Surface Impoundment - Existing

Surface Impoundment - Future

Note:
* Screened below water table; corrected for downward gradient

N

0 350 700 1,050

Feet

Imagery: USDS-NAIP 2021

AUGUST 2022 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 [§257.93(c)]."

Figure 4 shows the approximate contour elevations for the water table aquifer based on water level measurements taken in the monitoring wells in August 2022. 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 1,220 ft.

The horizontal average linear flow velocity (rate) under the CCR unit can be estimated as follows (Barr, 2022):

$$V = K * i/n_e$$

Where: V = horizontal average linear flow velocity

K = hydraulic conductivity

i = gradient = 10 ft/1,220 ft = 0.0082 for August 2022

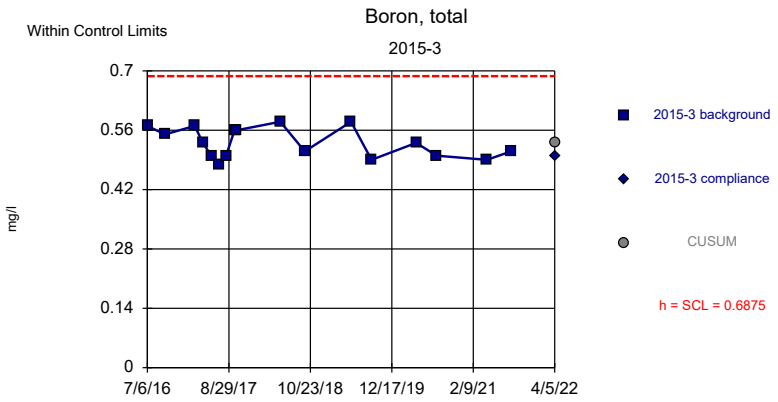
n_e = effective porosity = 0.15 (estimated for silty-clayey sandstone)

The geometric mean of the K values measured for the monitoring wells at the Facility is 2.6×10^{-3} ft/day (Barr, 2022). Therefore, the groundwater flow rate for August 2022 is estimated to be 1.42×10^{-4} ft/day, or 0.052 ft/year.

Appendices

Appendix A

Statistical Review for SSIs: Event 1

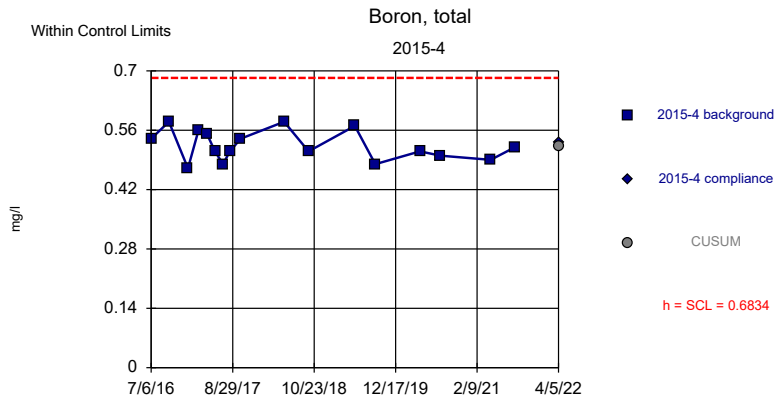


Background Data Summary: Mean=0.53, Std. Dev.=0.035, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8996, critical = 0.892. Report alpha = 0.00025. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

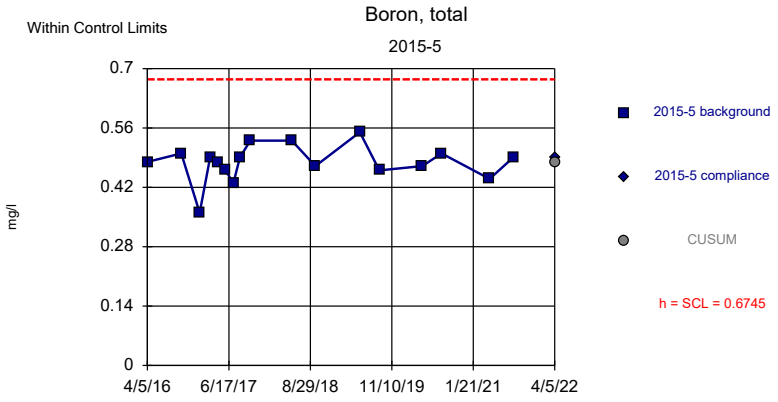


Background Data Summary: Mean=0.5235, Std. Dev.=0.03552, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9383, critical = 0.892. Report alpha = 0.00025. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

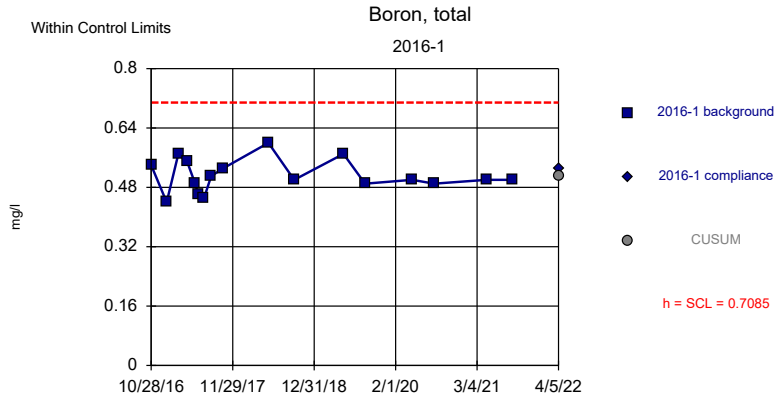


Background Data Summary: Mean=0.4782, Std. Dev.=0.04362, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9276, critical = 0.892. Report alpha = 0.00025. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

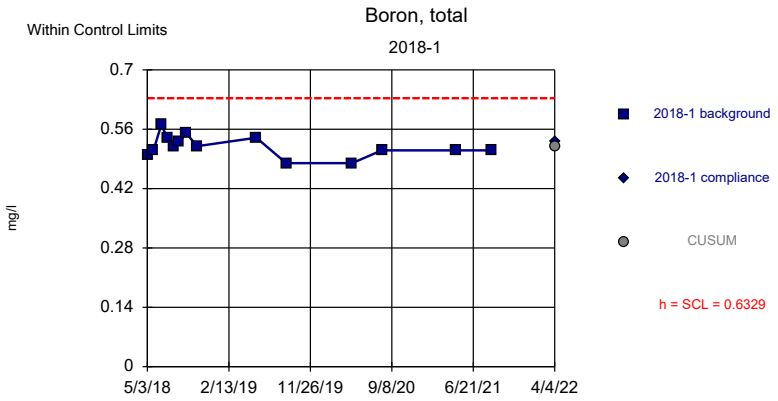
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=0.5112, Std. Dev.=0.04386, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9547, critical = 0.892. Report alpha = 0.00025. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

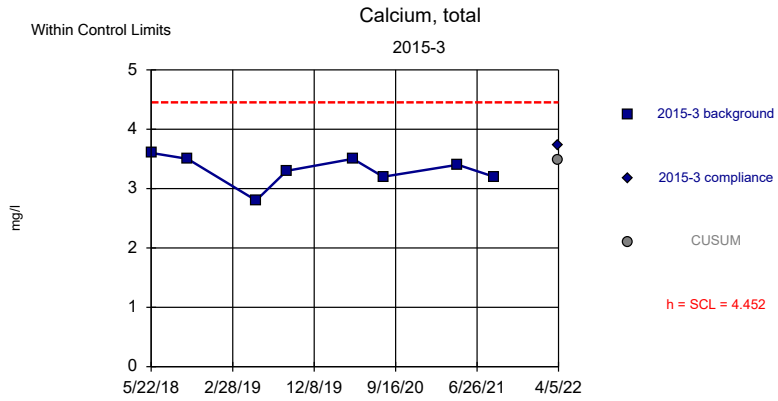


Background Data Summary: Mean=0.5193, Std. Dev.=0.02526, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.959, critical = 0.874. Report alpha = 0.000374. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

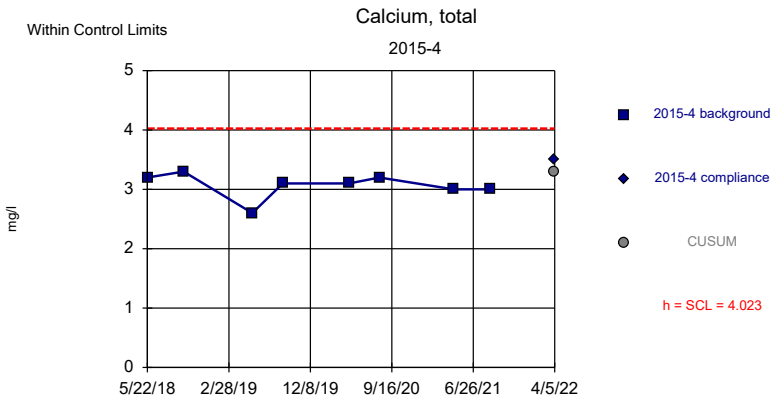


Background Data Summary: Mean=3.313, Std. Dev.=0.2532, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9042, critical = 0.818. Report alpha = 0.00199. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:32 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

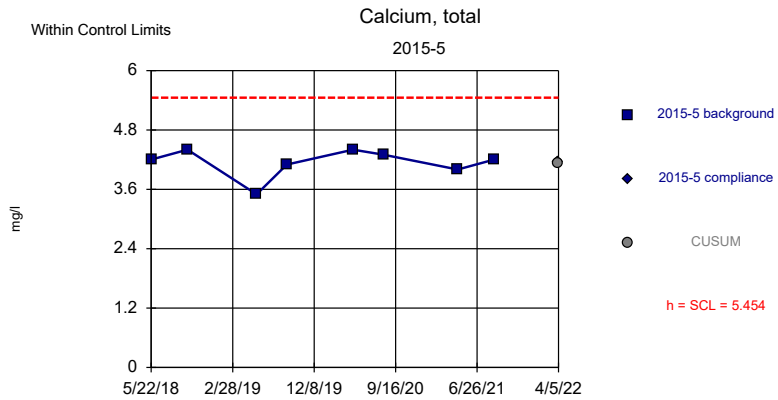


Background Data Summary: Mean=3.063, Std. Dev.=0.2134, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8541, critical = 0.818. Report alpha = 0.00199. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

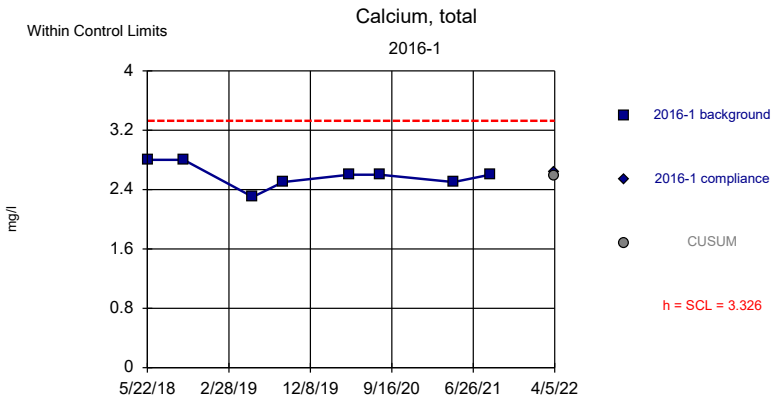
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=4.138, Std. Dev.=0.2925, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8327, critical = 0.818. Report alpha = 0.00199. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

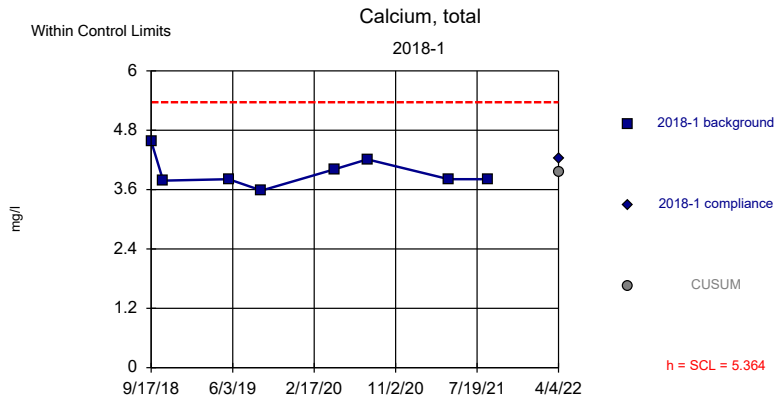


Background Data Summary: Mean=2.588, Std. Dev.=0.1642, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9122, critical = 0.818. Report alpha = 0.00199. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

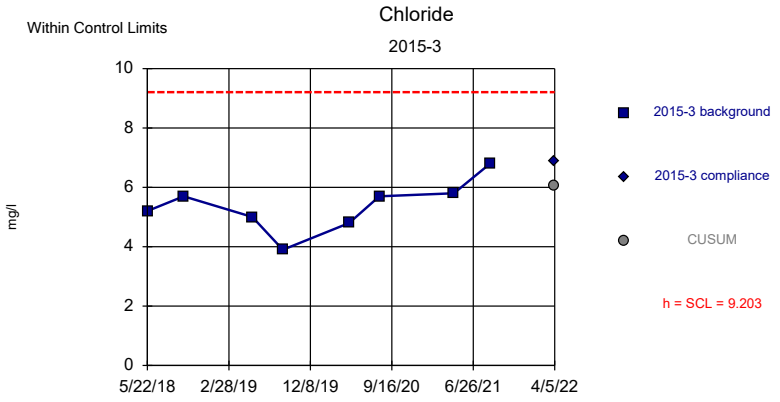


Background Data Summary: Mean=3.949, Std. Dev.=0.3146, n=8. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8696, critical = 0.818. Report alpha = 0.00199. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

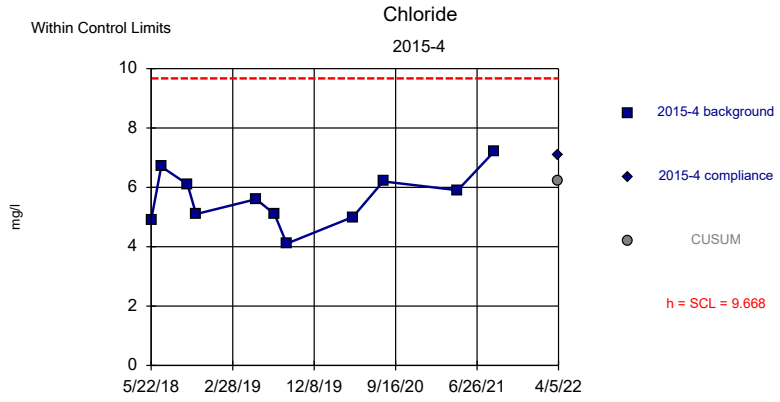


Background Data Summary: Mean=5.363, Std. Dev.=0.8535, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9679, critical = 0.818. Report alpha = 0.00199. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

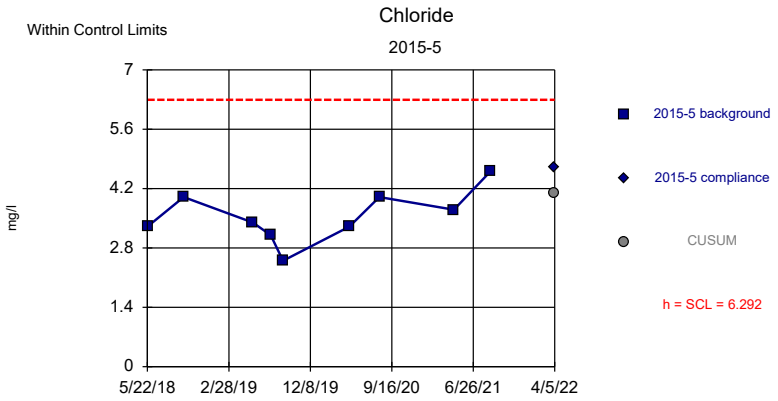
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=5.627, Std. Dev.=0.8979, n=11. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9744, critical = 0.85. Report alpha = 0.000744. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

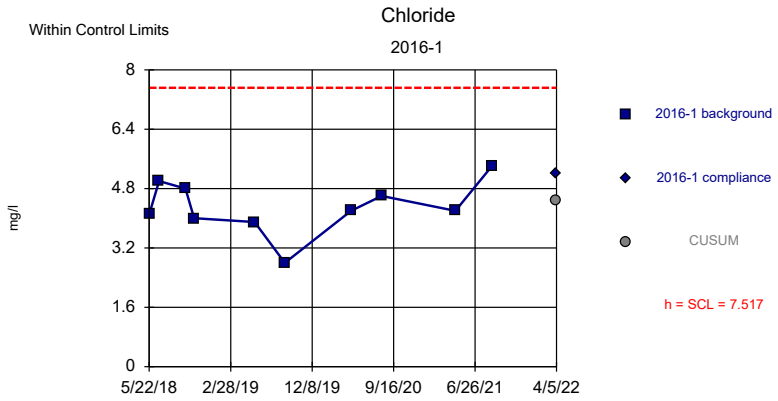


Background Data Summary: Mean=3.544, Std. Dev.=0.6106, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9744, critical = 0.829. Report alpha = 0.001342. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

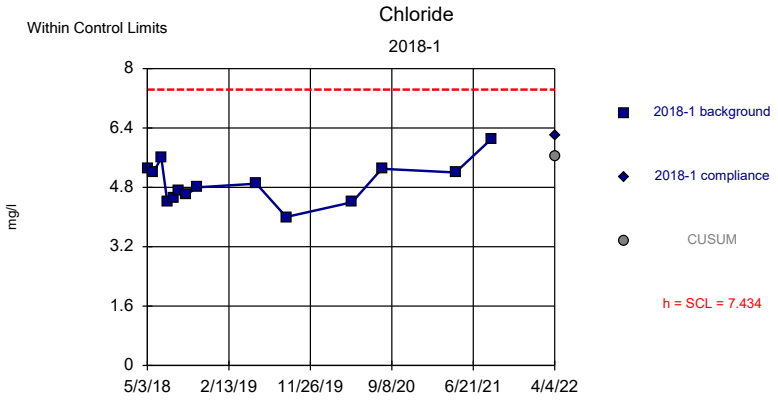


Background Data Summary: Mean=4.3, Std. Dev.=0.7149, n=10. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9465, critical = 0.842. Report alpha = 0.000986. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

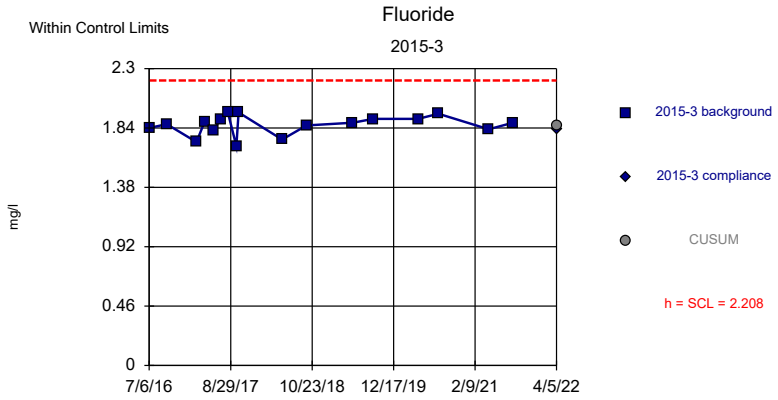


Background Data Summary: Mean=4.929, Std. Dev.=0.5567, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9727, critical = 0.874. Report alpha = 0.000394. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

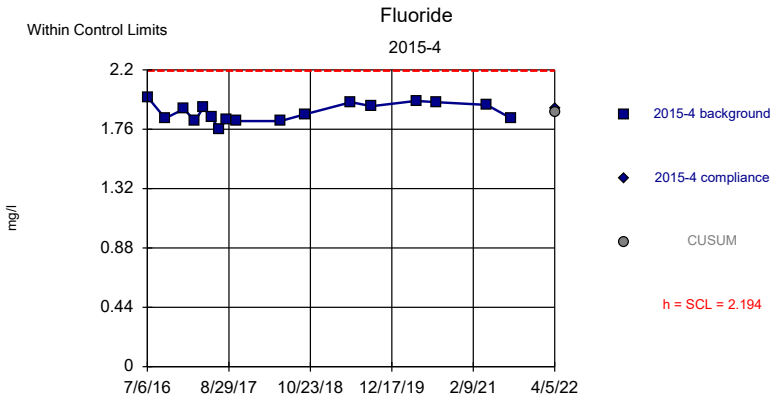
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.862, Std. Dev.=0.07699, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9214, critical = 0.892. Report alpha = 0.000234. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

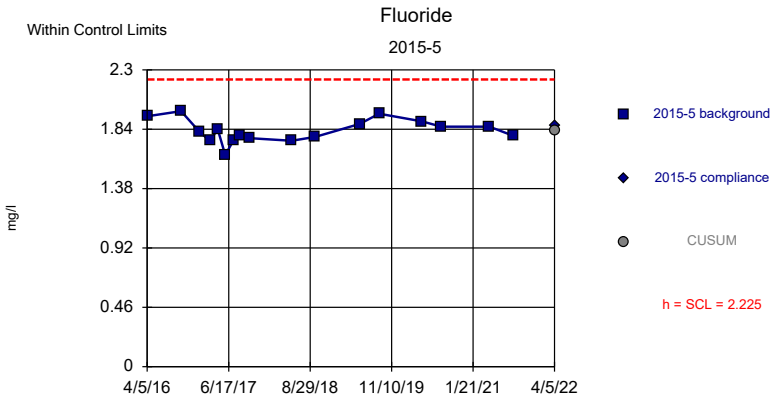


Background Data Summary: Mean=1.885, Std. Dev.=0.06866, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9411, critical = 0.892. Report alpha = 0.000234. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

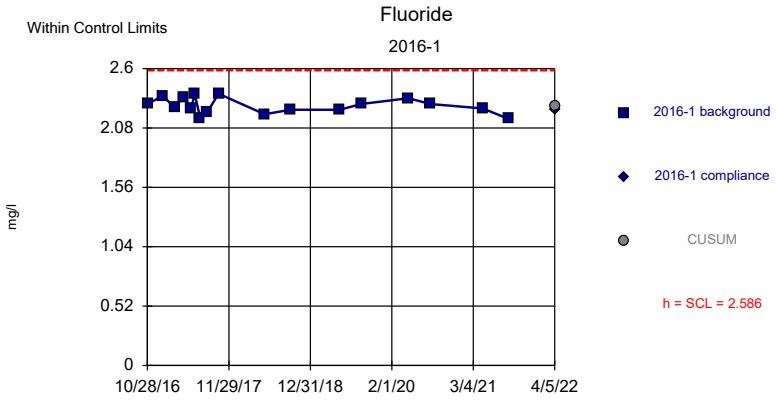


Background Data Summary: Mean=1.827, Std. Dev.=0.08851, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9674, critical = 0.892. Report alpha = 0.000234. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

