



**REPORT**

**Annual Coal Combustion Residuals Groundwater  
Monitoring and Corrective Action Report - 2024**  
*Nebraska Public Power District, Gerald Gentleman Station*

Submitted to:

**Nebraska Public Power District**

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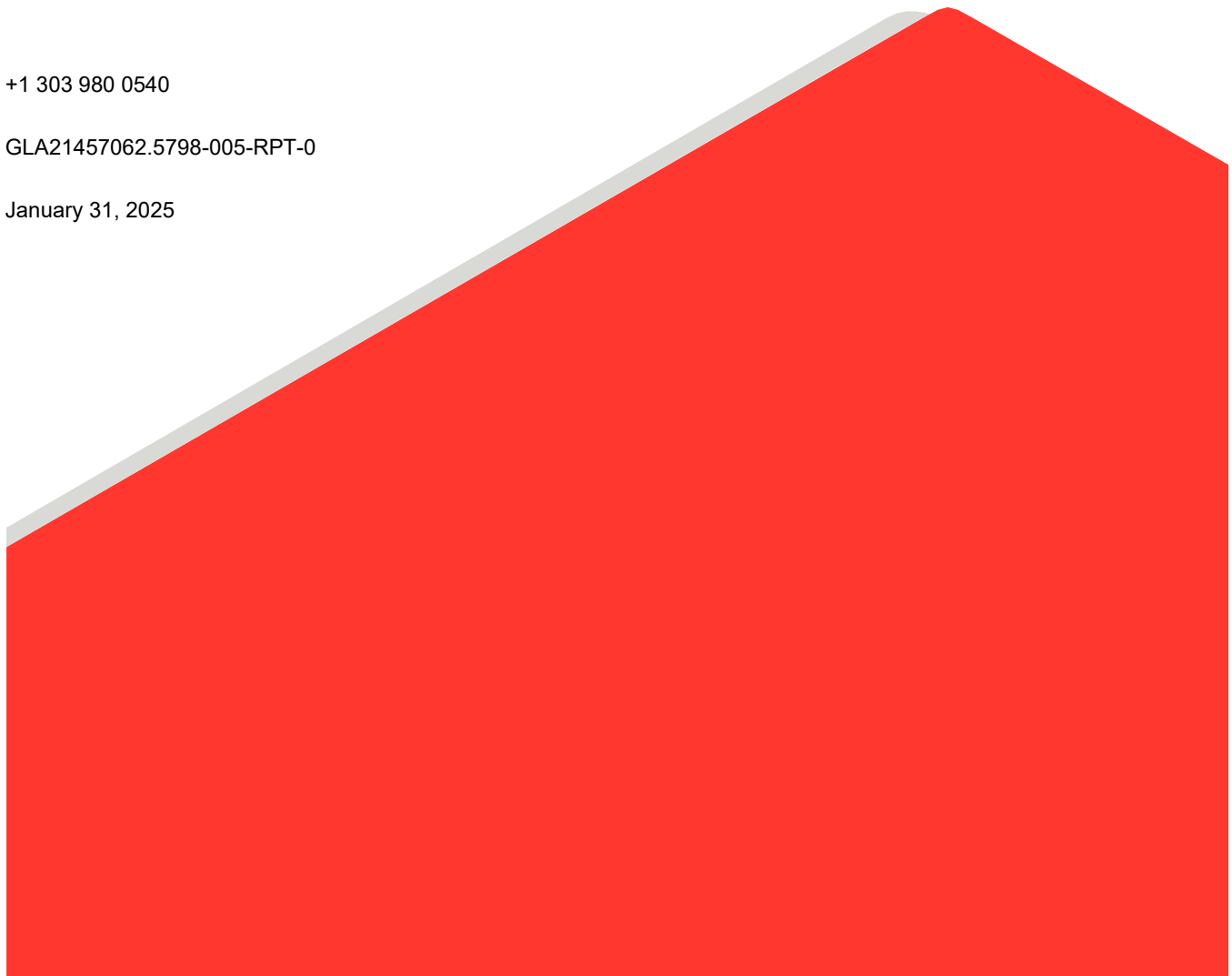
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## Executive Summary

This report presents the results from groundwater monitoring that occurred at Nebraska Public Power District's Gerald Gentleman Station in 2024 to meet the requirements of the United States Environmental Protection Agency's Coal Combustion Residuals Rule (40 Code of Federal Regulations 257.90 through 257.98). The facility entered 2024 under a detection monitoring program and remains in detection monitoring based on the results of sampling and analysis events conducted in the second quarter (Q2) and fourth quarter (Q4) of 2024.

No potential exceedances were identified during the Q2 2024 detection monitoring sampling event. A potential exceedance was identified for sulfate at APMW-11 during the Q4 2024 detection monitoring sampling event. Confirmatory re-sampling for the parameter will occur during the next semi-annual sampling event in Q2 2025.

A verified statistically significant increase was identified for chloride at APMW-6 during the Q2 2024 and Q4 2024 sampling events. The verified statistically significant increase was originally identified following the Q4 2021 sampling event. A previously prepared successful alternative source demonstration was reviewed for ongoing applicability for the verified statistically significant increase after the Q4 2024 and Q2 2024 sampling events. The conclusions of the previous ASD remain valid, therefore Gerald Gentleman Station will remain in detection monitoring for the first semi-annual detection monitoring event of 2025, to be conducted in Q2 2025.

As described in the Groundwater Monitoring System Certification (Golder Associates Inc. [GAI] 2017a) and the Groundwater Monitoring Statistical Methods Certification (GAI 2017b), the groundwater monitoring and analytical procedures meet the general requirements of the Coal Combustion Residuals Rule, and modifications to the monitoring network and sampling program are not recommended at this time.

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## 1.0 INTRODUCTION

WSP USA Inc. (WSP) has prepared this report describing the 2024 groundwater sampling and comparative statistical analysis for Nebraska Public Power District's (NPPD) Gerald Gentleman Station (GGS) in Sutherland, Nebraska. This report was written to meet the requirements for groundwater monitoring and corrective action within the United States Environmental Protection Agency's Coal Combustion Residuals (CCR) Rule, 40 Code of Federal Regulations (CFR) 257.90 to 257.98.

### 1.1 Facility Information

GGS is located approximately 5 miles south of Sutherland, Nebraska, and 1.2 miles south of Sutherland Reservoir. The ash disposal facility at GGS is situated in the NW 1/4, NE 1/2, Section 30 of Township 13N, Range 33 W, in Lincoln County, Nebraska. NPPD began operating GGS in 1979 as a coal-fired electrical generation facility. GGS is both owned and operated by NPPD. The plant, with a generation capacity of 1,365 megawatts of power, uses a low-sulfur coal from Wyoming's Powder River Basin. The active CCR landfill at the site contains fly ash and bottom ash.

### 1.2 Purpose

The federal CCR Rule established specific requirements for reporting of groundwater monitoring and corrective actions in 40 CFR 257.90. Per part (e) of 40 CFR 257.90, no later than January 31, 2018, and annually thereafter, owners or operators of CCR units must prepare an annual groundwater monitoring and corrective action report.

## 2.0 GROUNDWATER MONITORING NETWORK PROGRAM STATUS

The groundwater monitoring network for the active CCR landfill at GGS consists of 14 monitoring wells, as shown in Figure 1 and Figure 2. The four upgradient wells are APMW-5, APMW-15, APMW-16A, and APMW-17 and are indicated by the inclusion of "(U)" throughout the text. The ten downgradient monitoring wells are APMW-4, APMW-6, APMW-8A, APMW-10, APMW-11, APMW-12, APMW-13, APMW-14, APMW-18, and APMW-19.

### 2.1 Completed Key Actions 2024

The following key actions were completed in 2024:

- The 2023 annual CCR groundwater monitoring and corrective action report was completed and placed within the operating record and on NPPD's publicly accessible CCR website (WSP 2024).
- Detection monitoring samples were collected in June and December 2024 and analyzed for the Appendix III constituent list associated with the federal CCR Rule.
- Additional samples were collected from APMW-4 and APMW-11 in June and December for separate state reporting requirements and analyzed for the Appendix IV parameters.
- Comparative statistical analysis was completed for the second quarter (Q2) 2024 and fourth quarter (Q4) 2024 detection monitoring events, collected in June and December 2024, respectively.

### 2.2 Installation and Decommissioning of Monitoring Wells

No monitoring wells associated with the ash disposal facility groundwater quality monitoring network were installed or decommissioned at GGS in 2024.

## 2.3 Problems and Resolutions

### *Sampling Problems and Resolutions*

During the Q2 2024 sampling event, the groundwater level at APMW-5 (U) was below the level of the dedicated low-flow pump, resulting in a groundwater level not being recorded. However, enough water was present for a sample to be collected for laboratory analysis.

During the Q4 2024 sampling event, the groundwater level at APMW-15 (U) was below the level of the dedicated low-flow pump, resulting in a groundwater level not being able to be recorded for the monitoring event. However, enough water was present at APMW-15 (U) for proper purging to occur and for a sample to be collected for laboratory analysis. Additionally, wells APMW-5 (U) and APMW-4 were dry during the Q4 2024 sampling event, preventing collection of groundwater levels and analytical sampling at both wells. NPPD will continue to monitor APMW-5 (U), APMW-15 (U), and APMW-4 during future sampling events.