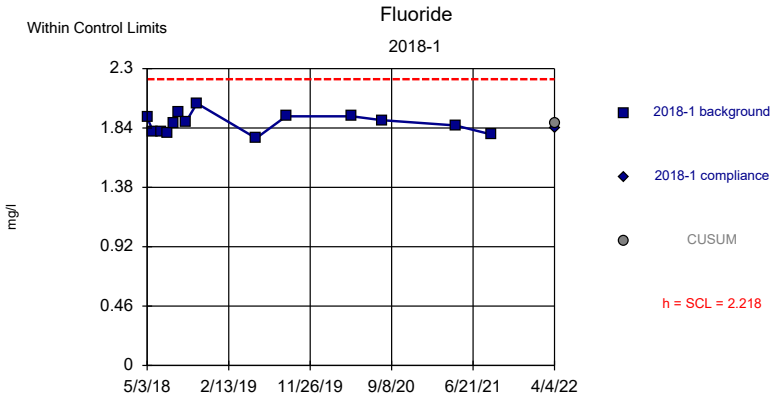


Background Data Summary: Mean=2.275, Std. Dev.=0.0692, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9488, critical = 0.892. Report alpha = 0.000234. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

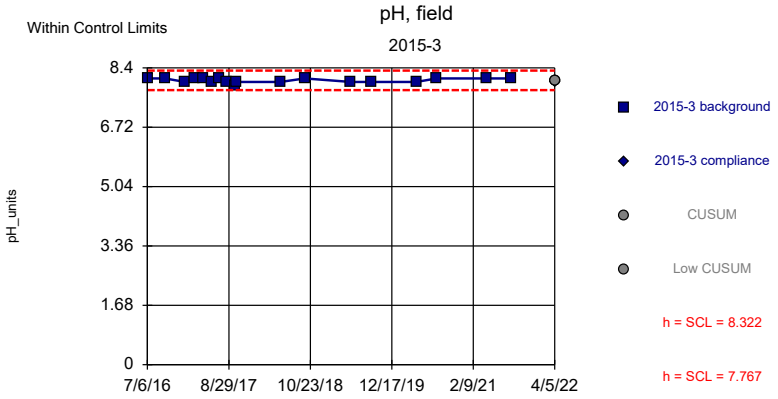
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.876, Std. Dev.=0.07592, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9628, critical = 0.874. Report alpha = 0.000388. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

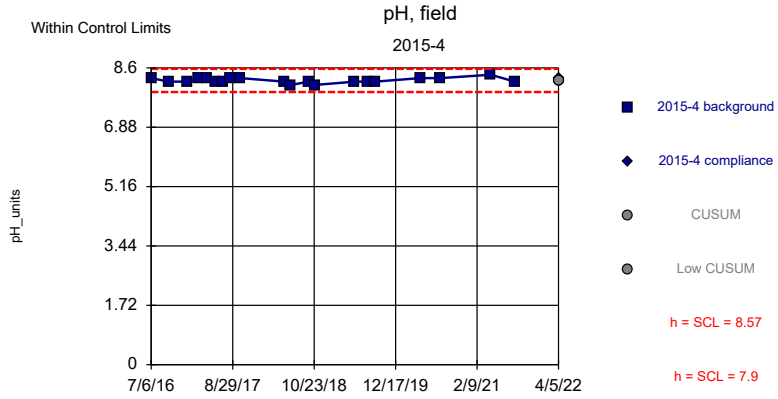


Background Data Summary: Mean=8.044, Std. Dev.=0.06157, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.743, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000196. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

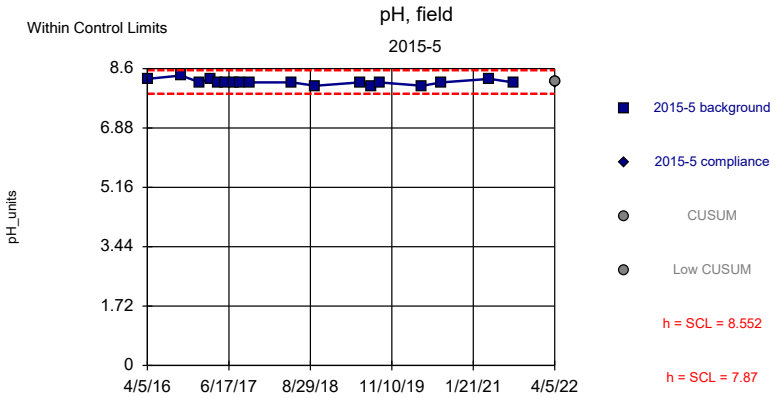


Background Data Summary: Mean=8.235, Std. Dev.=0.07452, n=20. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8526, critical = 0.905 (non-normal: user chose to continue). Report alpha = 0.000124. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

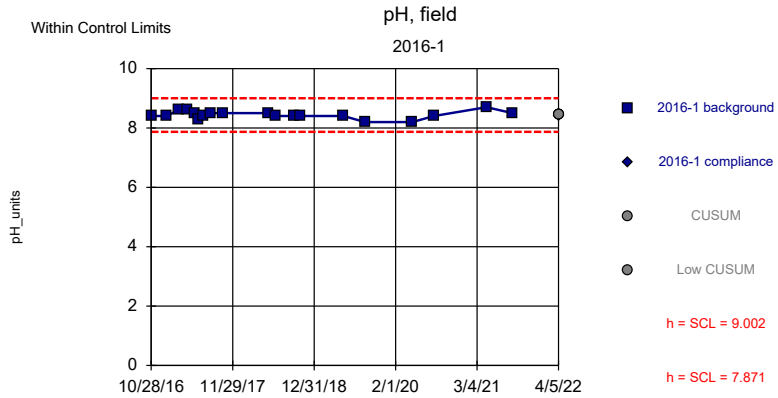


Background Data Summary: Mean=8.211, Std. Dev.=0.07584, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8123, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000186. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

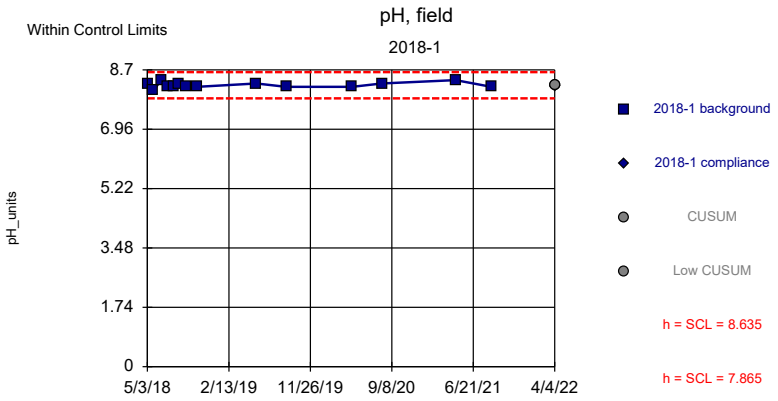
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=8.437, Std. Dev.=0.1257, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9211, critical = 0.901. Report alpha = 0.00016. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

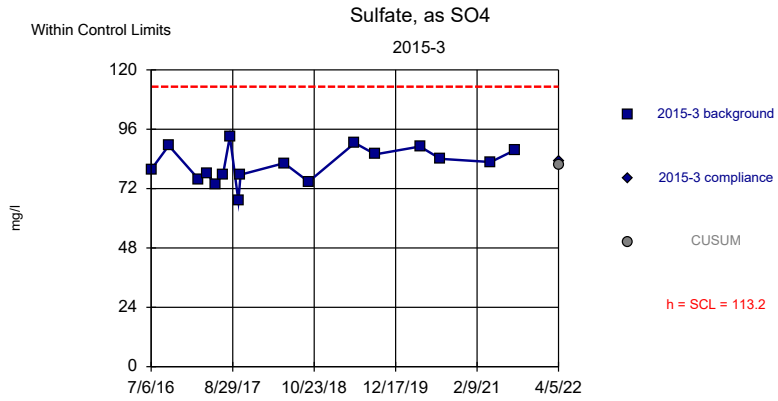


Background Data Summary: Mean=8.25, Std. Dev.=0.08549, n=14. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8571, critical = 0.874 (non-normal: user chose to continue). Report alpha = 0.000348. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

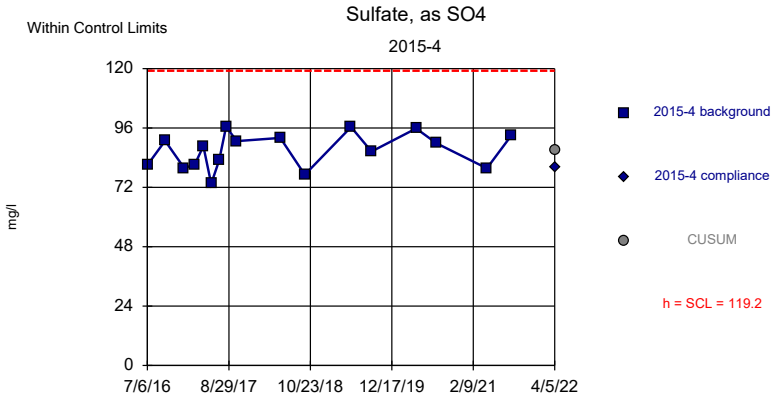


Background Data Summary: Mean=81.71, Std. Dev.=6.998, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9745, critical = 0.892. Report alpha = 0.00022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

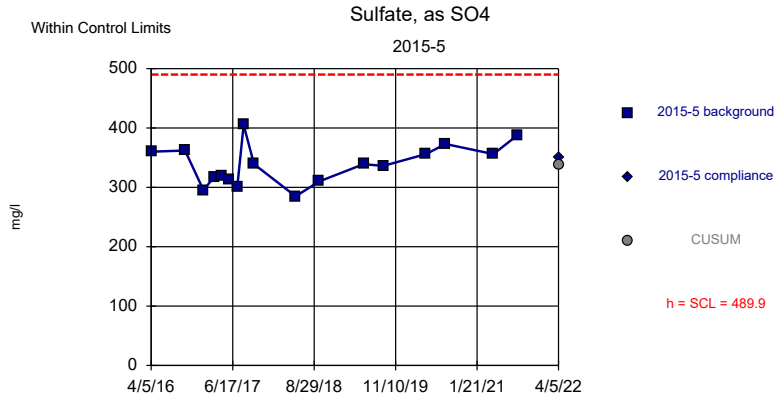


Background Data Summary: Mean=86.78, Std. Dev.=7.193, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9405, critical = 0.892. Report alpha = 0.00022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

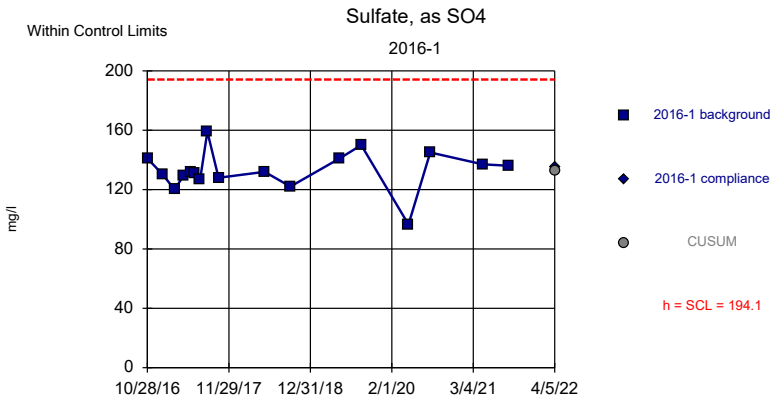
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=338.4, Std. Dev.=33.68, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9739, critical = 0.892. Report alpha = 0.00022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

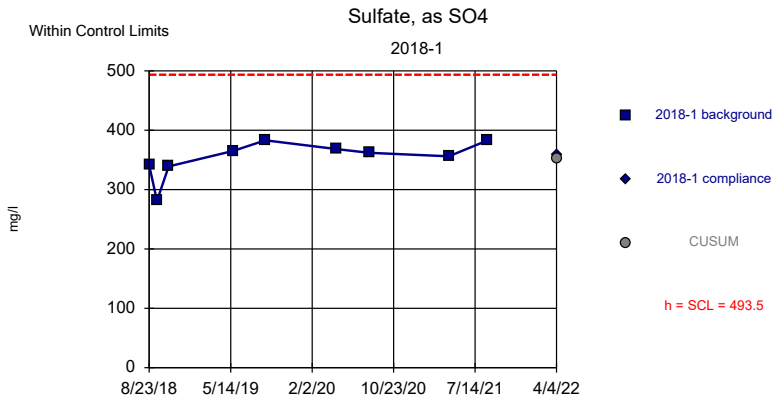


Background Data Summary: Mean=132.7, Std. Dev.=13.64, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9383, critical = 0.892. Report alpha = 0.00022. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

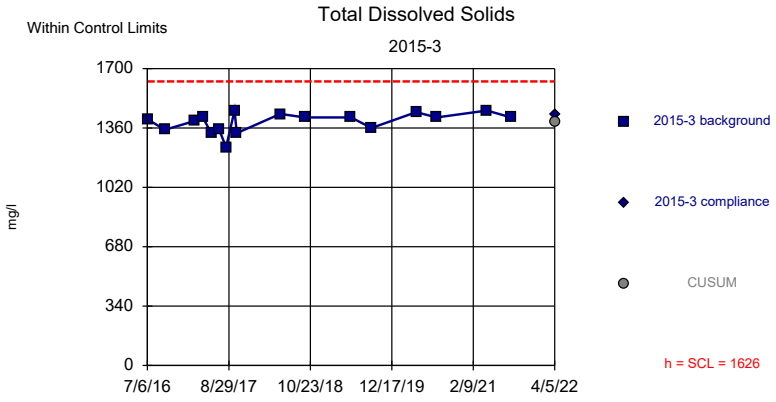


Background Data Summary: Mean=353.1, Std. Dev.=31.19, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.833, critical = 0.829. Report alpha = 0.001382. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

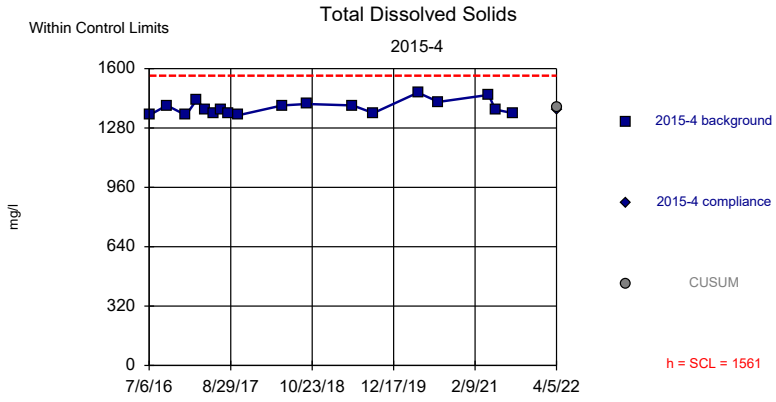


Background Data Summary (based on square transformation): Mean=1944959, Std. Dev.=155322, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8995, critical = 0.892. Report alpha = 0.000234. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

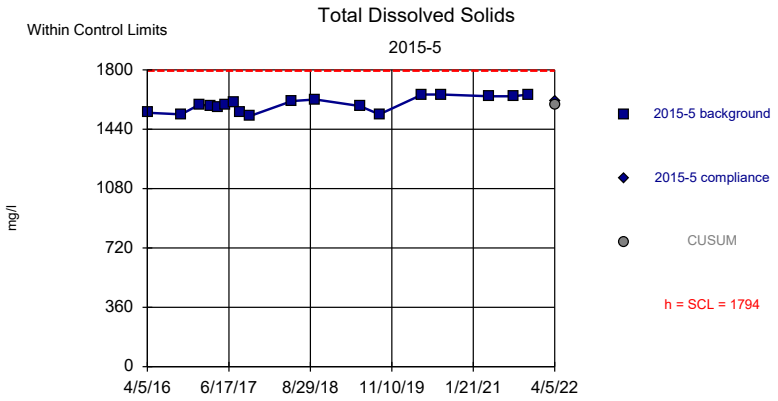
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary (based on cube root transformation): Mean=11.16, Std. Dev.=0.09823, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8971, critical = 0.897. Report alpha = 0.000222. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

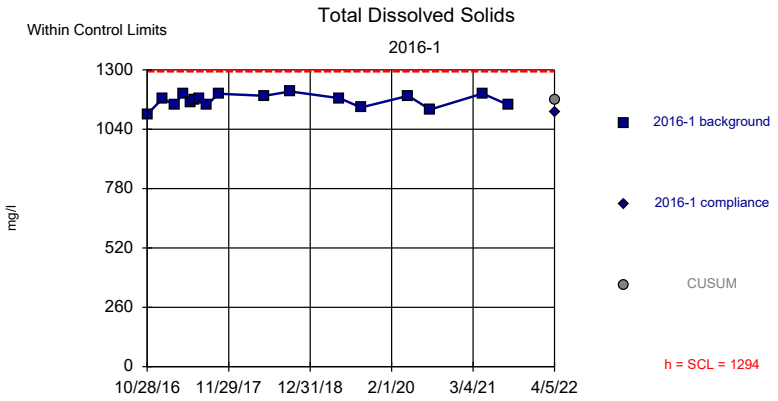


Background Data Summary: Mean=1591, Std. Dev.=45.31, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9164, critical = 0.897. Report alpha = 0.000222. Dates ending 11/16/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

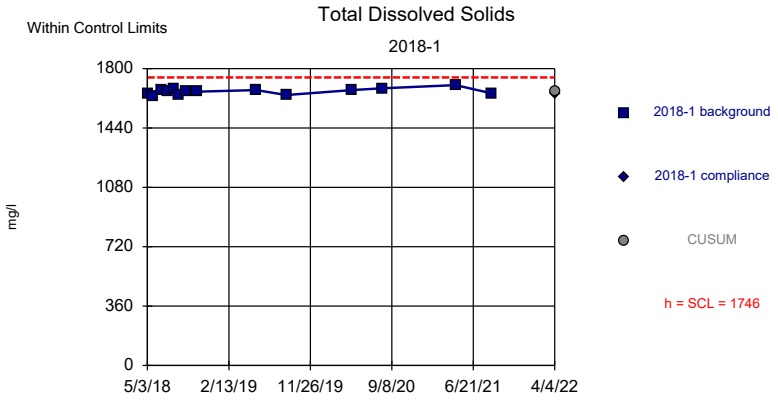


Background Data Summary: Mean=1166, Std. Dev.=28.31, n=17. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9464, critical = 0.892. Report alpha = 0.000228. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1661, Std. Dev.=18.75, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9726, critical = 0.874. Report alpha = 0.000402. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 10/27/2022 10:33 AM

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

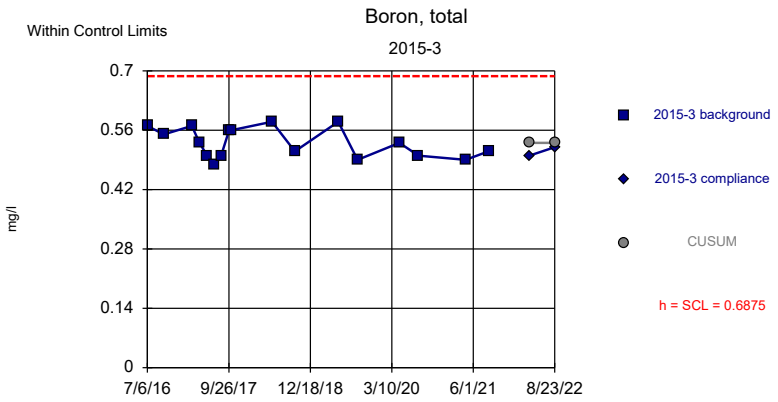
Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 10/27/2022, 10:36 AM

Constituent	Well	Sig.	h	SCL	N	Mean	Std. Dev.	%NDs	ND Adj.	Deseas.	Transform	Method
Boron, total (mg/l)	2015-3	No	0.6875	0.6875	17	0.53	0.035	0	None	No	No	Param Intra
Boron, total (mg/l)	2015-4	No	0.6834	0.6834	17	0.5235	0.03552	0	None	No	No	Param Intra
Boron, total (mg/l)	2015-5	No	0.6745	0.6745	17	0.4782	0.04362	0	None	No	No	Param Intra
Boron, total (mg/l)	2016-1	No	0.7085	0.7085	17	0.5112	0.04386	0	None	No	No	Param Intra
Boron, total (mg/l)	2018-1	No	0.6329	0.6329	14	0.5193	0.02526	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-3	No	4.452	4.452	8	3.313	0.2532	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-4	No	4.023	4.023	8	3.063	0.2134	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-5	No	5.454	5.454	8	4.138	0.2925	0	None	No	No	Param Intra
Calcium, total (mg/l)	2016-1	No	3.326	3.326	8	2.588	0.1642	0	None	No	No	Param Intra
Calcium, total (mg/l)	2018-1	No	5.364	5.364	8	3.949	0.3146	0	None	Yes	No	Param Intra
Chloride (mg/l)	2015-3	No	9.203	9.203	8	5.363	0.8535	0	None	No	No	Param Intra
Chloride (mg/l)	2015-4	No	9.668	9.668	11	5.627	0.8979	0	None	No	No	Param Intra
Chloride (mg/l)	2015-5	No	6.292	6.292	9	3.544	0.6106	0	None	No	No	Param Intra
Chloride (mg/l)	2016-1	No	7.517	7.517	10	4.3	0.7149	0	None	No	No	Param Intra
Chloride (mg/l)	2018-1	No	7.434	7.434	14	4.929	0.5567	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-3	No	2.208	2.208	17	1.862	0.07699	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-4	No	2.194	2.194	17	1.885	0.06866	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-5	No	2.225	2.225	17	1.827	0.08851	0	None	No	No	Param Intra
Fluoride (mg/l)	2016-1	No	2.586	2.586	17	2.275	0.0692	0	None	No	No	Param Intra
Fluoride (mg/l)	2018-1	No	2.218	2.218	14	1.876	0.07592	0	None	No	No	Param Intra
pH, field (pH_units)	2015-3	No	8.322&7.767	8.322&7.767	18	8.044	0.06157	0	None	No	No	Param Intra
pH, field (pH_units)	2015-4	No	8.57&7.9	8.57&7.9	20	8.235	0.07452	0	None	No	No	Param Intra
pH, field (pH_units)	2015-5	No	8.552&7.87	8.552&7.87	18	8.211	0.07584	0	None	No	No	Param Intra
pH, field (pH_units)	2016-1	No	9.002&7.871	9.002&7.871	19	8.437	0.1257	0	None	No	No	Param Intra
pH, field (pH_units)	2018-1	No	8.635&7.865	8.635&7.865	14	8.25	0.08549	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-3	No	113.2	113.2	17	81.71	6.998	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-4	No	119.2	119.2	17	86.78	7.193	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-5	No	489.9	489.9	17	338.4	33.68	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2016-1	No	194.1	194.1	17	132.7	13.64	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2018-1	No	493.5	493.5	9	353.1	31.19	0	None	No	No	Param Intra
Total Dissolved Solids (mg/l)	2015-3	No	1626	1626	17	1944959	155322	0	None	No	x^2	Param Intra
Total Dissolved Solids (mg/l)	2015-4	No	1561	1561	18	11.16	0.09823	0	None	No	x^(1/3)	Param Intra
Total Dissolved Solids (mg/l)	2015-5	No	1794	1794	18	1591	45.31	0	None	No	No	Param Intra
Total Dissolved Solids (mg/l)	2016-1	No	1294	1294	17	1166	28.31	0	None	Yes	No	Param Intra
Total Dissolved Solids (mg/l)	2018-1	No	1746	1746	14	1661	18.75	0	None	No	No	Param Intra