### *Analytical Problems and Resolutions*

Beginning in 2023, a difference was noted in the provided reporting limit for fluoride across the collected samples. In correspondence with Eurofins Environment Testing Cedar Falls, the laboratory noted that during a recent re-evaluation and certification of the minimum detectable levels (MDLs) for the laboratory instrument using method SW 9056A for fluoride, the undiluted MDL for fluoride increased from 0.044 mg/L to 0.075 mg/L. This change in MDL resulted in a concurrent increase in the undiluted reporting limit, given as the practical quantitation limit, from 0.10 mg/L to 0.20 mg/L. Samples were analyzed using a similar dilution factor to prior results, resulting in non-detects reported as ND < 1.000 mg/L for the collected samples. Associated results are not considered statistical increases, based on the difference in results stemming from changes to the laboratory reporting limits. The associated results and any impacts stemming from the change in reporting limits will continue to be reviewed for future samples.

With the Q4 2024 results, Eurofins Environment Testing Cedar Falls has updated the reporting method for fluoride to SM4500 F C-2011. Results for the Q4 2024 monitoring event have been reported without dilutions at the stated reporting limit of 0.100 mg/L. The Q4 2024 results and any impacts associated with the change in methodology and reporting limits will continue to be monitored for future samples.

## 2.4 Proposed Key Activities for 2025

The following key activities are expected to be completed in 2025:

- The 2024 annual monitoring report will be finalized and placed on the publicly accessible CCR website and in the site operating record.
- Detection monitoring sampling events and associated comparative statistical analysis are planned to occur in Q2 and Q4 2025.

## 3.0 GROUNDWATER MONITORING ANALYTICAL PROGRAM STATUS

Analytical activities associated with the groundwater monitoring program are described below.

### 3.1 Samples Collected

GGs staff collected monitoring samples for the CCR detection monitoring program in May and December 2024. Specific dates for each sample are provided on the tables included as Appendix A.

Additional samples were collected at APMW-4 and APMW-11 in support of separate, Nebraska-specific reporting requirements. The analyses are not required as part of the detection monitoring program. The collected results have been included on the tables in Appendix A.

### 3.1.1 Groundwater Elevation and Flow Rate

Groundwater elevations were measured in 13 of the 14 wells during the Q2 2024 sampling event and 11 of the 14 wells during the Q4 2024 event prior to purging. During the Q2 2024 sampling event, the groundwater level at APMW-5 (U) was below the level of the dedicated low-flow pump, resulting in a groundwater level not being recorded, but enough water was present for a sample to be collected for laboratory analysis. APMW-5 (U) and APMW-4 were dry during the Q4 2024 monitoring event, with both groundwater levels and samples for laboratory analyses unable to be collected. During Q4 sampling, the groundwater level at APMW-15 (U) was below the level of the dedicated low-flow pump, resulting in a groundwater level not being recorded, but enough water was present for a sample to be collected for laboratory analysis. Groundwater elevation measurements can be found in the tables included as Appendix A for each location. Groundwater elevations and interpolated groundwater contours are shown in Figure 1 for the May 2024 (Q2 2024) detection monitoring sampling event. Groundwater elevations and interpolated groundwater contours are shown in Figure 2 for the December 2024 (Q4 2024) detection monitoring sampling event.

The groundwater flow rate across the facility was estimated with the equation  $V_s = k \times i / n_e$ , where:

- $V_s$  is the groundwater flow rate, in feet per day (ft/day)
- $k$  is the hydraulic conductivity, estimated from slug testing results from system wells, in ft/day
- $i$  is the hydraulic gradient, calculated based on groundwater elevations for each monitoring event, in feet per feet (ft/ft)
- $n_e$  is the effective porosity, a unitless parameter, estimated to be 0.25 for site soils

Hydraulic conductivity values at the site range from 0.14 to 19 ft/day, based on slug test data reported in *Design and Construction of a Groundwater Monitoring Network, Final Report*, issued in September 1991 by Woodward-Clyde Consultants. According to the 1991 report, a hydraulic conductivity value of 0.14 ft/day represents the Ogallala Formation silts. Values of 16 and 19 ft/day were reported for Ogallala Formation sands. Both 0.14 and 19 ft/day have been used to estimate the range of hydraulic conductivities present at GGS. The effective porosity estimate listed above is based on typical values for sands and silts, as presented in *Applied Hydrogeology* (Fetter 1994).

Based on the range of site values for hydraulic conductivity, the estimated effective porosity, and calculated hydraulic gradient based on water level readings, the average groundwater flow rate for June 2024 was estimated between  $4.2 \times 10^{-4}$  to  $8.4 \times 10^{-2}$  ft/day, based on average gradient values from APMW-15, APMW-16A, and APMW-17 as the upgradient reference points. The average groundwater flow rate from wells with recorded groundwater elevations in December 2024 was estimated between  $6.9 \times 10^{-4}$  to  $1.0 \times 10^{-1}$  ft/day. Gradients for the December 2024 monitoring event were calculated from APMW-16A and APMW-17, based on not being able to collect a water level at APMW-15 during the monitoring event.

## 3.2 Monitoring Data (Analytical Results)

Analytical results for the CCR Rule Appendix III detection monitoring events in May 2024 and December 2024 are shown in the tables included as Appendix A.