Appendix B

Statistical Review for SSIs: Event 2

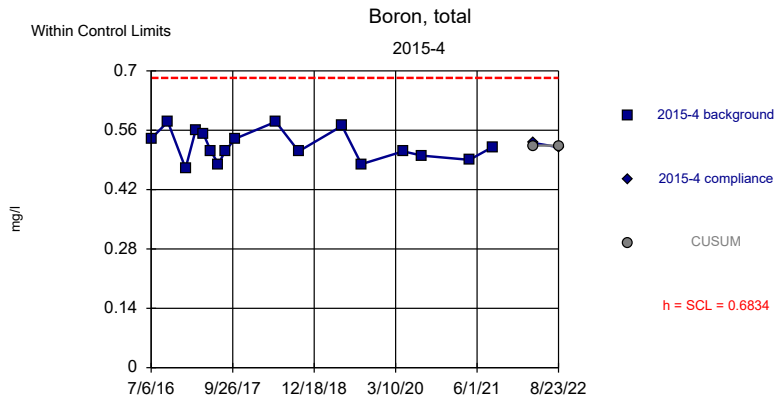


Background Data Summary: Mean=0.53, Std. Dev.=0.035, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8996, critical = 0.892. Report alpha = 0.000488. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

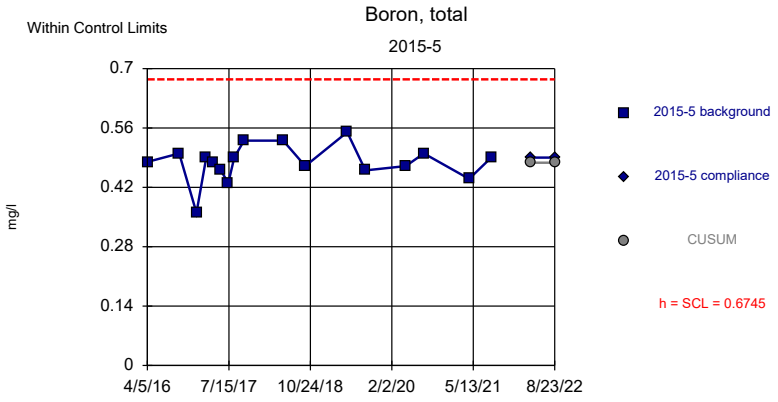


Background Data Summary: Mean=0.5235, Std. Dev.=0.03552, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9383, critical = 0.892. Report alpha = 0.000488. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

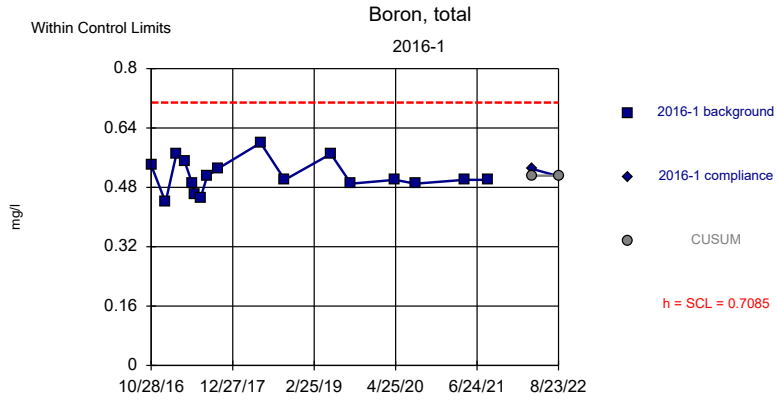


Background Data Summary: Mean=0.4782, Std. Dev.=0.04362, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9276, critical = 0.892. Report alpha = 0.000488. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

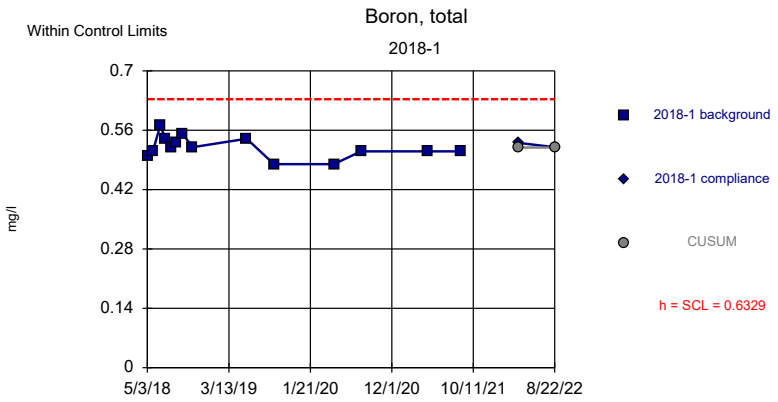
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=0.5112, Std. Dev.=0.04386, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9547, critical = 0.892. Report alpha = 0.000488. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

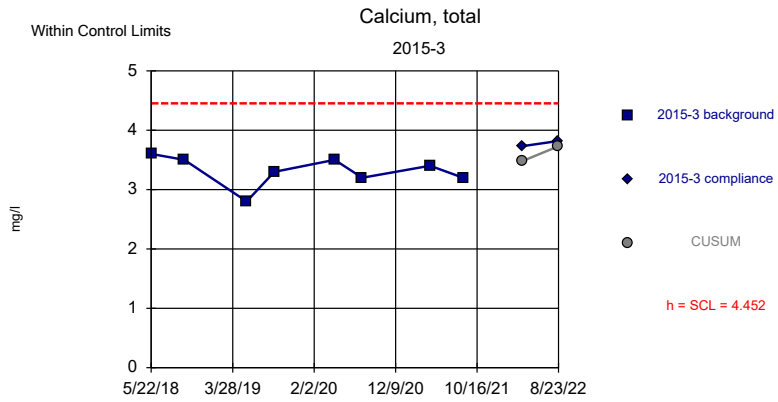


Background Data Summary: Mean=0.5193, Std. Dev.=0.02526, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.959, critical = 0.874. Report alpha = 0.000706. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

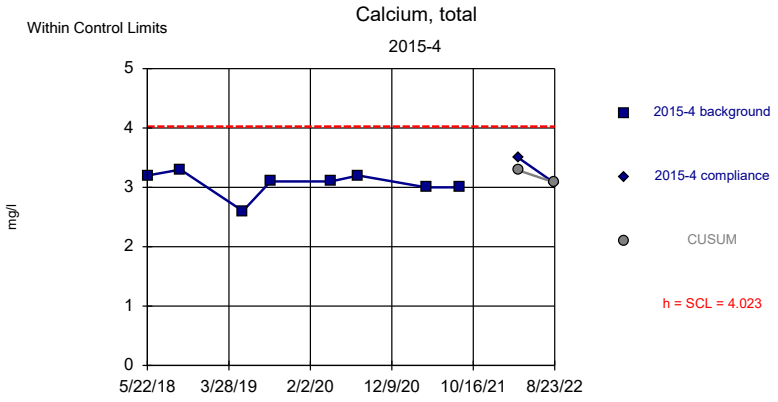


Background Data Summary: Mean=3.313, Std. Dev.=0.2532, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9042, critical = 0.818. Report alpha = 0.003022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

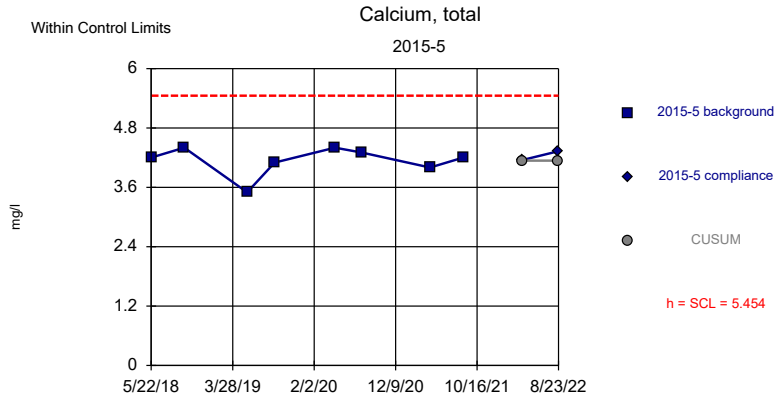


Background Data Summary: Mean=3.063, Std. Dev.=0.2134, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8541, critical = 0.818. Report alpha = 0.003022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

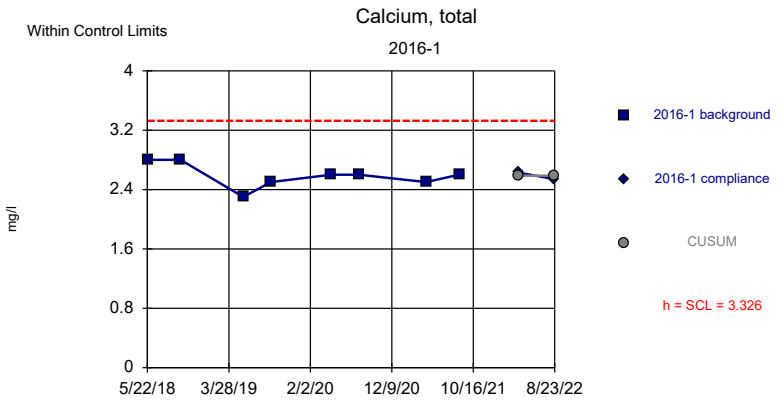
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=4.138, Std. Dev.=0.2925, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8327, critical = 0.818. Report alpha = 0.003022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

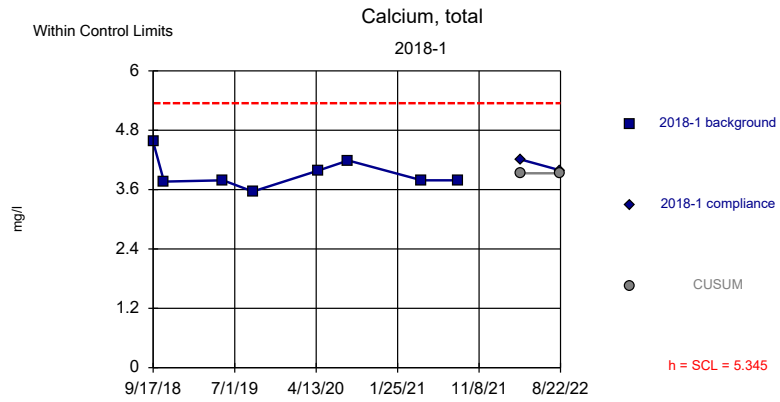


Background Data Summary: Mean=2.588, Std. Dev.=0.1642, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9122, critical = 0.818. Report alpha = 0.003022. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

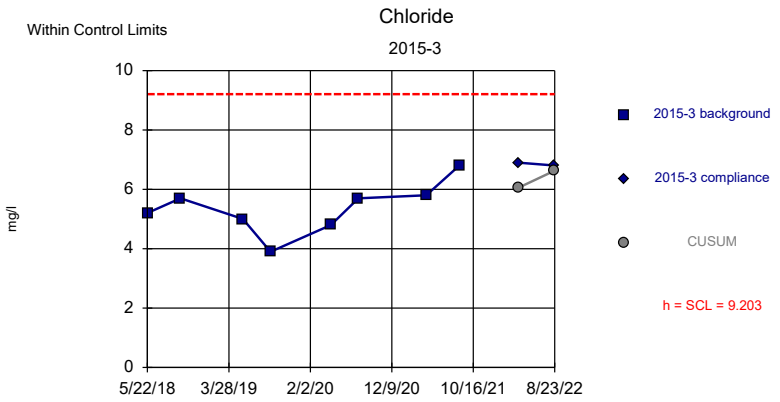


Background Data Summary: Mean=3.928, Std. Dev.=0.3148, n=8. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8655, critical = 0.818. Report alpha = 0.003022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

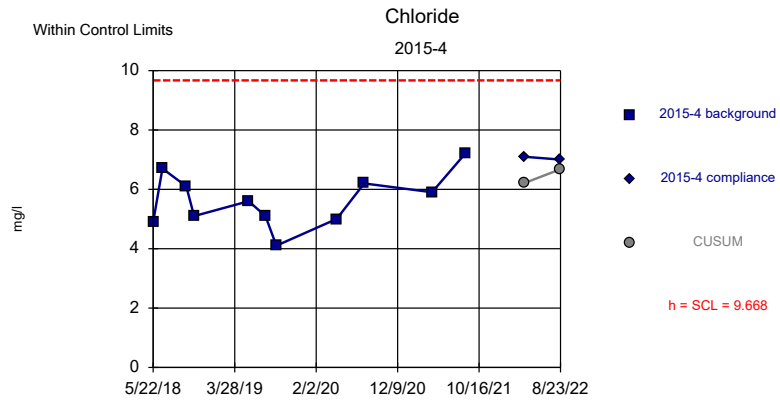


Background Data Summary: Mean=5.363, Std. Dev.=0.8535, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9679, critical = 0.818. Report alpha = 0.003022. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

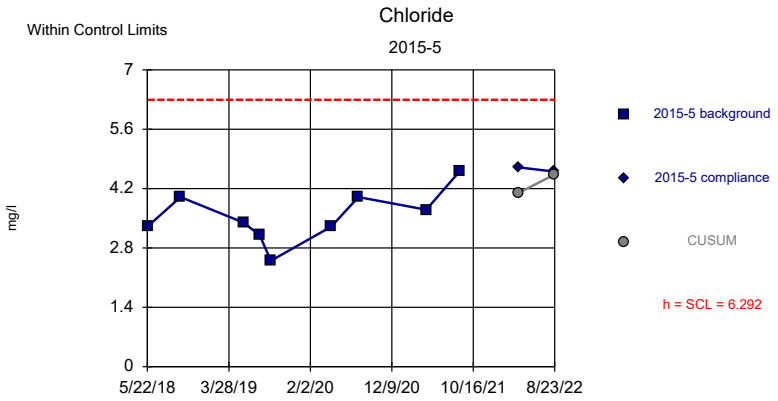
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=5.627, Std. Dev.=0.8979, n=11. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9744, critical = 0.85. Report alpha = 0.001362. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

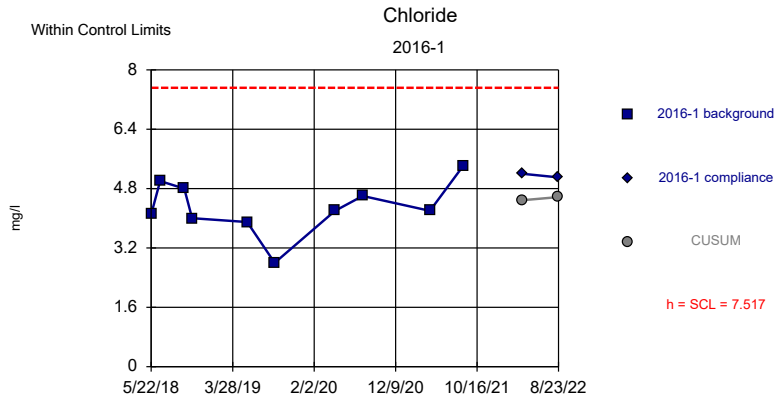


Background Data Summary: Mean=3.544, Std. Dev.=0.6106, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9744, critical = 0.829. Report alpha = 0.002234. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

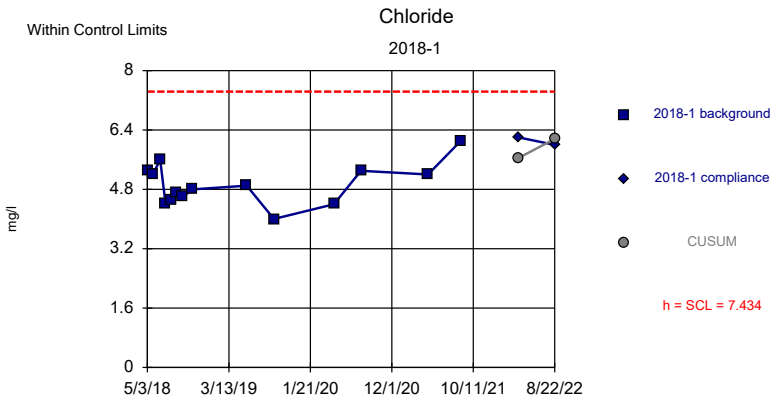


Background Data Summary: Mean=4.3, Std. Dev.=0.7149, n=10. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9465, critical = 0.842. Report alpha = 0.001746. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

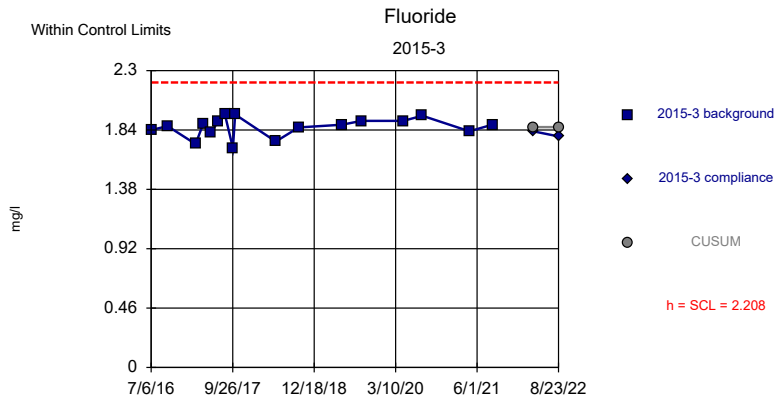


Background Data Summary: Mean=4.929, Std. Dev.=0.5567, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9727, critical = 0.874. Report alpha = 0.000662. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

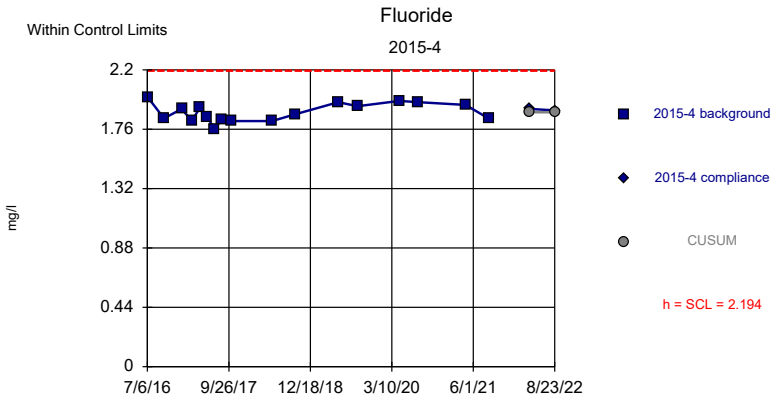
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.862, Std. Dev.=0.07699, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9214, critical = 0.892. Report alpha = 0.000414. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

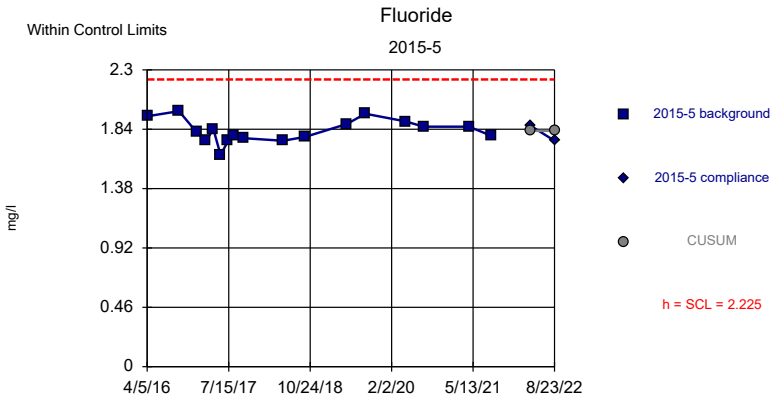


Background Data Summary: Mean=1.885, Std. Dev.=0.06866, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9411, critical = 0.892. Report alpha = 0.000414. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

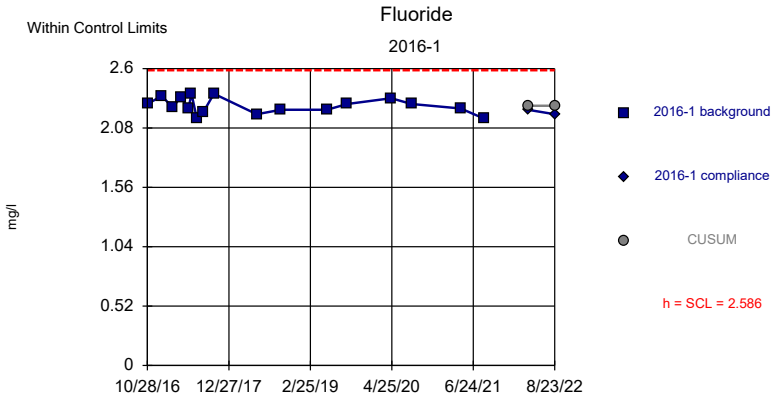


Background Data Summary: Mean=1.827, Std. Dev.=0.08851, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9674, critical = 0.892. Report alpha = 0.000414. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

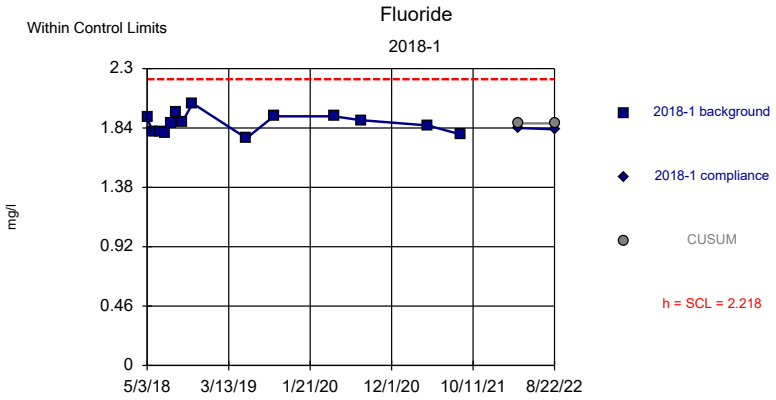


Background Data Summary: Mean=2.275, Std. Dev.=0.0692, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9488, critical = 0.892. Report alpha = 0.000414. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

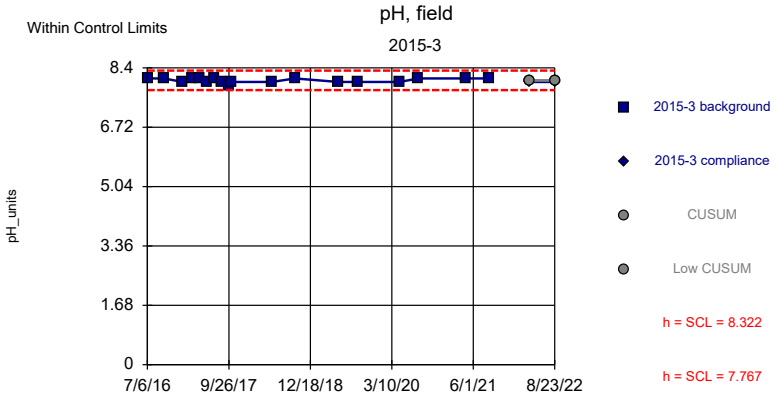
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.876, Std. Dev.=0.07592, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9628, critical = 0.874. Report alpha = 0.000648. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