### 3.3 Comparative Statistical Analysis

A description of the steps taken for comparative statistical analysis is summarized below with the results presented in the tables included as Appendix B.

Comparative statistical analysis is conducted following each detection monitoring event, consisting of the Appendix III parameters (USEPA 2015). For both Shewhart-CUSUM limits and non-parametric prediction limits (NP-PL), the comparative statistical analysis consists of a comparison of detection monitoring results collected during the period of interest to the statistical limit calculated from the baseline data collection period. For well-constituent pairs with increasing trends identified during the baseline period, an alternative trend test, as described by the Electric Power Research Institute (EPRI 2015) has been used to determine compliance. For well-constituent pairs with decreasing trends identified for the baseline period, a Sen's Slope test was used to assess the compliance results. At present, no well-constituent pairs have either increasing or decreasing trends within the baseline period and no alternative methods for trend analysis have been used within this report. Additional information on the methods used for the comparative statistical analysis can be found in the Groundwater Monitoring Statistical Methods Certification (GAI 2017b).

The following definitions will be used in discussion of the comparative statistical analysis:

- Elevated CUSUM – Defined as when the calculated CUSUM value is greater than the Shewhart-CUSUM limit established by the baseline statistical analysis, but the analytical result does not exceed the Shewhart-CUSUM limit. An elevated CUSUM is an indication that concentrations are gradually increasing and that the analytical results may exceed the Shewhart-CUSUM limit in the future. For elevated CUSUMs in the case of two-tailed analysis for field-measured pH, the CUSUM value may also be below the lower Shewhart-CUSUM limit established by the baseline statistical analysis.
- Potential Exceedance – Defined as an initial elevated CUSUM or an initial analytical result that exceeds the Shewhart-CUSUM limit or non-parametric statistical limit established by the baseline statistical analysis. Confirmatory re-sampling will determine if the potential exceedance is a false-positive or a verified statistically significant increase (SSI). Non-detect results that exceed either the Shewhart-CUSUM limit or the non-parametric statistical limit are not considered potential exceedances.
- False-positive – Defined as an analytical result that exceeds the statistical limit that can clearly be attributed to laboratory error, changes in analytical precision, or is invalidated through confirmatory re-sampling. False-positives are not used in calculations of any subsequent CUSUM values.
- Confirmatory re-sampling – Designated as the next scheduled sampling event.
- Verified SSI – Interpreted as two consecutive exceedances (the original sample and the confirmatory re-sample for analytical results, or two consecutive elevated CUSUMs) for the same constituent at the same well.

Results of the statistical analysis for the Q2 2024 and Q4 2024 detection monitoring events are shown on the tables included as Appendix B. For reporting purposes, compliance samples with non-detect results are shown at the practical quantitation limit (PQL) on the tables included as Appendix B.



### 3.3.1 Potential Exceedances

No potential exceedances were identified during the Q2 2024 detection monitoring event.

For Q4 2024 detection monitoring sampling events, a potential exceedance was identified for sulfate at APMW-11. A confirmatory re-sample will be collected prior to or during the next semi-annual sampling event in Q2 2025.

### 3.3.2 False-Positives

No false positives were identified during the Q2 2024 or Q4 2024 detection monitoring sampling events.

### 3.3.3 Verified SSIs

No new verified SSIs were identified during either the Q2 2024 or Q4 2024 detection monitoring sampling events. During both monitoring events, chloride was identified as a verified SSI at APMW-6, which was initially verified during the Q4 2021 sampling event.

As discussed in Section 2.3, reported fluoride values beginning with the Q2 2023 sampling event through the Q2 2024 sampling event reflect a change in the reporting limit based on revised method certifications for the analytical laboratory. As the reported values for the Q2 2024 sampling events are associated with non-detect analytical results with consistent analytical methodology and dilution factors to past results, non-detect results above the statistical limits are not considered exceedances for either upgradient or downgradient locations.

## 3.4 Program Transitions

Beginning in Q4 2017, the groundwater monitoring program at GGS transitioned from the baseline period to detection monitoring. During the baseline period, eight independent samples from each well within the program were collected and analyzed for the constituents listed in Appendix III and Appendix IV of the CCR rule prior to October 17, 2017, as specified in 40 CFR 257.94(b), with the previously reported exceptions of APMW-5 (U) and APMW-4 due to lack of precipitation (GAI 2018).

### 3.4.1 Detection Monitoring

Samples for the detection monitoring program are collected on a semi-annual basis, beginning with the sample collected in November 2017. NPPD collected semi-annual samples for the detection monitoring program in Q2 and Q4 2024.

### 3.4.2 Alternative Source Demonstrations

Resulting from the verified SSI for chloride at APMW-6 during the Q2 2024 detection monitoring, the previously prepared ASD was reviewed for ongoing applicability. As specified in 40 CFR 257.94, the conclusions were found to remain applicable within 90 days of identification of each of the SSIs, and the CCR unit remained in detection monitoring for the Q4 2024 detection monitoring event.

Based on the Q4 2024 verified SSI for chloride at APMW-6, the previously completed ASD was again reviewed for continued applicability. The conclusions of the previous ASD were found to remain valid, therefore NPPD will remain in detection monitoring (See Appendix C).

### 3.4.3 Assessment Monitoring

The current groundwater monitoring program at GGS is not in assessment monitoring. Assessment monitoring has not been triggered as described in 40 CFR 257.95.

### **3.4.4 Corrective Measures and Assessment**

The current groundwater monitoring program at GGS does not indicate the need for corrective measures. An assessment of corrective measures, as described in 40 CFR 257.96, has not been required. No ASDs for Appendix IV parameters have been made. No corrective actions are required at this time.

## **4.0 RECOMMENDATIONS AND CLOSING**

This report presents the results from the Q2 2024 and Q4 2024 detection monitoring events of the CCR program and the associated comparative statistical analysis. The groundwater monitoring and analytical procedures implemented at GGS meet the requirements of the CCR Rule and are consistent with the approach described in Groundwater Monitoring System Certification (GAI 2017a) and the Groundwater Monitoring Statistical Methods Certification (GAI 2017b). Modifications to the monitoring network and sampling program are not recommended at this time, and the program will remain in detection monitoring for the Q2 2025 detection monitoring event.

## Signature Page

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[https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project files/6 deliverables/gla21457062.5798/005-rpt-2024\\_annual\\_ccr\\_gw\\_report/rev0/gla21457062.5798-005-rpt-0-nppd-2024-ccr-gw-rpt\\_31jan25.docx](https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project%20files/6%20deliverables/gla21457062.5798/005-rpt-2024_annual_ccr_gw_report/rev0/gla21457062.5798-005-rpt-0-nppd-2024-ccr-gw-rpt_31jan25.docx)