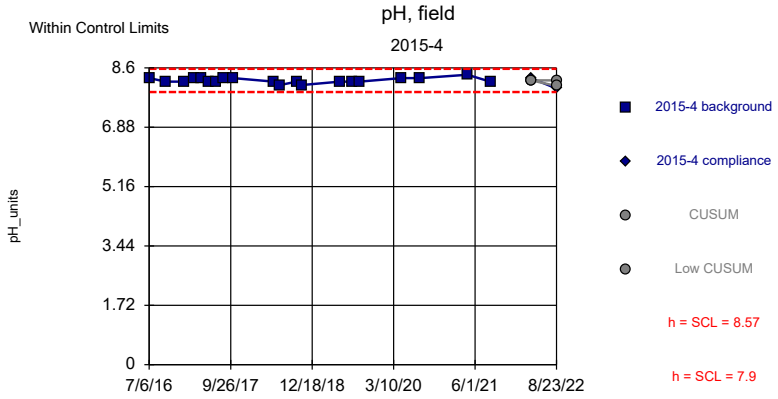


Background Data Summary: Mean=8.044, Std. Dev.=0.06157, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.743, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000334. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

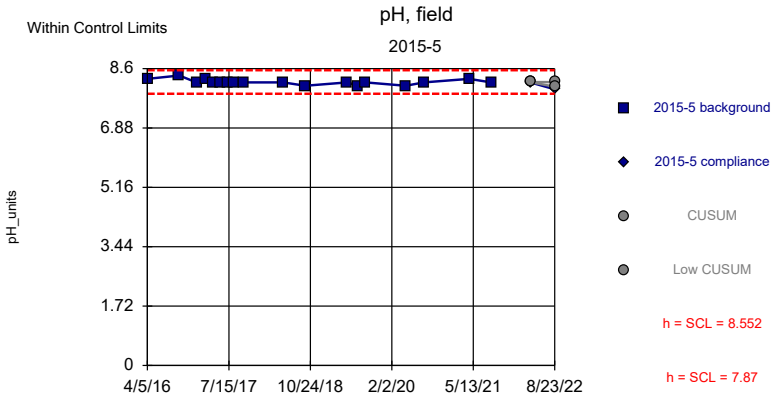


Background Data Summary: Mean=8.235, Std. Dev.=0.07452, n=20. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8526, critical = 0.905 (non-normal: user chose to continue). Report alpha = 0.00027. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

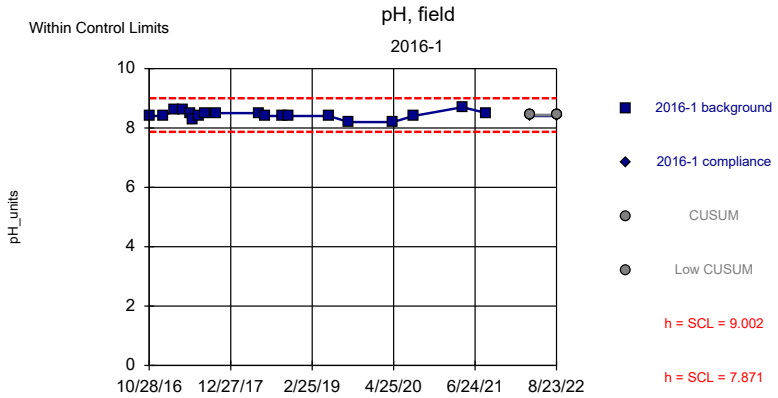


Background Data Summary: Mean=8.211, Std. Dev.=0.07584, n=18. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8123, critical = 0.897 (non-normal: user chose to continue). Report alpha = 0.000388. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:21 PM

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

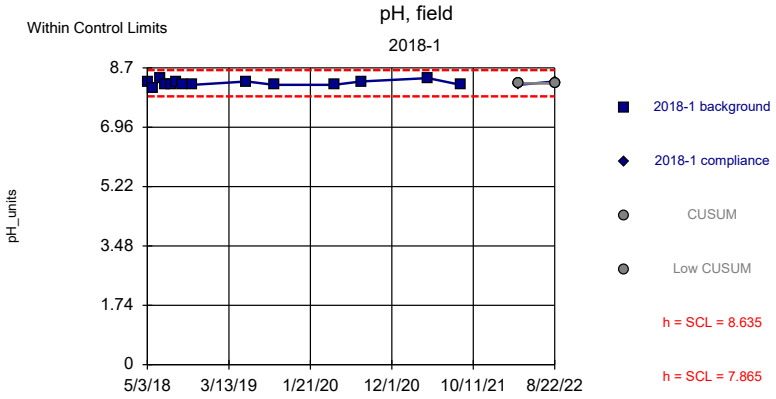
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=8.437, Std. Dev.=0.1257, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9211, critical = 0.901. Report alpha = 0.000294. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

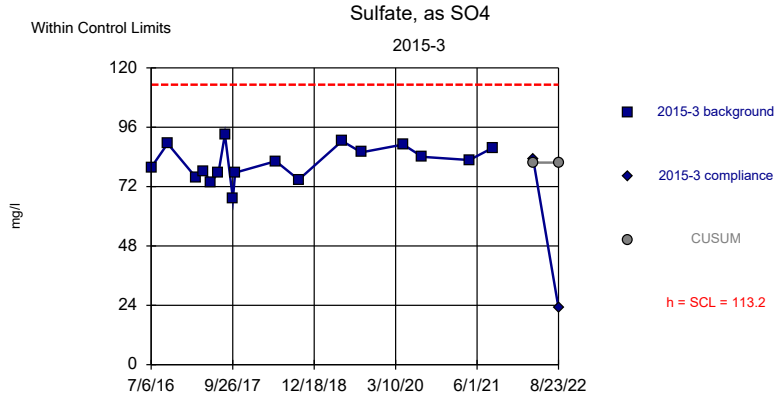


Background Data Summary: Mean=8.25, Std. Dev.=0.08549, n=14. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8571, critical = 0.874 (non-normal: user chose to continue). Report alpha = 0.000668. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

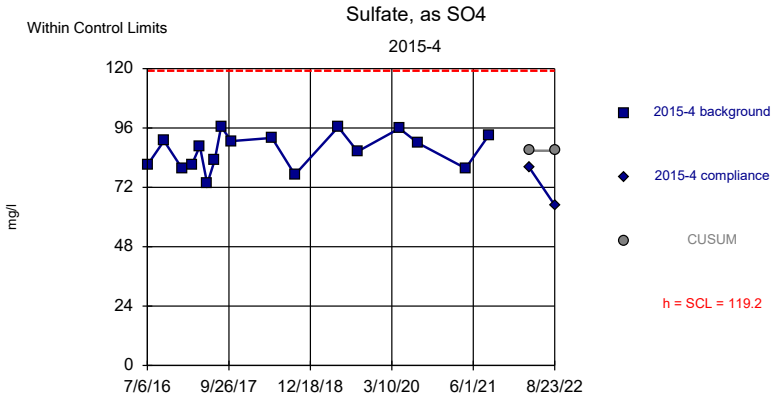


Background Data Summary: Mean=81.71, Std. Dev.=6.998, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9745, critical = 0.892. Report alpha = 0.000418. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

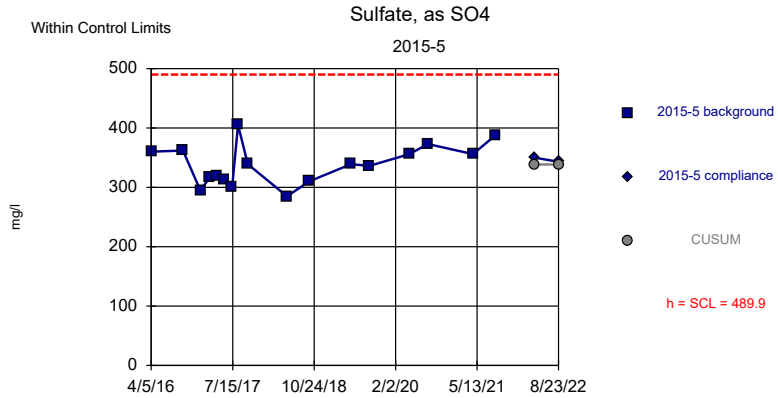


Background Data Summary: Mean=86.78, Std. Dev.=7.193, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9405, critical = 0.892. Report alpha = 0.000418. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

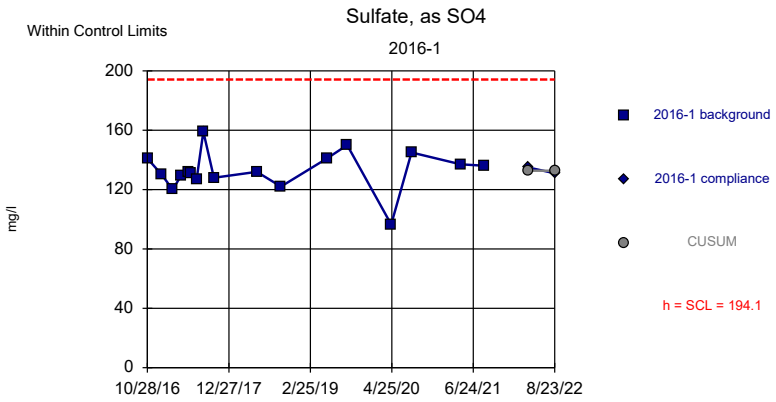
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=338.4, Std. Dev.=33.68, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9739, critical = 0.892. Report alpha = 0.000418. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

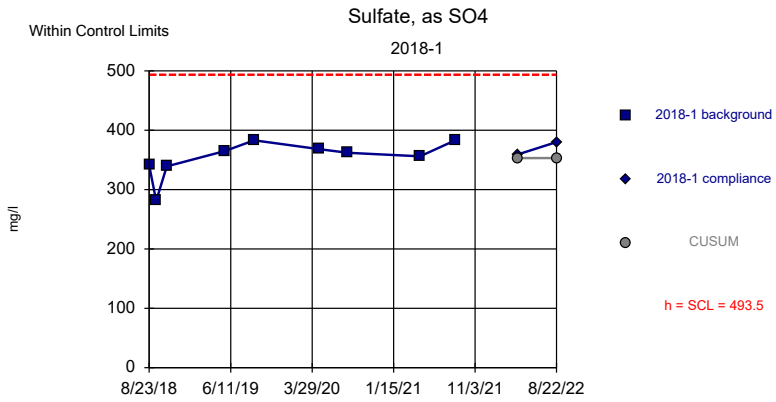


Background Data Summary: Mean=132.7, Std. Dev.=13.64, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9383, critical = 0.892. Report alpha = 0.000418. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

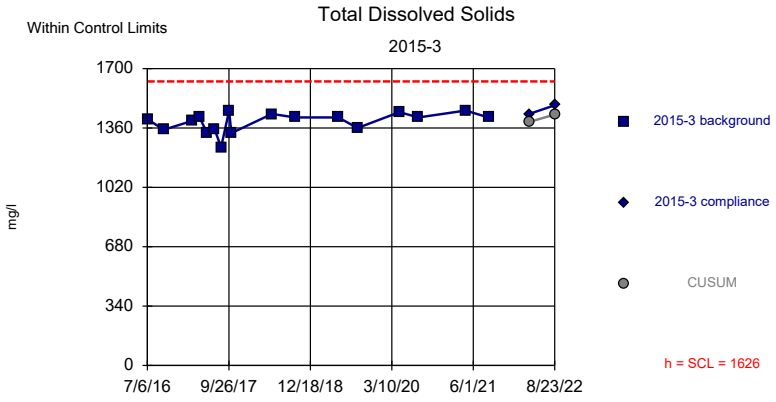


Background Data Summary: Mean=353.1, Std. Dev.=31.19, n=9. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.833, critical = 0.829. Report alpha = 0.002322. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

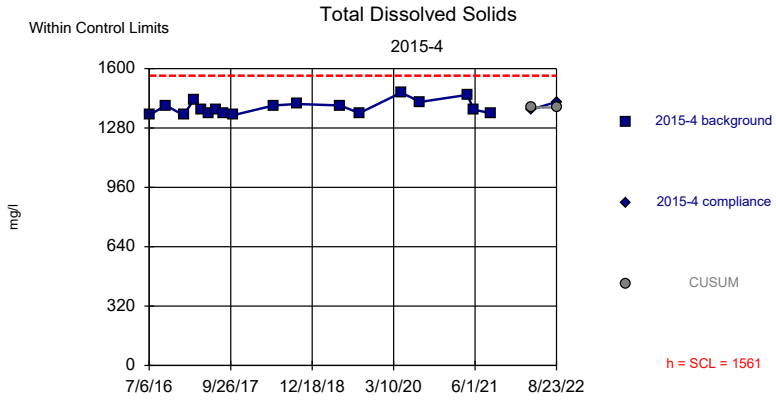


Background Data Summary (based on square transformation): Mean=1944959, Std. Dev.=155322, n=17. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8995, critical = 0.892. Report alpha = 0.000472. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

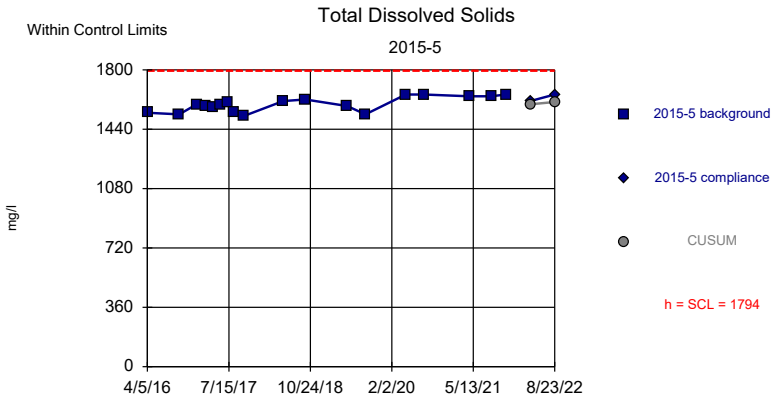
Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary (based on cube root transformation): Mean=11.16, Std. Dev.=0.09823, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8971, critical = 0.897. Report alpha = 0.00036. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

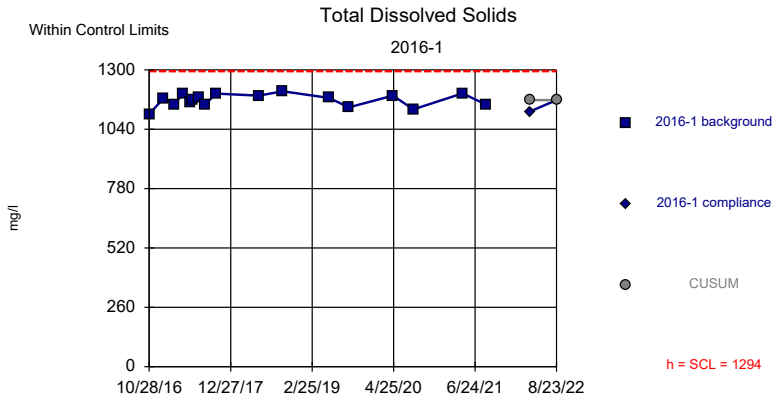


Background Data Summary: Mean=1591, Std. Dev.=45.31, n=18. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9164, critical = 0.897. Report alpha = 0.00036. Dates ending 11/16/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

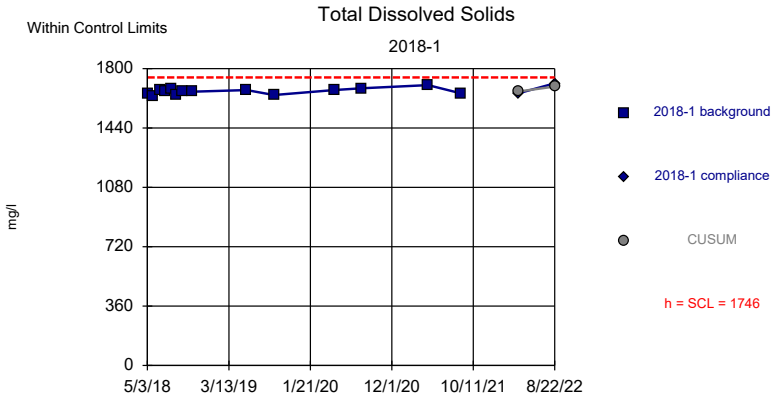


Background Data Summary: Mean=1167, Std. Dev.=28.31, n=17. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9466, critical = 0.892. Report alpha = 0.000388. Dates ending 8/23/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1661, Std. Dev.=18.75, n=14. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9726, critical = 0.874. Report alpha = 0.000722. Dates ending 8/24/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/11/2022 2:22 PM

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

Shewhart-Cusum Control Chart / Rank Sum

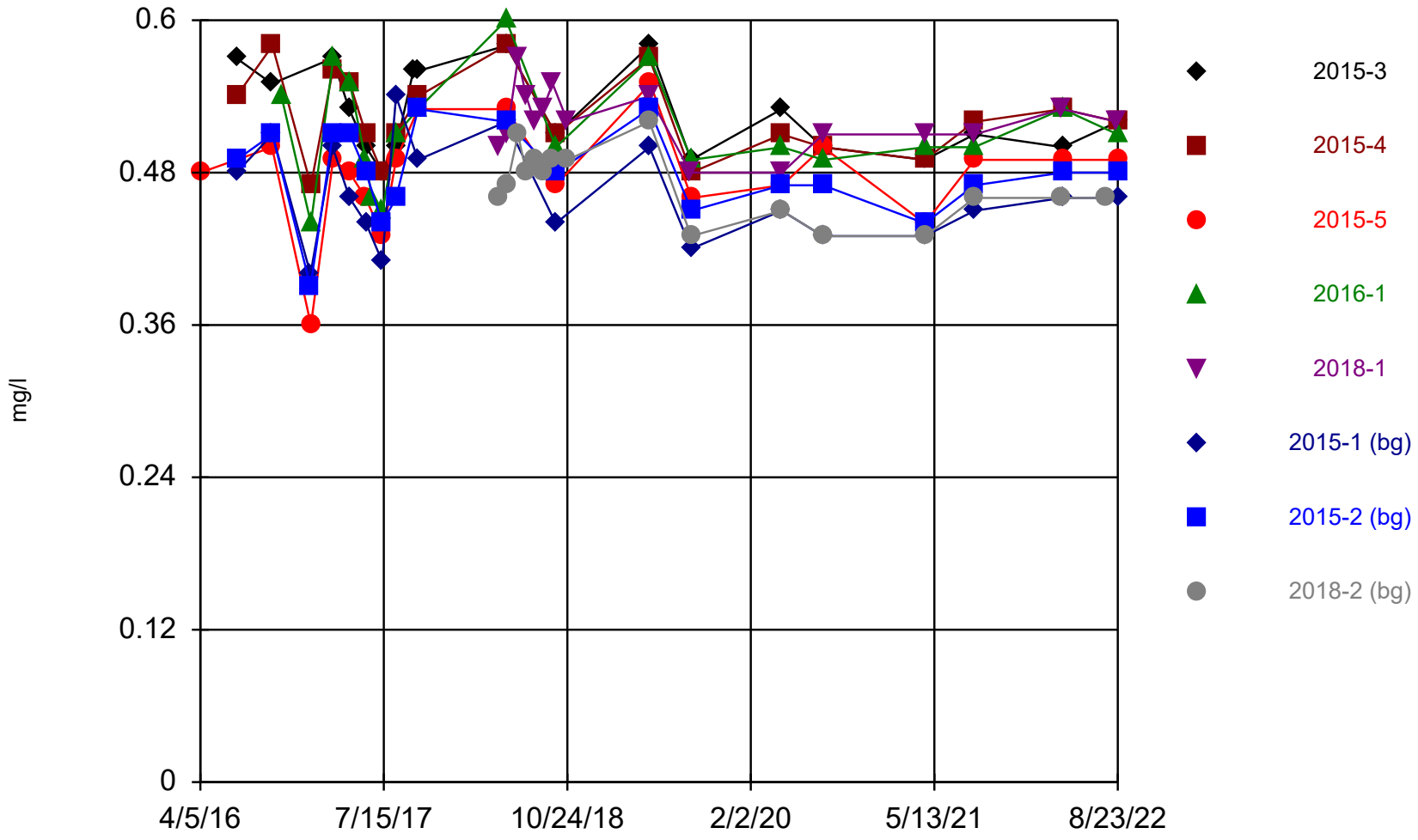
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly Printed 11/11/2022, 2:23 PM

Constituent	Well	Sig.	h	SCL	N	Mean	Std. Dev.	%NDs	ND Adj.	Deseas.	Transform	Method
Boron, total (mg/l)	2015-3	No	0.6875	0.6875	17	0.53	0.035	0	None	No	No	Param Intra
Boron, total (mg/l)	2015-4	No	0.6834	0.6834	17	0.5235	0.03552	0	None	No	No	Param Intra
Boron, total (mg/l)	2015-5	No	0.6745	0.6745	17	0.4782	0.04362	0	None	No	No	Param Intra
Boron, total (mg/l)	2016-1	No	0.7085	0.7085	17	0.5112	0.04386	0	None	No	No	Param Intra
Boron, total (mg/l)	2018-1	No	0.6329	0.6329	14	0.5193	0.02526	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-3	No	4.452	4.452	8	3.313	0.2532	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-4	No	4.023	4.023	8	3.063	0.2134	0	None	No	No	Param Intra
Calcium, total (mg/l)	2015-5	No	5.454	5.454	8	4.138	0.2925	0	None	No	No	Param Intra
Calcium, total (mg/l)	2016-1	No	3.326	3.326	8	2.588	0.1642	0	None	No	No	Param Intra
Calcium, total (mg/l)	2018-1	No	5.345	5.345	8	3.928	0.3148	0	None	Yes	No	Param Intra
Chloride (mg/l)	2015-3	No	9.203	9.203	8	5.363	0.8535	0	None	No	No	Param Intra
Chloride (mg/l)	2015-4	No	9.668	9.668	11	5.627	0.8979	0	None	No	No	Param Intra
Chloride (mg/l)	2015-5	No	6.292	6.292	9	3.544	0.6106	0	None	No	No	Param Intra
Chloride (mg/l)	2016-1	No	7.517	7.517	10	4.3	0.7149	0	None	No	No	Param Intra
Chloride (mg/l)	2018-1	No	7.434	7.434	14	4.929	0.5567	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-3	No	2.208	2.208	17	1.862	0.07699	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-4	No	2.194	2.194	17	1.885	0.06866	0	None	No	No	Param Intra
Fluoride (mg/l)	2015-5	No	2.225	2.225	17	1.827	0.08851	0	None	No	No	Param Intra
Fluoride (mg/l)	2016-1	No	2.586	2.586	17	2.275	0.0692	0	None	No	No	Param Intra
Fluoride (mg/l)	2018-1	No	2.218	2.218	14	1.876	0.07592	0	None	No	No	Param Intra
pH, field (pH_units)	2015-3	No	8.322&7.767	8.322&7.767	18	8.044	0.06157	0	None	No	No	Param Intra
pH, field (pH_units)	2015-4	No	8.57&7.9	8.57&7.9	20	8.235	0.07452	0	None	No	No	Param Intra
pH, field (pH_units)	2015-5	No	8.552&7.87	8.552&7.87	18	8.211	0.07584	0	None	No	No	Param Intra
pH, field (pH_units)	2016-1	No	9.002&7.871	9.002&7.871	19	8.437	0.1257	0	None	No	No	Param Intra
pH, field (pH_units)	2018-1	No	8.635&7.865	8.635&7.865	14	8.25	0.08549	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-3	No	113.2	113.2	17	81.71	6.998	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-4	No	119.2	119.2	17	86.78	7.193	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2015-5	No	489.9	489.9	17	338.4	33.68	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2016-1	No	194.1	194.1	17	132.7	13.64	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/l)	2018-1	No	493.5	493.5	9	353.1	31.19	0	None	No	No	Param Intra
Total Dissolved Solids (mg/l)	2015-3	No	1626	1626	17	1944959	155322	0	None	No	x^2	Param Intra
Total Dissolved Solids (mg/l)	2015-4	No	1561	1561	18	11.16	0.09823	0	None	No	x^(1/3)	Param Intra
Total Dissolved Solids (mg/l)	2015-5	No	1794	1794	18	1591	45.31	0	None	No	No	Param Intra
Total Dissolved Solids (mg/l)	2016-1	No	1294	1294	17	1167	28.31	0	None	Yes	No	Param Intra
Total Dissolved Solids (mg/l)	2018-1	No	1746	1746	14	1661	18.75	0	None	No	No	Param Intra