## 5.0 REFERENCES

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## Figures

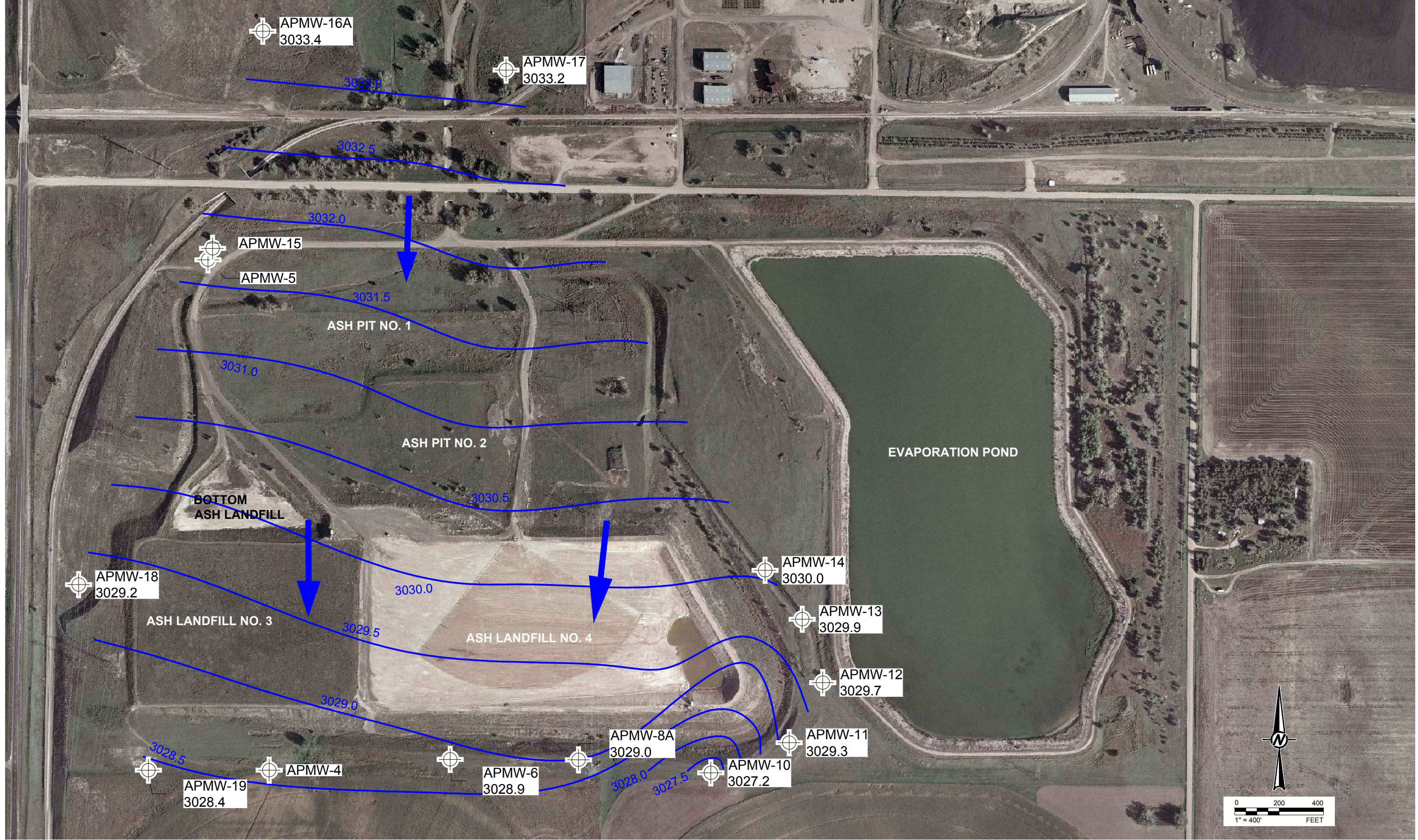


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**NOTE**  
GROUNDWATER CONTOURS DEVELOPED FROM LEVELS MEASURED IN ACTIVE MONITORING WELLS SHOWN.

**NEBRASKA PUBLIC POWER DISTRICT  
GERALD GENTLEMAN STATION  
GROUNDWATER MONITORING WELL NETWORK  
MAY 2024 GROUNDWATER CONTOURS  
FIGURE 1**



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**NOTE**  
GROUNDWATER CONTOURS DEVELOPED FROM LEVELS MEASURED IN ACTIVE MONITORING WELLS SHOWN.

**NEBRASKA PUBLIC POWER DISTRICT  
GERALD GENTLEMAN STATION  
GROUNDWATER MONITORING WELL NETWORK  
DECEMBER 2024 GROUNDWATER CONTOURS  
FIGURE 2**

**APPENDIX A**

**Monitoring Data**



**Table 1. Data Summary Table - APMW-5 (Upgradient)**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	*	***	*	***
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	---	---	---
Calcium, Total	mg/L	47.8	---	---	---
Chloride	mg/L	8.7	---	---	---
Fluoride	mg/L	< 1.00	---	---	---
pH, Field	pH units	*	---	---	---
Sulfate	mg/L	31.4	---	---	---
Total Dissolved Solids	mg/L	238	---	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.0054	---
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.005	---
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

\*\*\* APMW-5 was dry during the Q4 2022 sampling event, preventing collection of a sample. See text for details.

\* Field parameters were unable to be collected during sampling of APMW-5 during the Q2 2024 sampling event. See text for further discussion.

\*\*\* APMW-5 was dry during the Q4 2024 sampling event, preventing collection of a sample. See text for details.



**Table 2. Data Summary Table - APMW-15 (Upgradient)**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3034.23	*	3034.23	*
<b>Appendix III</b>					
Boron, Total	mg/L	0.118	0.102	---	---
Calcium, Total	mg/L	99.7	105	---	---
Chloride	mg/L	20.1	29.1	---	---
Fluoride	mg/L	< 1.000	0.278	---	---
pH, Field	pH units	7.23	7.52	---	---
Sulfate	mg/L	113	141	---	---
Total Dissolved Solids	mg/L	478	564	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00273	0.00266
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.00500	0.00514
Thallium, Total	mg/L	---	---	---	---

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
  2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.
- \* During the Q4 2024 monitoring event, the groundwater level at APMW-15 was below the top of the dedicated pump. However, enough volume was present to allow appropriate purging and collection of an analytical sample.



**Table 3. Data Summary Table - APMW-16A (Upgradient)**

Analytes	Units	5/6/2024	12/3/2024	5/6/2024	12/3/2024
		Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3035.1	3033.36	3035.1	3033.36
<b>Appendix III</b>					
Boron, Total	mg/L	0.128	0.13	---	---
Calcium, Total	mg/L	106	113	---	---
Chloride	mg/L	29.6	30.6	---	---
Fluoride	mg/L	< 1.000	0.345	---	---
pH, Field	pH units	7.03	7.11	---	---
Sulfate	mg/L	161	160	---	---
Total Dissolved Solids	mg/L	576	604	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00277	0.00274
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.00500	< 0.00500
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

**Table 4. Data Summary Table - APMW-17 (Upgradient)**

Analytes	Units	5/6/2024	12/3/2024	5/6/2024	12/3/2024
		Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3035.03	3033.24	3035.03	3033.24
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.100	---	---
Calcium, Total	mg/L	119	117	---	---
Chloride	mg/L	29.4	33.5	---	---
Fluoride	mg/L	< 1.000	0.22	---	---
pH, Field	pH units	7.07	7.14	---	---
Sulfate	mg/L	132	131	---	---
Total Dissolved Solids	mg/L	494	514	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00237	0.0023
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.00698	0.00842
Thallium, Total	mg/L	---	---	---	---

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.