Appendix C

Time Series Graphs for Appendix III Constituents

Boron, total



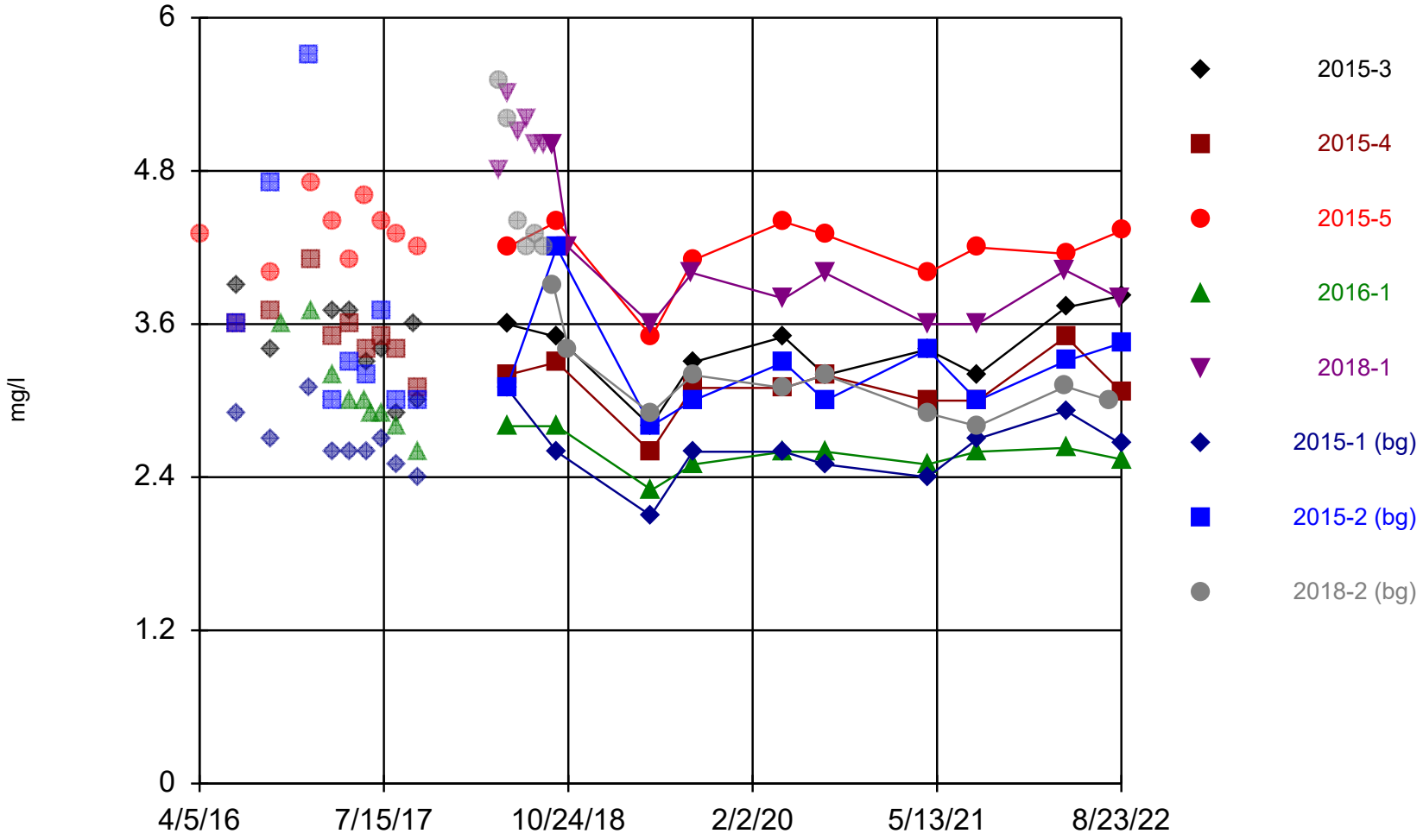
Time Series Analysis Run 11/11/2022 2:13 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

Note: Points that are shown as faded and without connecting lines indicate samples excluded from background calculations in order to provide a more statistically robust dataset representative of current conditions.

Calcium, total



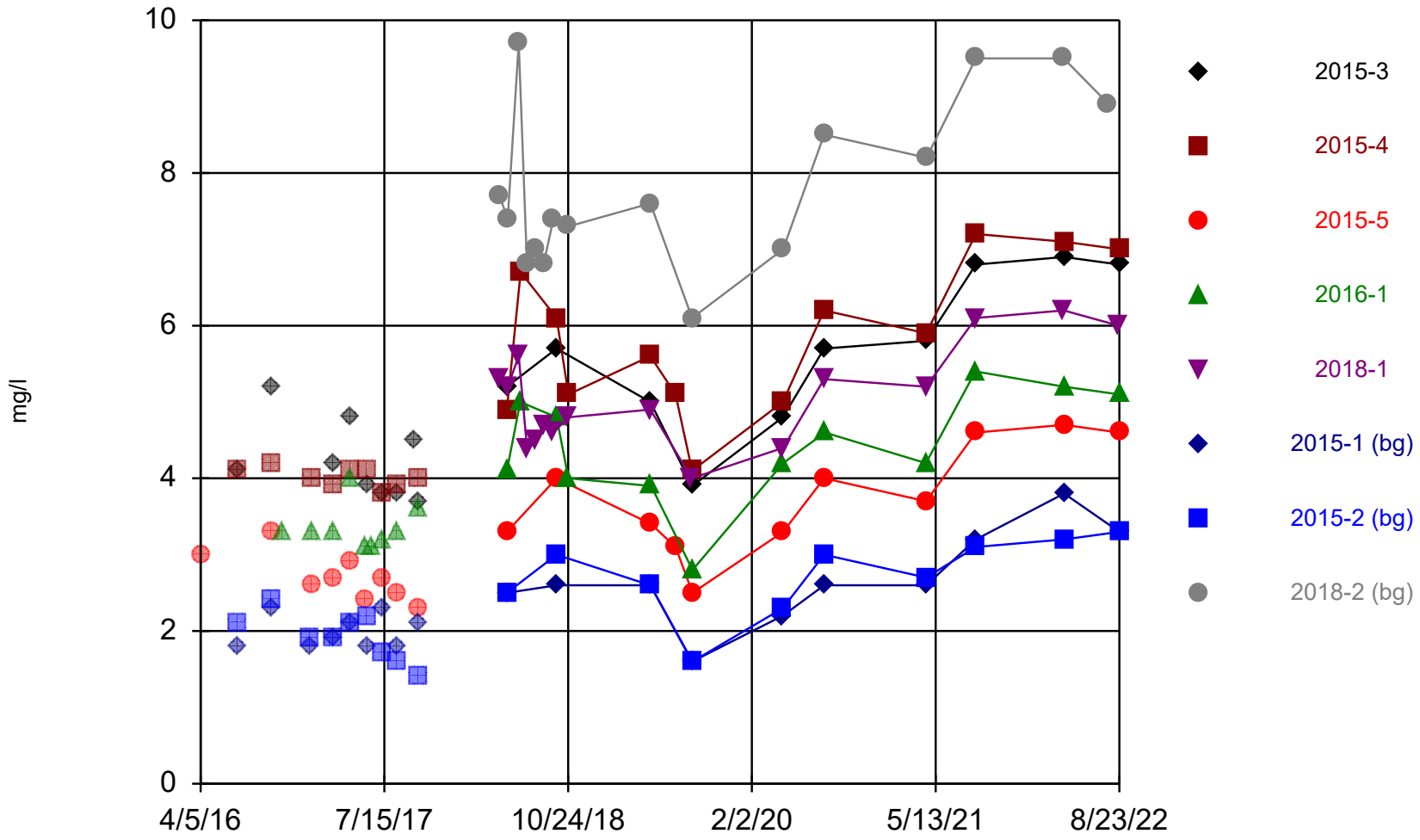
Time Series Analysis Run 11/11/2022 2:13 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

Note: Points that are shown as faded and without connecting lines indicate samples excluded from background calculations in order to provide a more statistically robust dataset representative of current conditions.

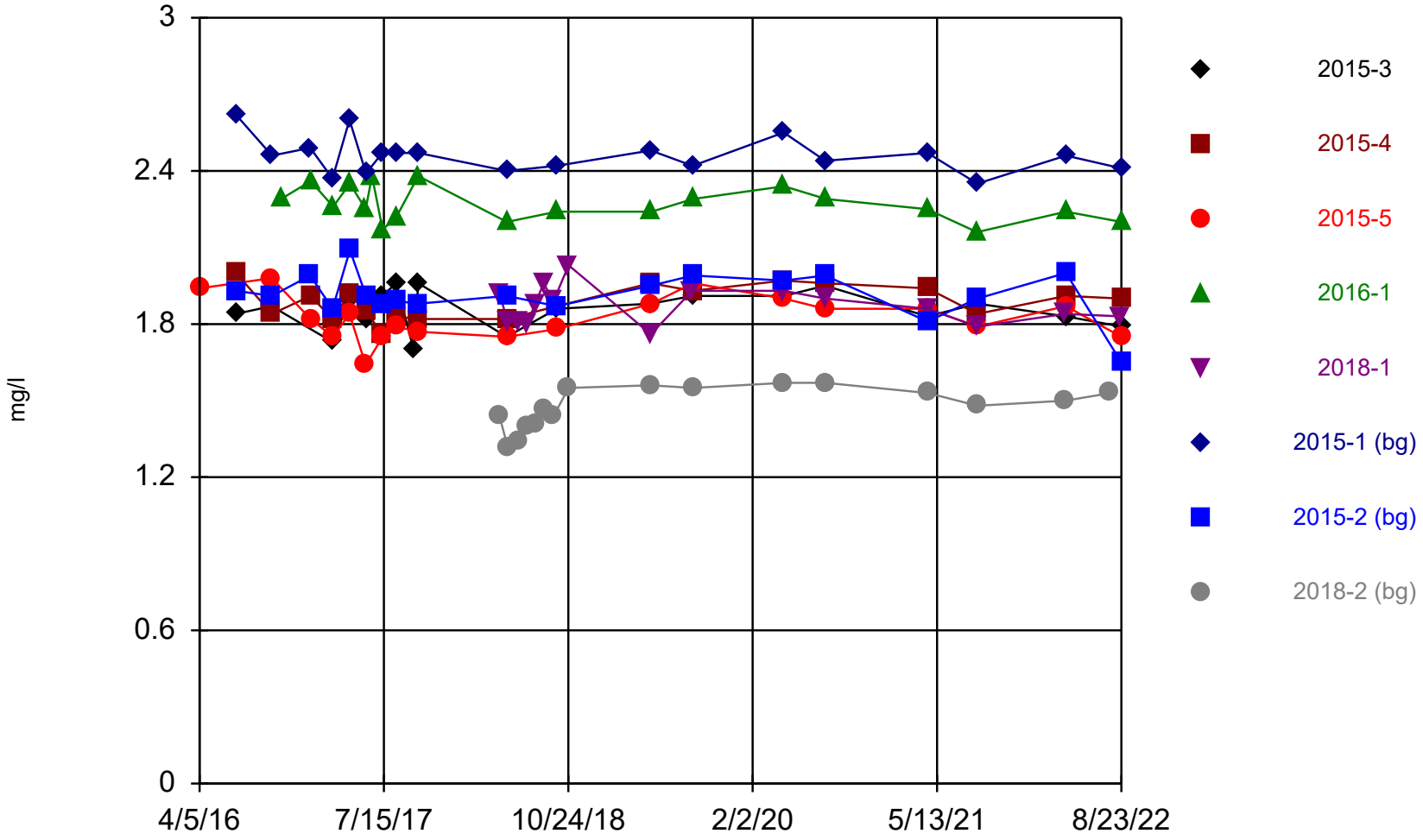
Chloride



Time Series Analysis Run 11/11/2022 2:13 PM

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

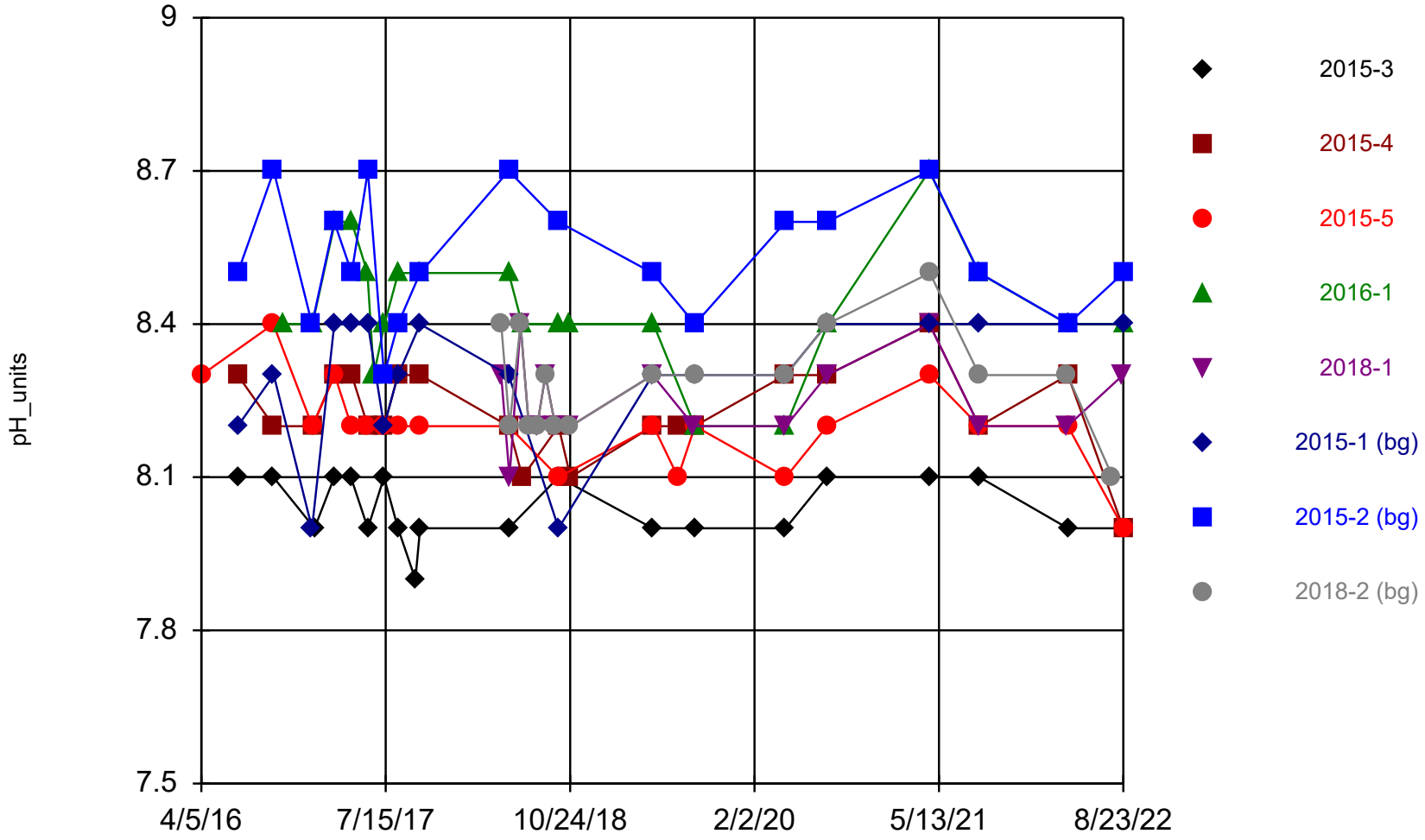
Fluoride



Time Series Analysis Run 11/11/2022 2:13 PM

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

pH, field



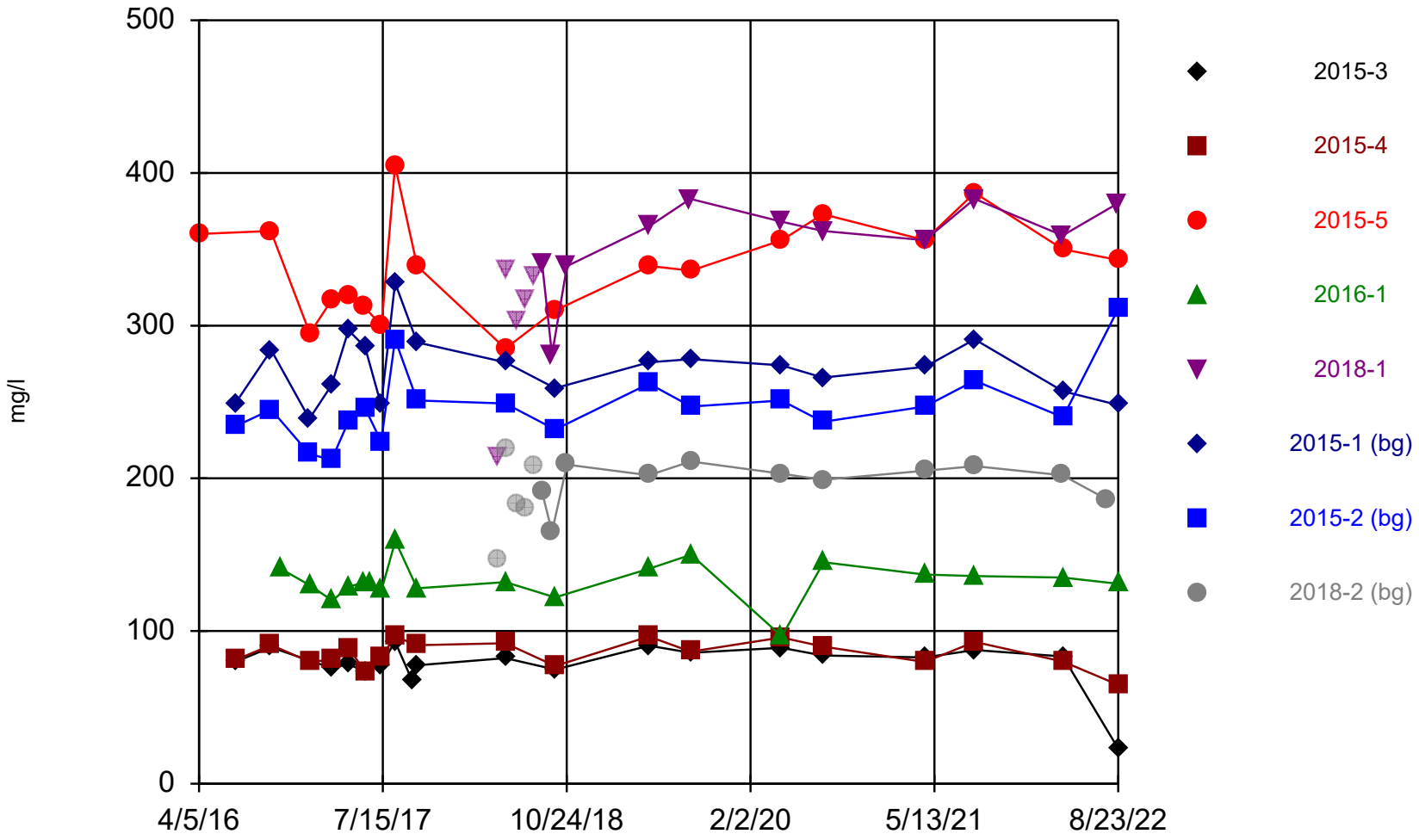
Time Series Analysis Run 11/11/2022 2:16 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

Note: Points that are shown as faded and without connecting lines indicate samples excluded from background calculations in order to provide a more statistically robust dataset representative of current conditions.

Sulfate, as SO4



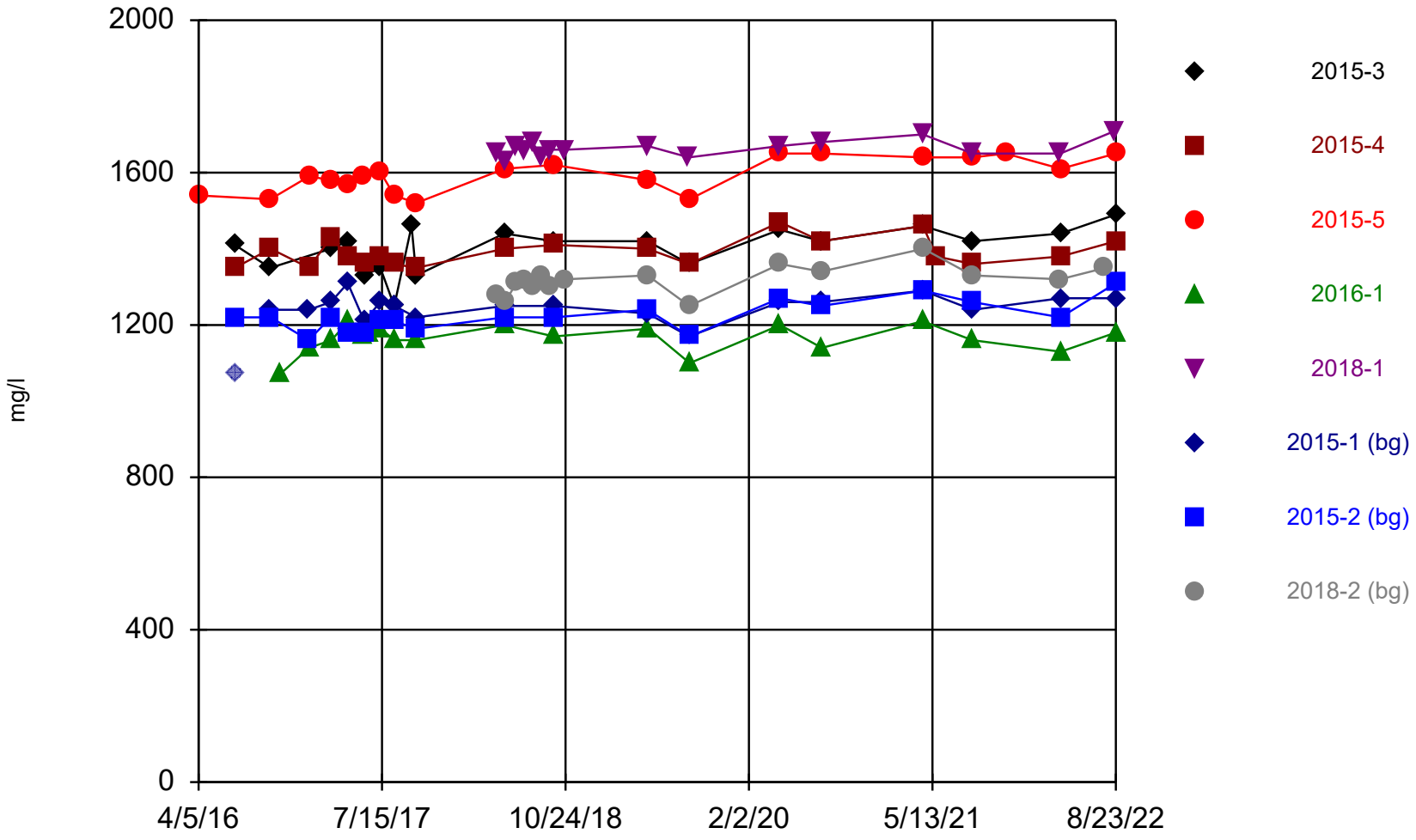
Time Series Analysis Run 11/11/2022 2:13 PM

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

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG

Note: Points that are shown as faded and without connecting lines indicate samples excluded from background calculations in order to provide a more statistically robust dataset representative of current conditions.

Total Dissolved Solids



Time Series Analysis Run 11/11/2022 2:13 PM

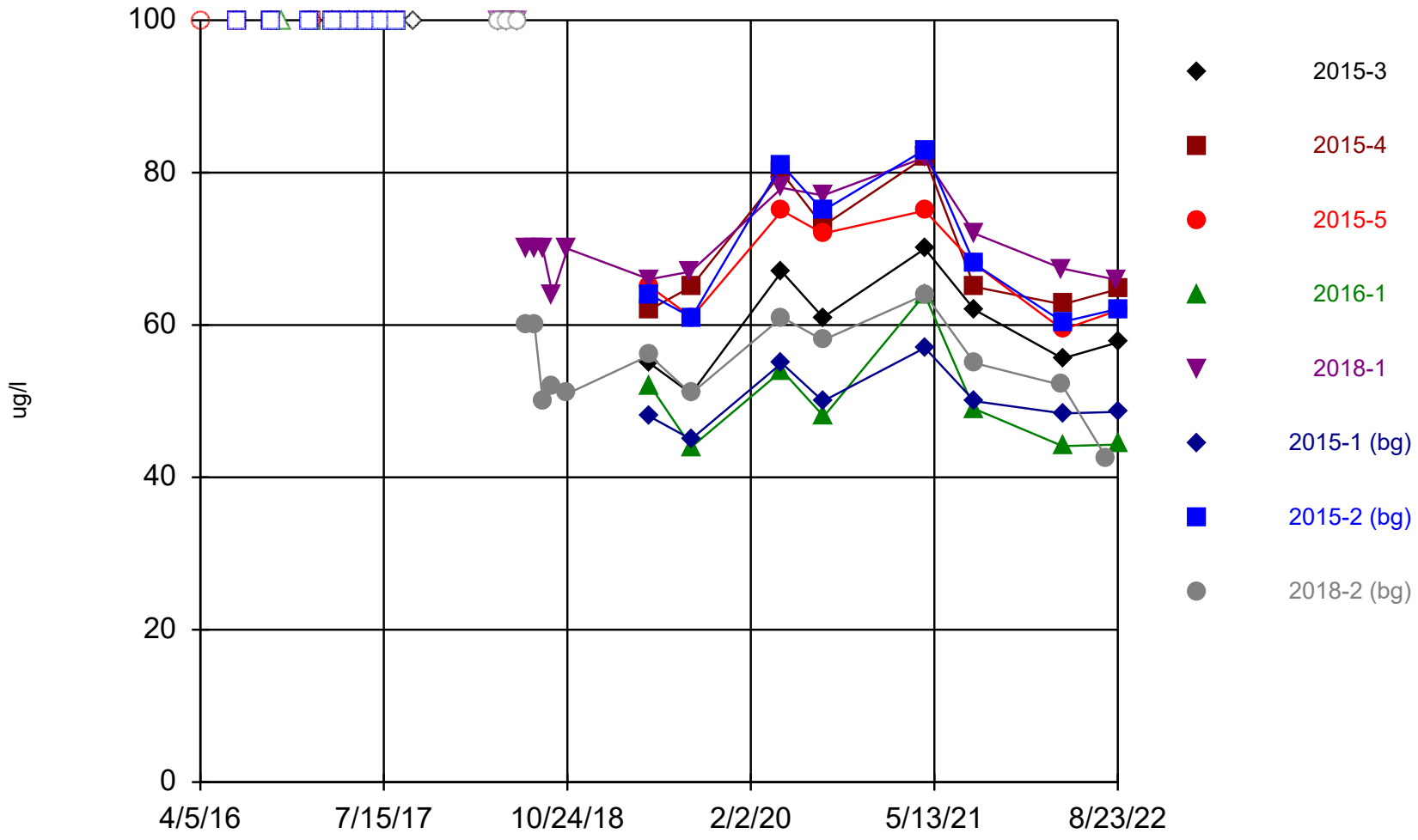
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_CCROnly

Appendix D

Time Series Graph for Lithium

Sanitas™ v.9.6.35 For the statistical analyses of ground water by Barr Engineering Company only. UG
Hollow symbols indicate censored values.

Lithium, total

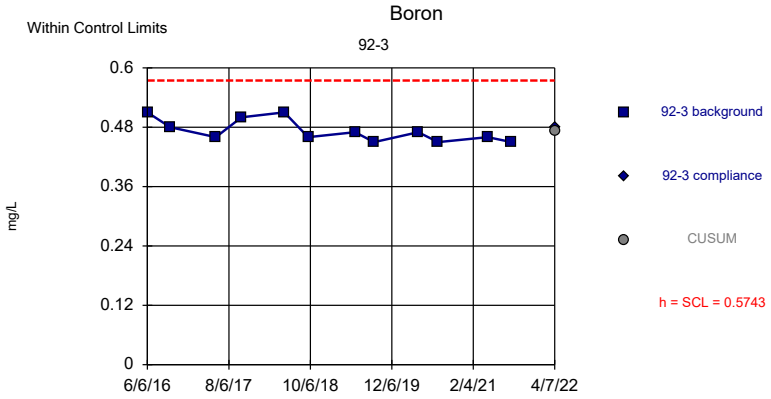


Time Series Analysis Run 11/11/2022 11:21 AM

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

Appendix E

Statistical Review for Non-CCR Unit: Event 1

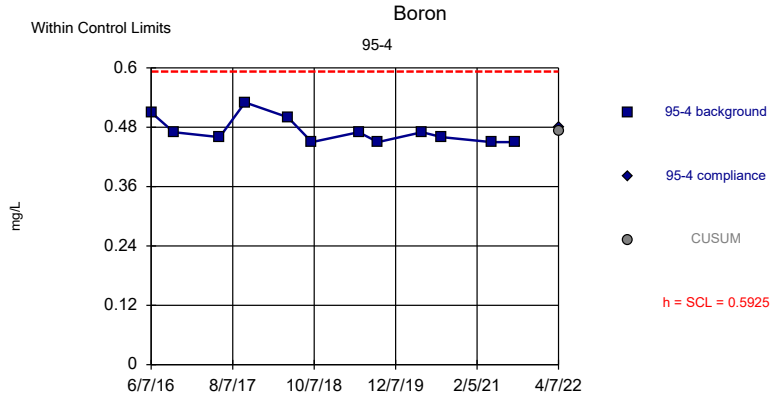


Background Data Summary: Mean=0.4725, Std. Dev.=0.02261, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8103, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

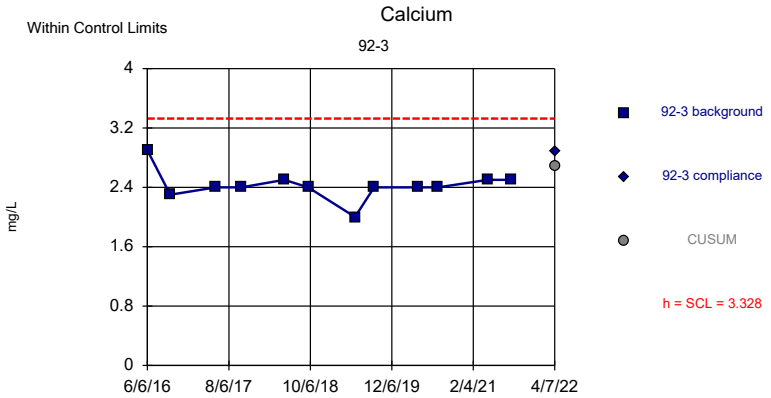


Background Data Summary: Mean=0.4725, Std. Dev.=0.02667, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7683, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

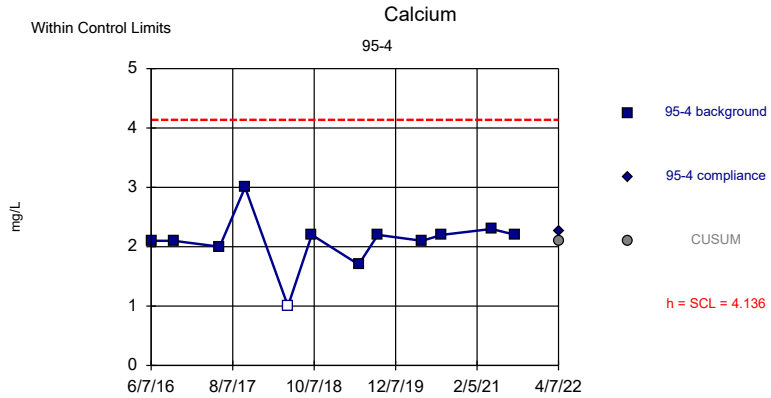


Background Data Summary: Mean=2.425, Std. Dev.=0.2006, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.6679, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

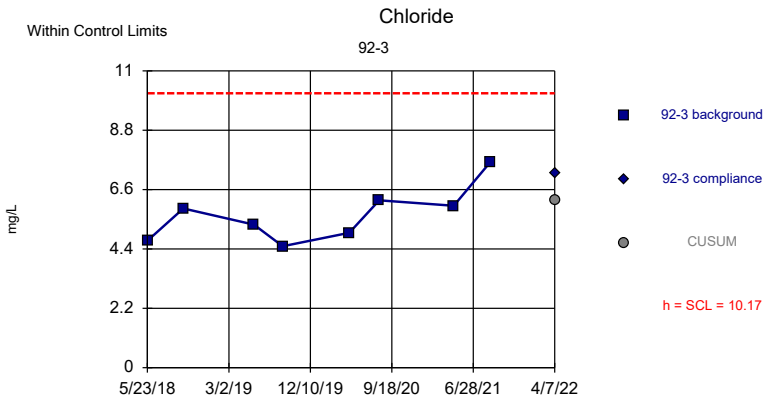
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG
Hollow symbols indicate censored values.



Background Data Summary: Mean=2.092, Std. Dev.=0.4542, n=12, 8.333% 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 = 0.5308, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

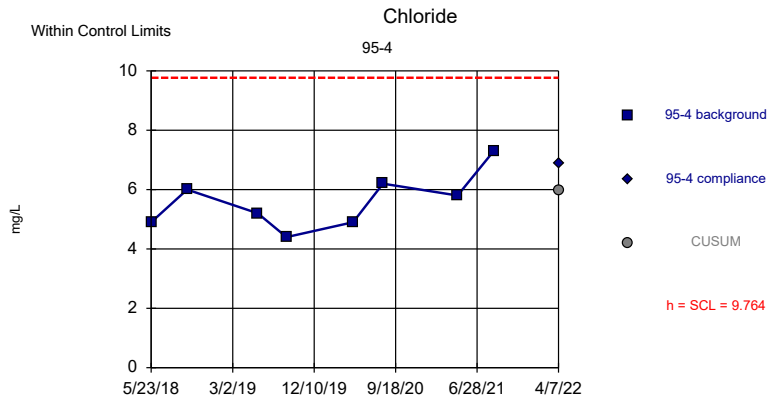


Background Data Summary: Mean=5.65, Std. Dev.=1.004, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9273, critical = 0.818. Report alpha = 0.001892. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:38 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

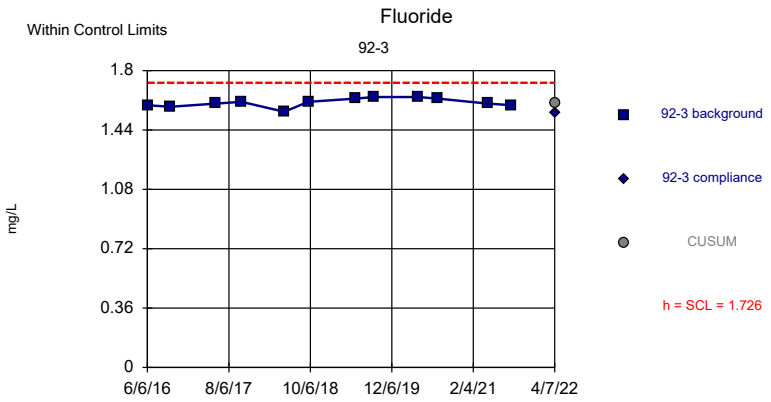


Background Data Summary: Mean=5.588, Std. Dev.=0.928, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9489, critical = 0.818. Report alpha = 0.001892. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:38 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

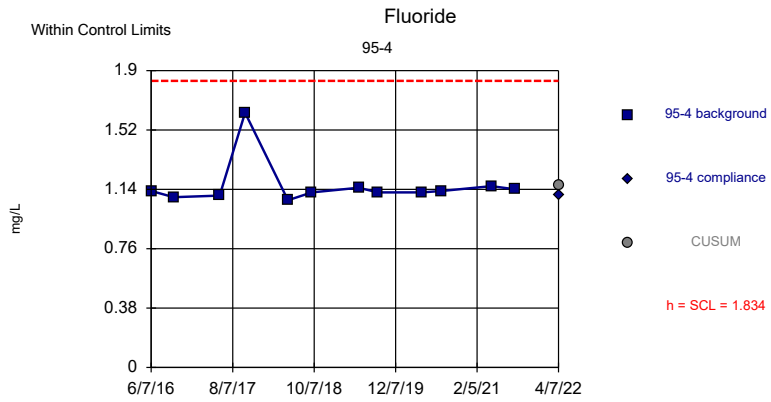


Background Data Summary: Mean=1.606, Std. Dev.=0.02678, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9412, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

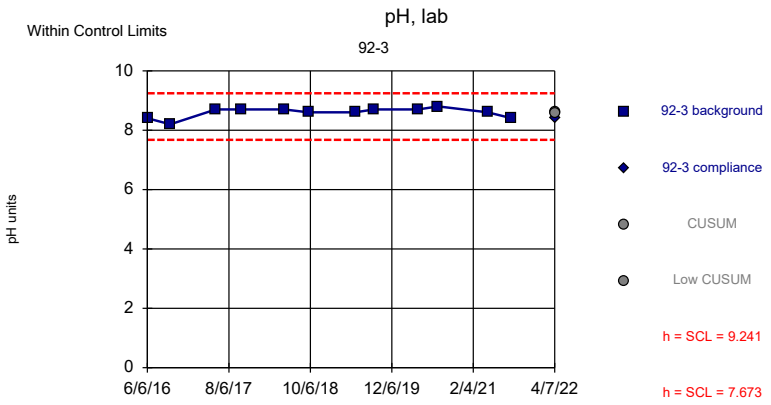
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.163, Std. Dev.=0.1491, n=12. 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 = 0.3777, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

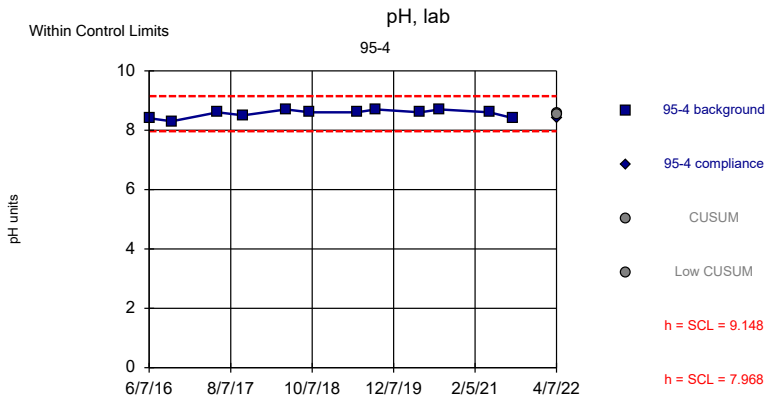


Background Data Summary (based on x^5 transformation): Mean=46986, Std. Dev.=4532, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8592, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

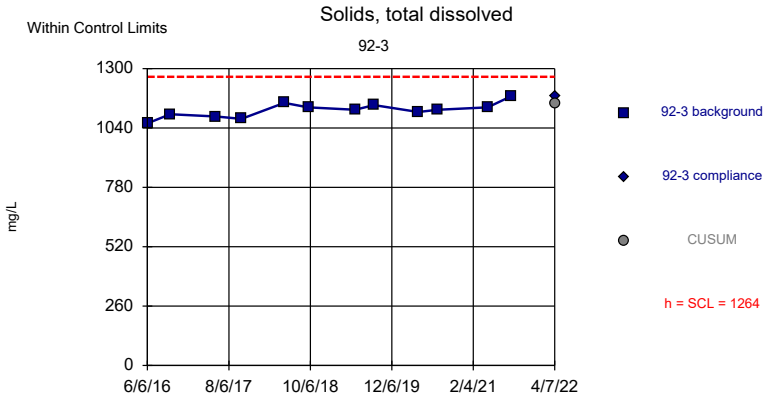


Background Data Summary: Mean=8.558, Std. Dev.=0.1311, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8672, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

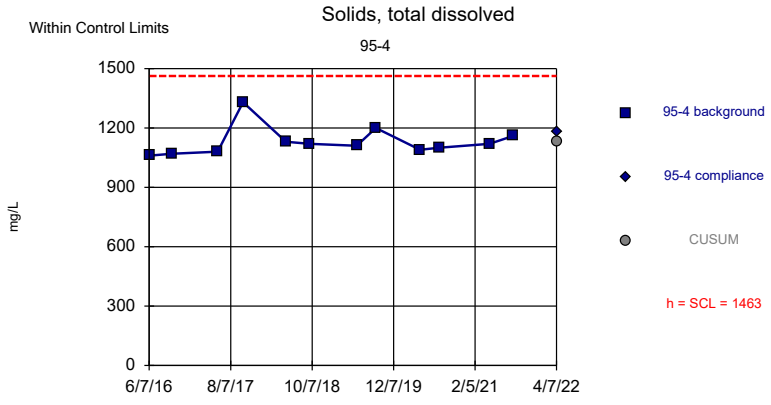


Background Data Summary: Mean=1118, Std. Dev.=32.51, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9906, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

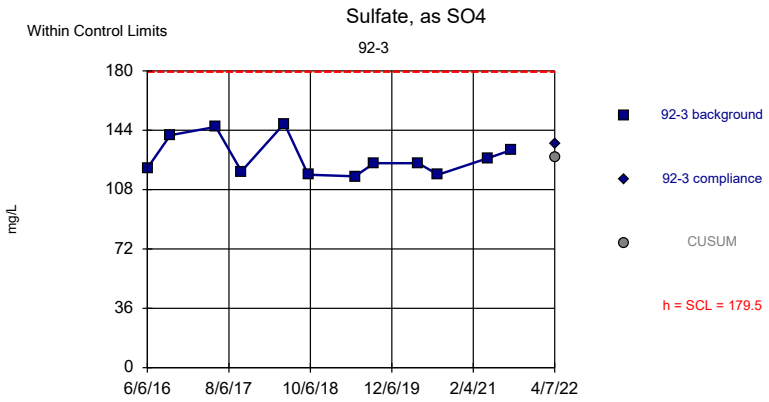
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1131, Std. Dev.=73.79, n=12. 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 = 0.6599, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

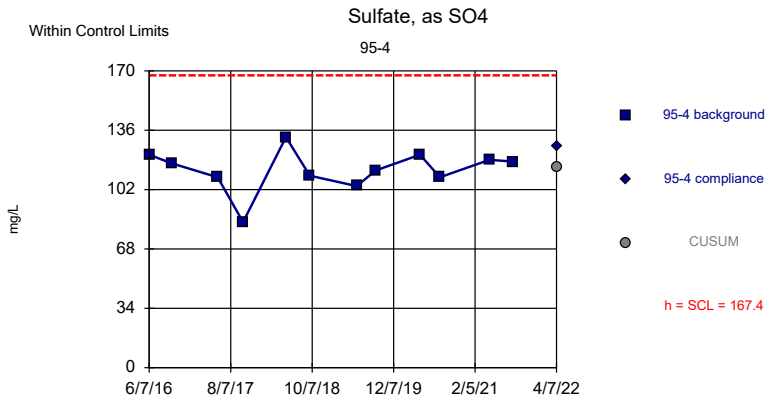


Background Data Summary: Mean=127.7, Std. Dev.=11.51, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8608, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=113.2, Std. Dev.=12.05, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9081, critical = 0.859. Report alpha = 0.000626. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:09 PM

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

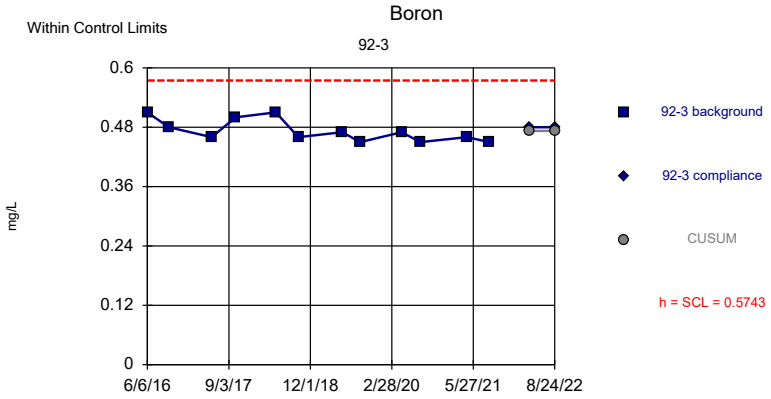
Shewhart-Cusum Control Chart / Rank Sum

Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR Printed 11/28/2022, 4:10 PM