**Table 5. Data Summary Table - APMW-4**

Analytes	Units	5/6/2024	12/3/2024	5/6/2024	12/3/2024
		Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.52	***	3031.52	***
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	---	---	---
Calcium, Total	mg/L	51.5	---	---	---
Chloride	mg/L	42.5	---	---	---
Fluoride	mg/L	< 1.000	---	---	---
pH, Field	pH units	7.68	---	---	---
Sulfate	mg/L	26.6	---	---	---
Total Dissolved Solids	mg/L	246	---	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	< 0.002	---
Arsenic, Total	mg/L	---	---	0.00445	---
Barium, Total	mg/L	---	---	0.0748	---
Beryllium, Total	mg/L	---	---	< 0.001	---
Cadmium, Total	mg/L	---	---	< 0.0002	---
Chromium, Total	mg/L	---	---	< 0.005	---
Cobalt, Total	mg/L	---	---	< 0.0005	---
Fluoride	mg/L	---	---	< 1.000	---
Lead, Total	mg/L	---	---	< 0.0005	---
Lithium, Total	mg/L	---	---	0.0135	---
Mercury, Total	mg/L	---	---	< 0.0002	---
Molybdenum, Total	mg/L	---	---	0.0057	---
Radium-226	pCi/L	---	---	0.172 ± 0.102	---
Radium-228	pCi/L	---	---	1.02 ± 0.462	---
Radium-226 + Radium-228	pCi/L	---	---	1.19 ± 0.473	---
Selenium, Total	mg/L	---	---	0.0147	---
Thallium, Total	mg/L	---	---	< 0.001	---

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter
- U, Result is less than the sample detection limit (varies by sample for radiological results).

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
2. Beginning with the Q2 2023 sampling event, additional samples have been collected at APMW-4 for separate, Nebraska-specific permit reporting requirements.

\*\*\* APMW-4 was dry during the Q4 2024 sampling event, preventing collection of a sample. See text for details.



**Table 6. Data Summary Table - APMW-6**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.75	3028.92	3031.75	3028.92
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.1000	---	---
Calcium, Total	mg/L	54.8	50.8	---	---
Chloride	mg/L	30.3	31.4	---	---
Fluoride	mg/L	< 1.000	0.317	---	---
pH, Field	pH units	7.5	7.54	---	---
Sulfate	mg/L	25.9	27	---	---
Total Dissolved Solids	mg/L	258	318	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00419	0.00411
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.00506	0.00574
Thallium, Total	mg/L	---	---	---	---

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.



**Table 7. Data Summary Table - APMW-8A**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.47	3029.05	3031.47	3029.05
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.100	---	---
Calcium, Total	mg/L	121	77	---	---
Chloride	mg/L	73.6	84.6	---	---
Fluoride	mg/L	< 1.000	0.232	---	---
pH, Field	pH units	7.17	7.32	---	---
Sulfate	mg/L	136	34.3	---	---
Total Dissolved Solids	mg/L	520	338	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00324	0.00275
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.0191	0.0164
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

**Table 8. Data Summary Table - APMW-10**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3030.49	3027.19	3030.49	3027.19
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.100	---	---
Calcium, Total	mg/L	57.4	50.5	---	---
Chloride	mg/L	22.5	23.6	---	---
Fluoride	mg/L	< 1.000	0.275	---	---
pH, Field	pH units	7.46	7.67	---	---
Sulfate	mg/L	43.8	44.8	---	---
Total Dissolved Solids	mg/L	286	280	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.0029	0.00321
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.00568	0.0076
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.



**Table 9. Data Summary Table - APMW-11**

Analytes	Units	5/6/2024	12/3/2024	5/6/2024	12/3/2024
		Detection Monitoring <sup>1</sup>		Additional State Program Samples <sup>2</sup>	
Water Elevation	ft amsl	<b>3031.54</b>	<b>3029.26</b>	<b>3031.54</b>	<b>3029.26</b>
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.100	---	---
Calcium, Total	mg/L	80.5	73.5	---	---
Chloride	mg/L	31.7	37.6	---	---
Fluoride	mg/L	< 1.000	0.279	---	---
pH, Field	pH units	7.32	7.42	---	---
Sulfate	mg/L	58.4	56	---	---
Total Dissolved Solids	mg/L	352	348	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	< 0.002	< 0.002
Arsenic, Total	mg/L	---	---	< 0.002	< 0.002
Barium, Total	mg/L	---	---	0.195	0.21
Beryllium, Total	mg/L	---	---	< 0.001	< 0.001
Cadmium, Total	mg/L	---	---	< 0.0002	< 0.0002
Chromium, Total	mg/L	---	---	< 0.005	< 0.005
Cobalt, Total	mg/L	---	---	< 0.0005	< 0.0005
Fluoride	mg/L	---	---	< 1.000	0.287
Lead, Total	mg/L	---	---	< 0.0005	< 0.0005
Lithium, Total	mg/L	---	---	0.0144	0.0152
Mercury, Total	mg/L	---	---	< 0.0002	< 0.0002
Molybdenum, Total	mg/L	---	---	0.00235	0.0025
Radium-226	pCi/L	---	---	0.0304 ± 0.0840	0.174 U ± 0.115
Radium-228	pCi/L	---	---	0.260 ± 0.335	0.151 ± 0.373
Radium-226 + Radium-228	pCi/L	---	---	0.290 ± 0.345	0.325 ± 0.390
Selenium, Total	mg/L	---	---	0.0128	0.0171
Thallium, Total	mg/L	---	---	< 0.001	< 0.001

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter
- U, Result is less than the sample detection limit (varies by sample for radiological results).