Constituent	Well	Sig.	h	N	Mean	Std. Dev.	%NDs	ND Adj.	Deseas.	Transform	Method
Boron (mg/L)	92-3	No	0.5743	12	0.4725	0.02261	0	None	No	No	Param Intra
Boron (mg/L)	95-4	No	0.5925	12	0.4725	0.02667	0	None	No	No	Param Intra
Calcium (mg/L)	92-3	No	3.328	12	2.425	0.2006	0	None	No	No	Param Intra
Calcium (mg/L)	95-4	No	4.136	12	2.092	0.4542	8.333	None	No	No	Param Intra
Chloride (mg/L)	92-3	No	10.13	12	5.142	1.109	0	None	No	No	Param Intra
Chloride (mg/L)	95-4	No	10.68	12	4.967	1.269	0	None	No	No	Param Intra
Fluoride (mg/L)	92-3	No	1.726	12	1.606	0.02678	0	None	No	No	Param Intra
Fluoride (mg/L)	95-4	No	1.834	12	1.163	0.1491	0	None	No	No	Param Intra
pH, lab (pH units)	92-3	No	9.241&7.673	12	46986	4532	0	None	No	x^5	Param Intra
pH, lab (pH units)	95-4	No	9.148&7.968	12	8.558	0.1311	0	None	No	No	Param Intra
Solids, total dissolved (mg/L)	92-3	No	1264	12	1118	32.51	0	None	No	No	Param Intra
Solids, total dissolved (mg/L)	95-4	No	1463	12	1131	73.79	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/L)	92-3	No	179.5	12	127.7	11.51	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/L)	95-4	No	167.4	12	113.2	12.05	0	None	No	No	Param Intra

Appendix F

Statistical Review for Non-CCR Unit: Event 2

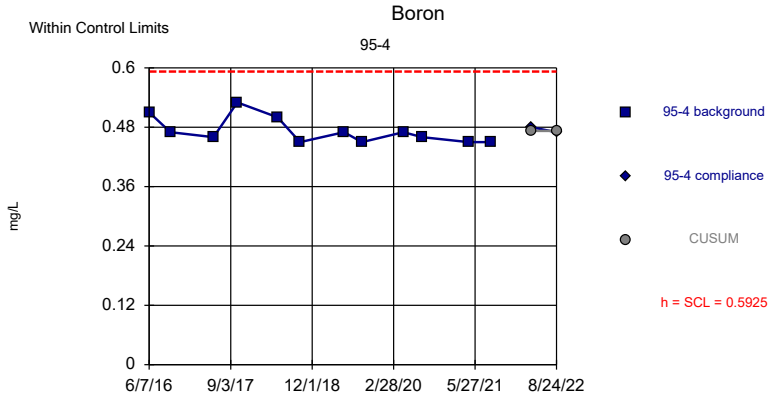


Background Data Summary: Mean=0.4725, Std. Dev.=0.02261, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8103, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:06 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

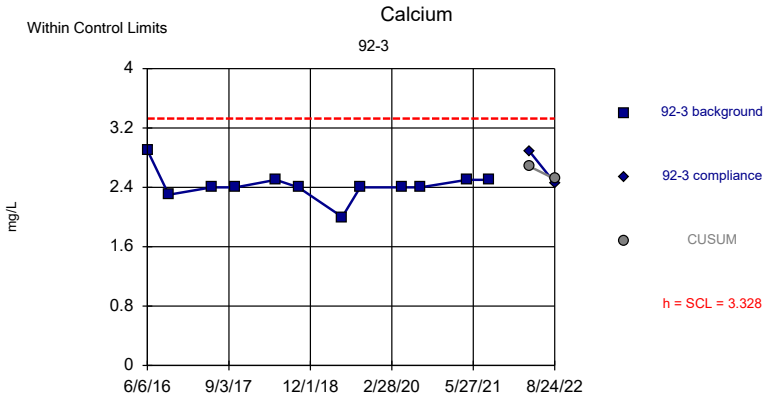


Background Data Summary: Mean=0.4725, Std. Dev.=0.02667, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7683, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:06 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

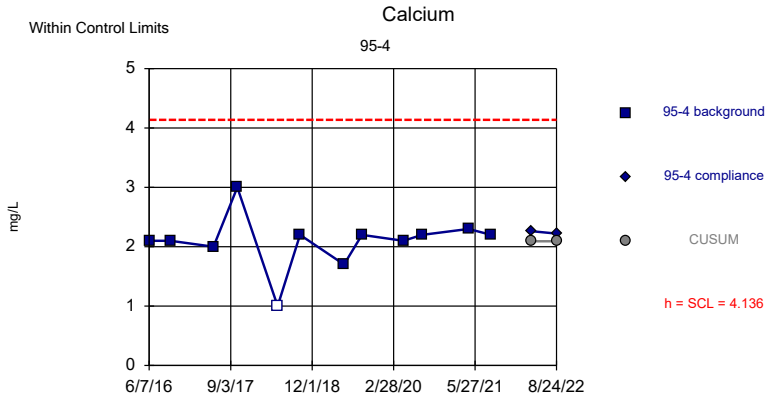


Background Data Summary: Mean=2.425, Std. Dev.=0.2006, n=12. Seasonality was not detected with 95% confidence. Analysis run on non-transformed values; transformation unable to normalize distribution. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.6679, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:06 PM

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

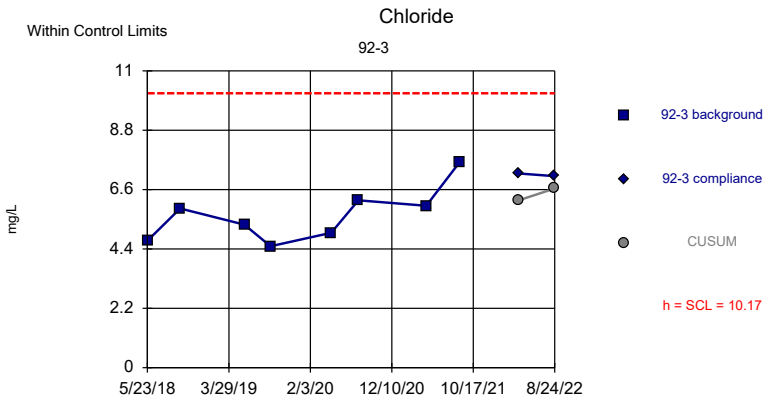
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG
Hollow symbols indicate censored values.



Background Data Summary: Mean=2.092, Std. Dev.=0.4542, n=12, 8.333% 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 = 0.5308, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:06 PM

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

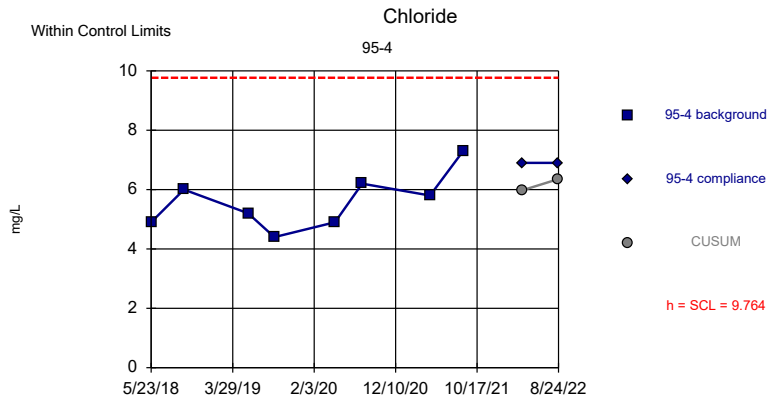


Background Data Summary: Mean=5.65, Std. Dev.=1.004, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9273, critical = 0.818. Report alpha = 0.003178. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:34 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

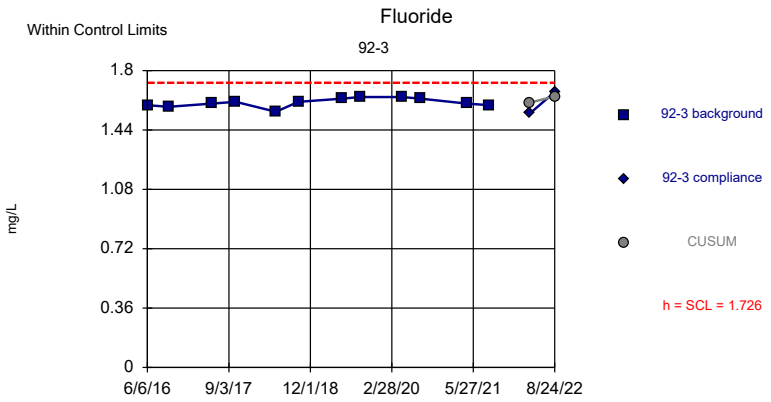


Background Data Summary: Mean=5.588, Std. Dev.=0.928, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9489, critical = 0.818. Report alpha = 0.003178. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:34 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

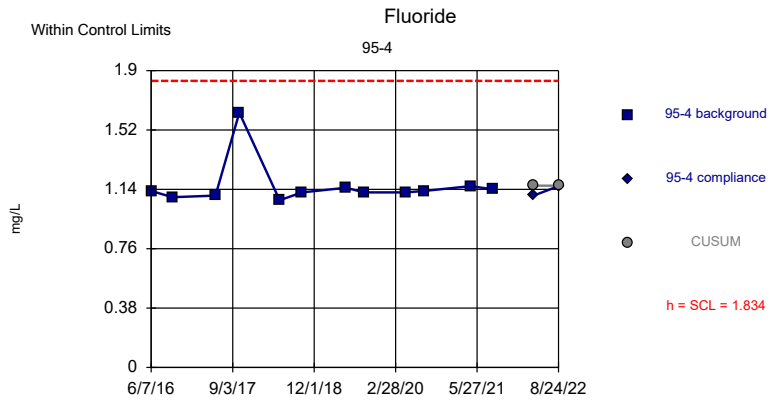


Background Data Summary: Mean=1.606, Std. Dev.=0.02678, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9412, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

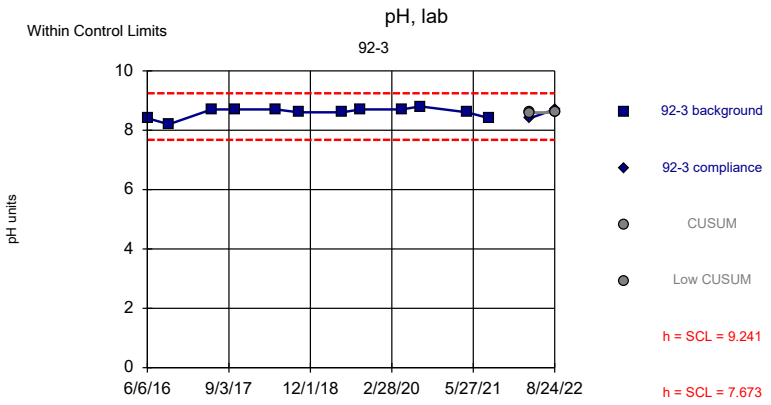
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1.163, Std. Dev.=0.1491, n=12. 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 = 0.3777, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

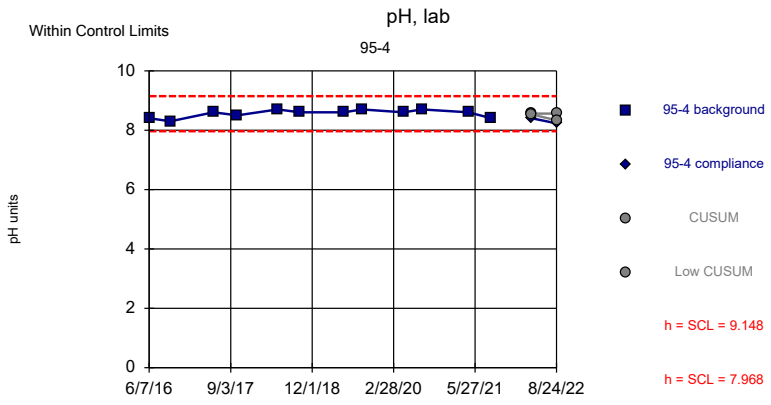


Background Data Summary (based on x^5 transformation): Mean=46986, Std. Dev.=4532, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8592, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

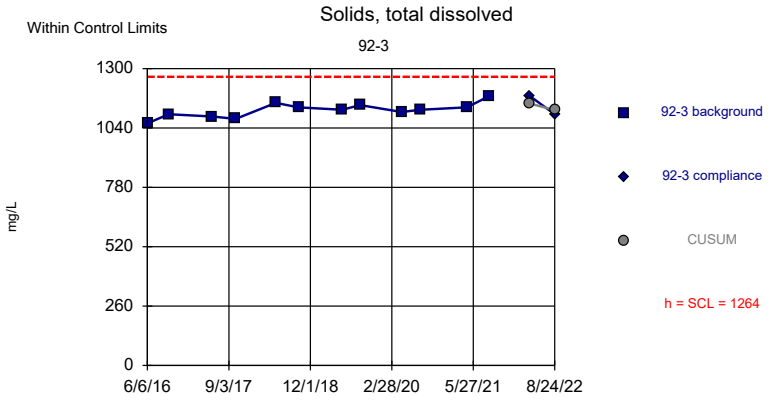


Background Data Summary: Mean=8.558, Std. Dev.=0.1311, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8672, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

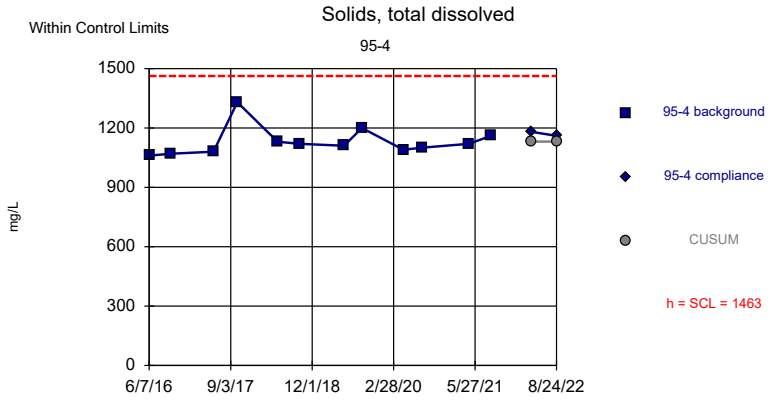


Background Data Summary: Mean=1118, Std. Dev.=32.51, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9906, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

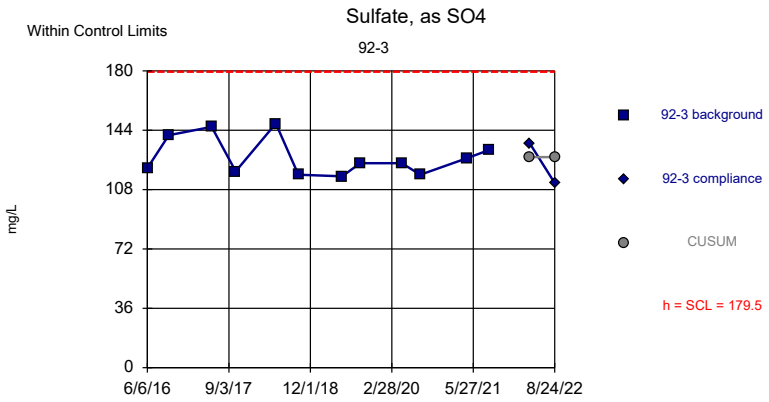
Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=1131, Std. Dev.=73.79, n=12. 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 = 0.6599, critical = 0.859 (non-normal: user chose to continue). Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

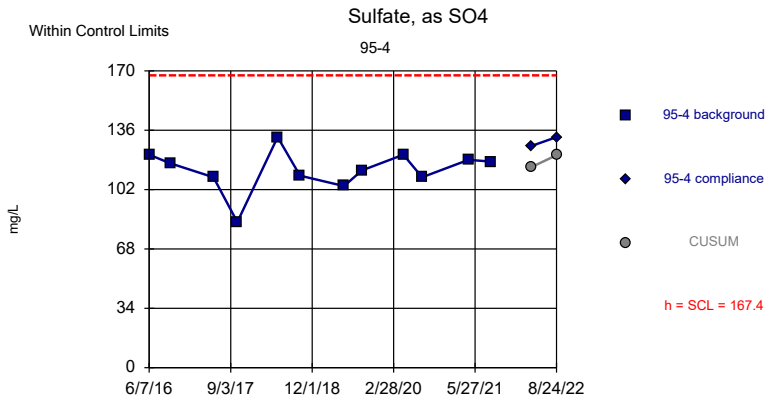


Background Data Summary: Mean=127.7, Std. Dev.=11.51, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8608, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG



Background Data Summary: Mean=113.2, Std. Dev.=12.05, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9081, critical = 0.859. Report alpha = 0.001054. Dates ending 8/25/2021 used for control stats. Standardized h=4.5, SCL=4.5.

Control Chart Analysis Run 11/28/2022 4:07 PM

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

Shewhart-Cusum Control Chart / Rank Sum

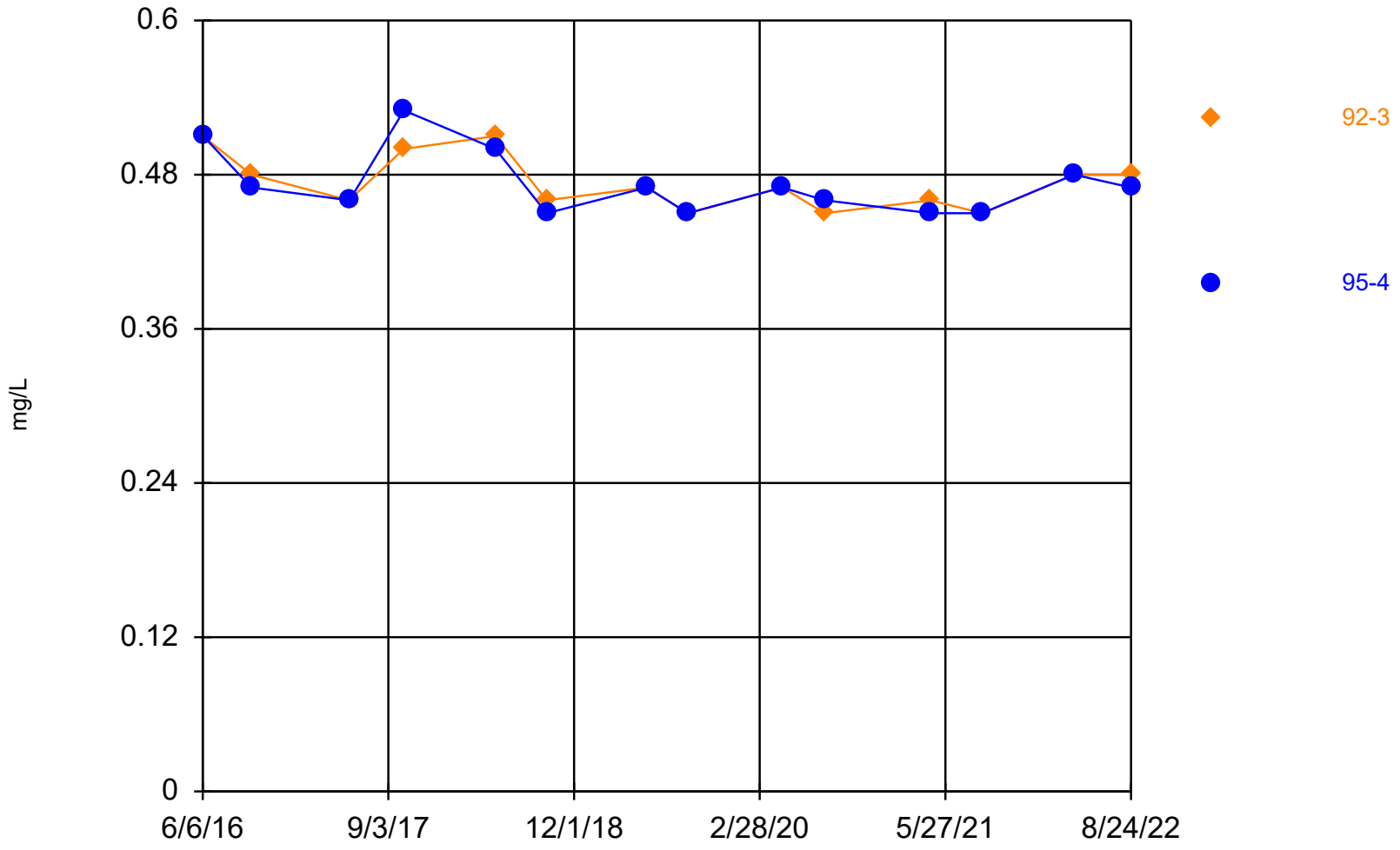
Milton R. Young Station Client: Minnkota Power Cooperative Data: Minnkota_NonCCR Printed 11/28/2022, 4:08 PM

Constituent	Well	Sig.	h	N	Mean	Std. Dev.	%NDs	ND Adj.	Deseas.	Transform	Method
Boron (mg/L)	92-3	No	0.5743	12	0.4725	0.02261	0	None	No	No	Param Intra
Boron (mg/L)	95-4	No	0.5925	12	0.4725	0.02667	0	None	No	No	Param Intra
Calcium (mg/L)	92-3	No	3.328	12	2.425	0.2006	0	None	No	No	Param Intra
Calcium (mg/L)	95-4	No	4.136	12	2.092	0.4542	8.333	None	No	No	Param Intra
Chloride (mg/L)	92-3	No	10.13	12	5.142	1.109	0	None	No	No	Param Intra
Chloride (mg/L)	95-4	No	10.68	12	4.967	1.269	0	None	No	No	Param Intra
Fluoride (mg/L)	92-3	No	1.726	12	1.606	0.02678	0	None	No	No	Param Intra
Fluoride (mg/L)	95-4	No	1.834	12	1.163	0.1491	0	None	No	No	Param Intra
pH, lab (pH units)	92-3	No	9.241&7.673	12	46986	4532	0	None	No	x^5	Param Intra
pH, lab (pH units)	95-4	No	9.148&7.968	12	8.558	0.1311	0	None	No	No	Param Intra
Solids, total dissolved (mg/L)	92-3	No	1264	12	1118	32.51	0	None	No	No	Param Intra
Solids, total dissolved (mg/L)	95-4	No	1463	12	1131	73.79	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/L)	92-3	No	179.5	12	127.7	11.51	0	None	No	No	Param Intra
Sulfate, as SO4 (mg/L)	95-4	No	167.4	12	113.2	12.05	0	None	No	No	Param Intra

Appendix G

Time Series Graphs for Non-CCR Unit

Boron

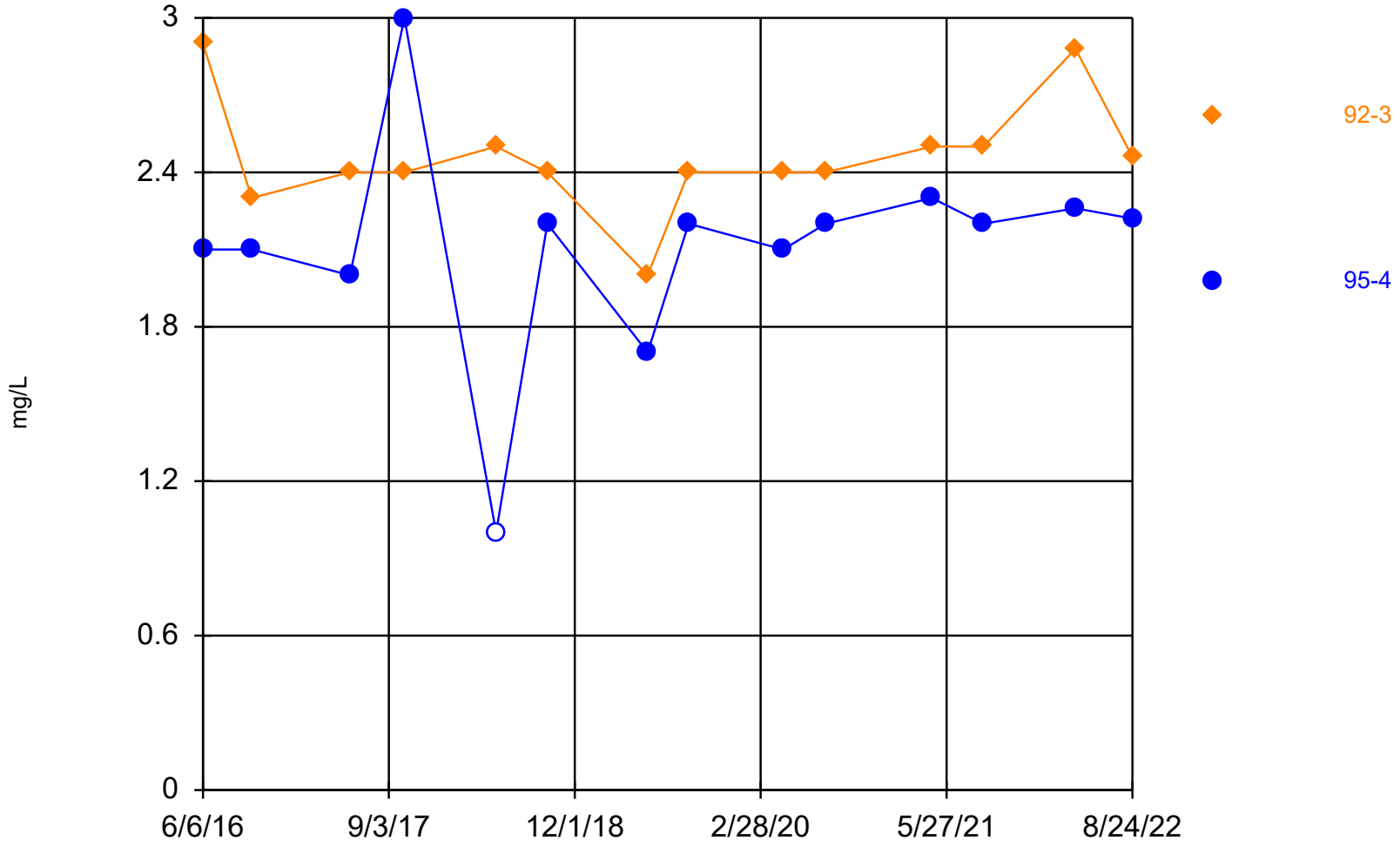


Time Series Analysis Run 11/28/2022 4:00 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG
Hollow symbols indicate censored values.

Calcium



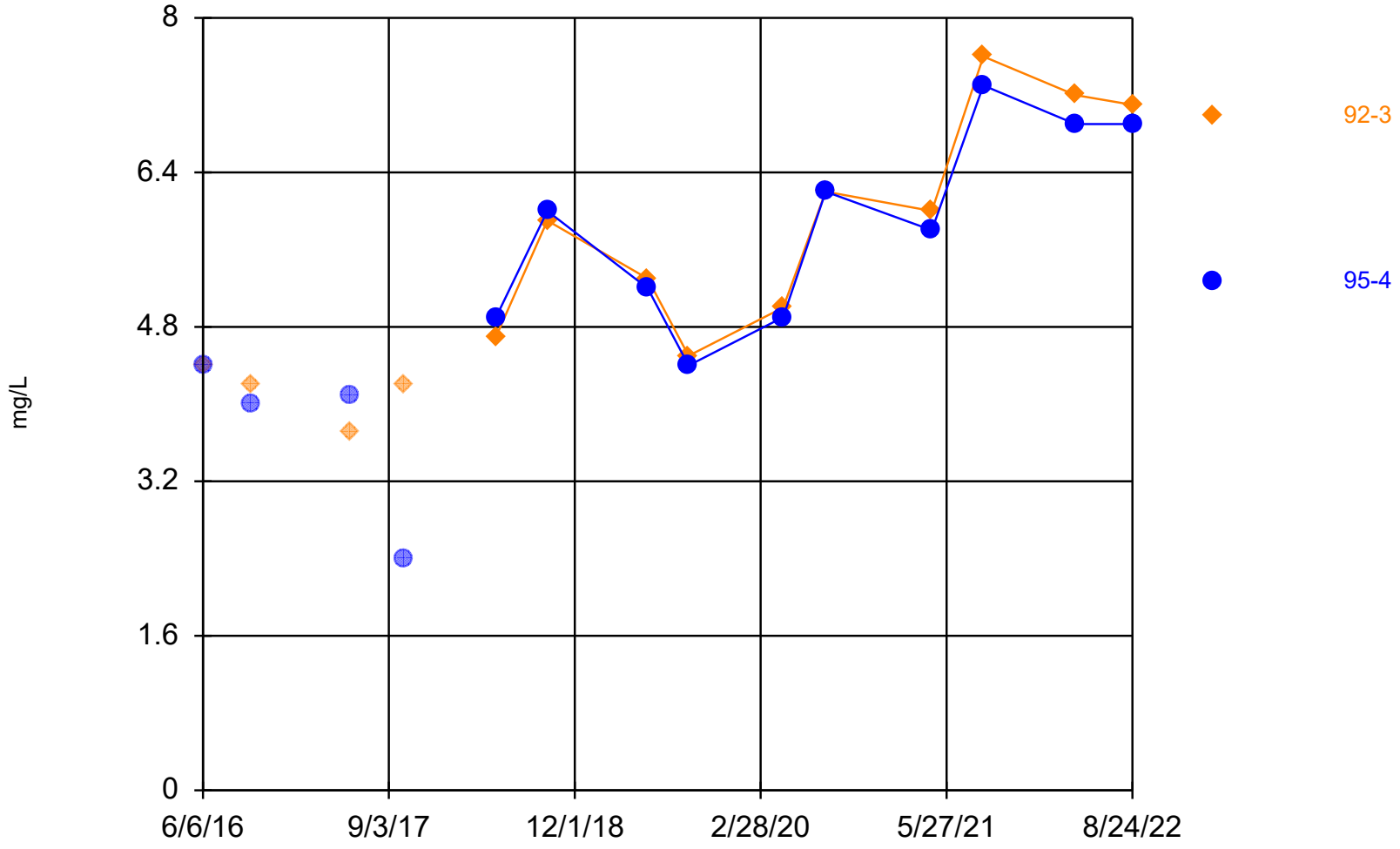
Time Series Analysis Run 11/28/2022 4:00 PM

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

Sanitas™ v.9.6.36 For the statistical analyses of ground water by Barr Engineering Company only. UG

Note: Points that are shown as faded and without connecting lines indicate samples excluded from background calculations in order to provide a more statistically robust dataset representative of current conditions.

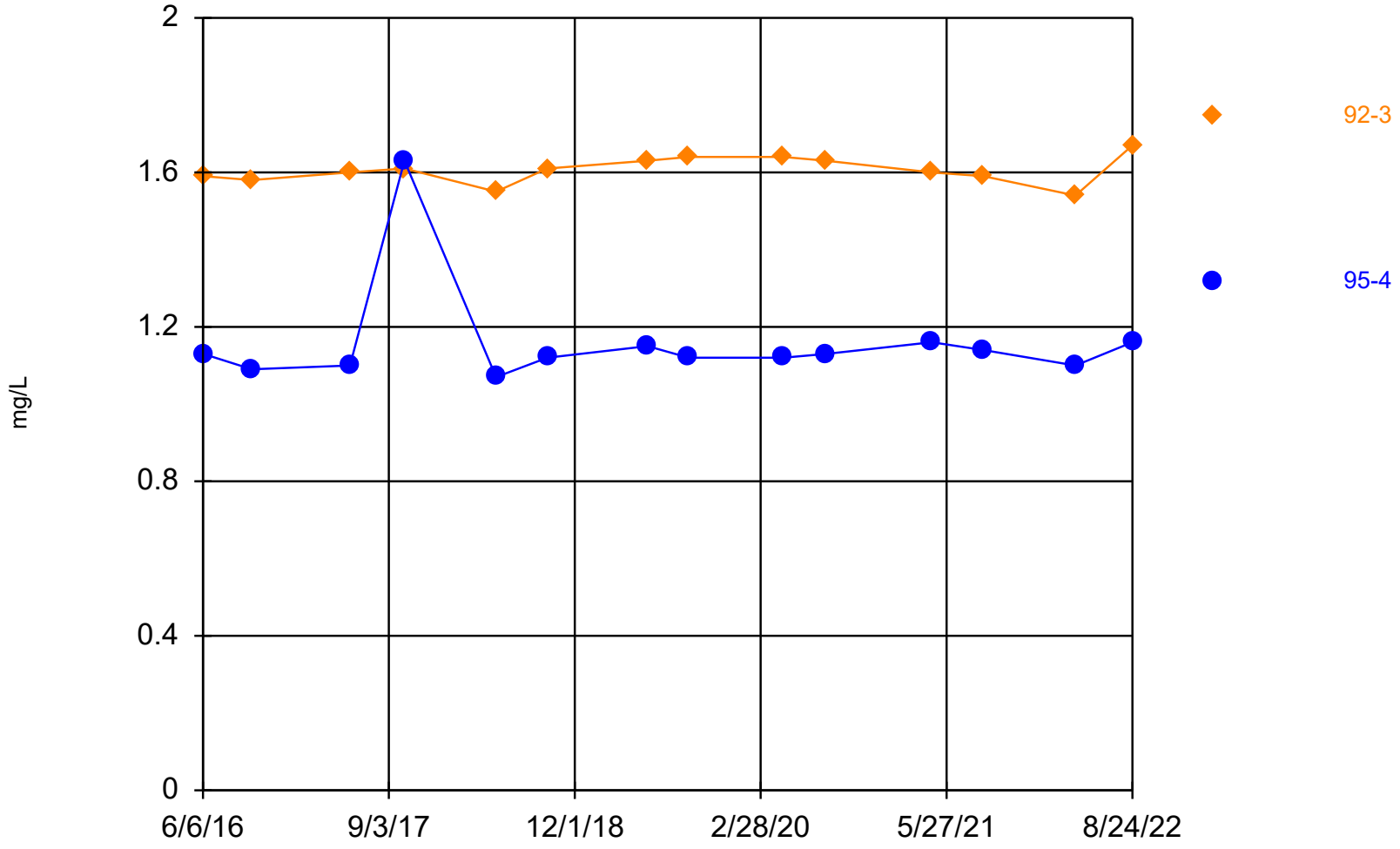
Chloride



Time Series Analysis Run 12/12/2022 4:43 PM

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

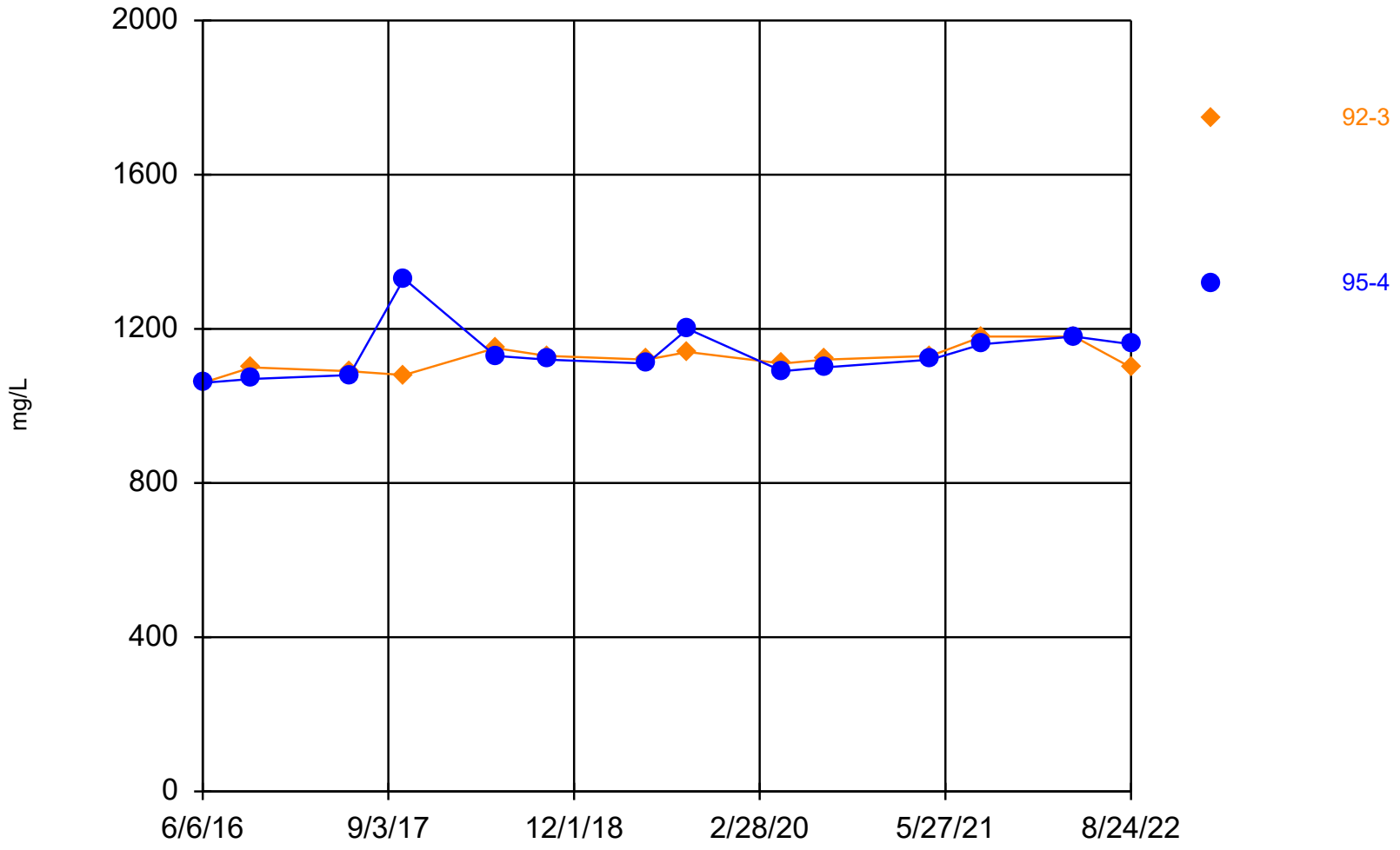
Fluoride



Time Series Analysis Run 11/28/2022 4:00 PM

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

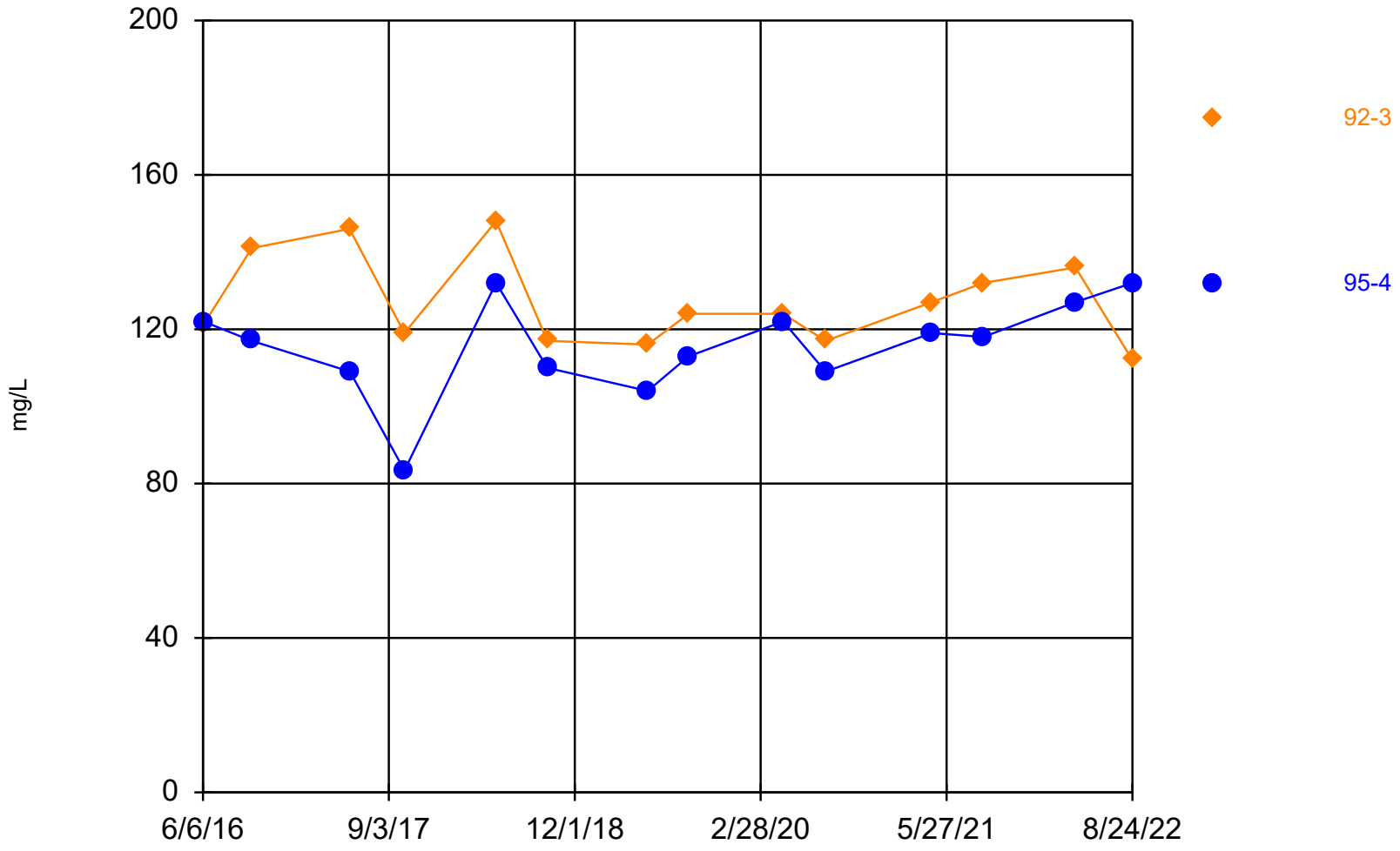
Solids, total dissolved



Time Series Analysis Run 11/28/2022 4:00 PM

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

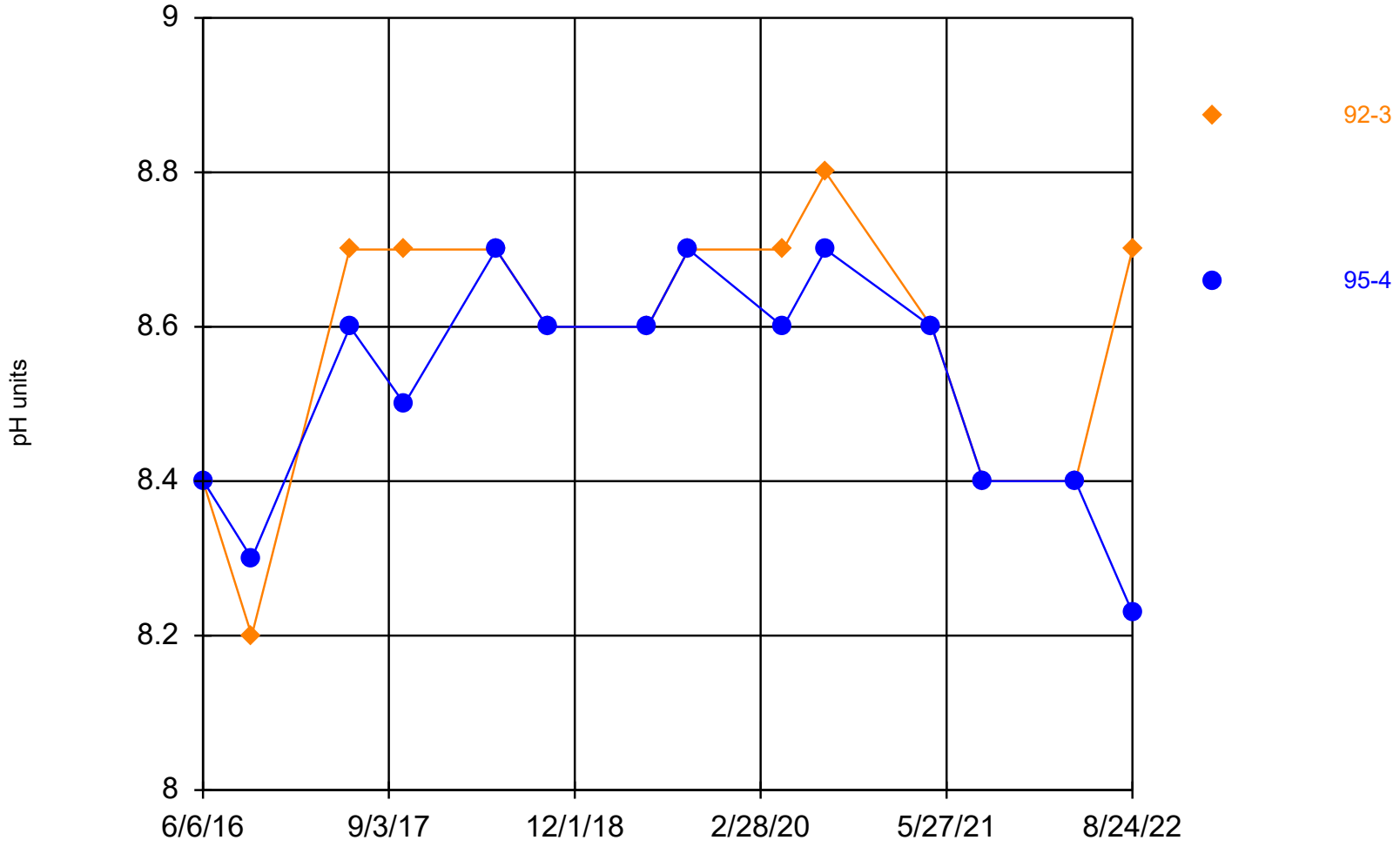
Sulfate, as SO4



Time Series Analysis Run 11/28/2022 4:00 PM

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

pH, lab



Time Series Analysis Run 11/28/2022 4:03 PM

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