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
2. Beginning with the Q2 2023 sampling event, additional samples have been collected at APMW-11 for separate, Nebraska-specific permit reporting requirements.



**Table 10. Data Summary Table - APMW-12**

Analytes	Units	5/7/2024	12/4/2024	5/7/2024	12/4/2024
		Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.91	3029.74	3031.91	3029.74
<b>Appendix III</b>					
Boron, Total	mg/L	0.262	0.261	---	---
Calcium, Total	mg/L	165	152	---	---
Chloride	mg/L	159	149	---	---
Fluoride	mg/L	< 1.000	0.117	---	---
pH, Field	pH units	6.88	7.00	---	---
Sulfate	mg/L	270	264	---	---
Total Dissolved Solids	mg/L	992	972	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00224	0.00229
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.00500	0.00644
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

**Table 11. Data Summary Table - APMW-13**

Analytes		5/7/2024	12/4/2024	5/7/2024	12/4/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3032.05	3029.9	3032.05	3029.9
<b>Appendix III</b>					
Boron, Total	mg/L	0.252	0.292	---	---
Calcium, Total	mg/L	160	139	---	---
Chloride	mg/L	141	117	---	---
Fluoride	mg/L	< 1.000	0.169	---	---
pH, Field	pH units	6.9	7.02	---	---
Sulfate	mg/L	256	226	---	---
Total Dissolved Solids	mg/L	962	920	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00257	0.00266
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.00500	< 0.00500
Thallium, Total	mg/L	---	---	---	---

Legend:

- . Not analyzed
- ft amsl, feet above mean sea level
- mg/L, milligrams per liter
- pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.
2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.



**Table 12. Data Summary Table - APMW-14**

Analytes		5/7/2024	12/4/2024	5/7/2024	12/4/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3032.15	3030.05	3032.15	3030.05
<b>Appendix III</b>					
Boron, Total	mg/L	0.225	0.193	---	---
Calcium, Total	mg/L	164	147	---	---
Chloride	mg/L	133	115	---	---
Fluoride	mg/L	< 1.000	0.166	---	---
pH, Field	pH units	6.91	7.04	---	---
Sulfate	mg/L	193	169	---	---
Total Dissolved Solids	mg/L	878	794	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00226	0.00226
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	< 0.005	0.00567
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

**Table 13. Data Summary Table - APMW-18**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.71	3029.25	3031.71	3029.25
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	<0.100	---	---
Calcium, Total	mg/L	82.8	89.7	---	---
Chloride	mg/L	66.5	116	---	---
Fluoride	mg/L	< 1.000	0.214	---	---
pH, Field	pH units	7.29	7.36	---	---
Sulfate	mg/L	44.5	23.6	---	---
Total Dissolved Solids	mg/L	382	404	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00256	0.0023
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.00576	0.00725
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

**Table 14. Data Summary Table - APMW-19**

Analytes		5/6/2024	12/3/2024	5/6/2024	12/3/2024
	Units	Detection Monitoring <sup>1</sup>		Additional State Program Required Samples <sup>2</sup>	
Water Elevation	ft amsl	3031.36	3028.44	3031.36	3028.44
<b>Appendix III</b>					
Boron, Total	mg/L	< 0.100	< 0.100	---	---
Calcium, Total	mg/L	84	68.4	---	---
Chloride	mg/L	35.7	31.8	---	---
Fluoride	mg/L	< 1.000	0.266	---	---
pH, Field	pH units	7.27	7.35	---	---
Sulfate	mg/L	86.1	63.7	---	---
Total Dissolved Solids	mg/L	416	374	---	---
<b>Appendix IV</b>					
Antimony, Total	mg/L	---	---	---	---
Arsenic, Total	mg/L	---	---	0.00362	0.00368
Barium, Total	mg/L	---	---	---	---
Beryllium, Total	mg/L	---	---	---	---
Cadmium, Total	mg/L	---	---	---	---
Chromium, Total	mg/L	---	---	---	---
Cobalt, Total	mg/L	---	---	---	---
Fluoride	mg/L	---	---	---	---
Lead, Total	mg/L	---	---	---	---
Lithium, Total	mg/L	---	---	---	---
Mercury, Total	mg/L	---	---	---	---
Molybdenum, Total	mg/L	---	---	---	---
Radium-226	pCi/L	---	---	---	---
Radium-228	pCi/L	---	---	---	---
Radium-226 + Radium-228	pCi/L	---	---	---	---
Selenium, Total	mg/L	---	---	0.0106	0.00961
Thallium, Total	mg/L	---	---	---	---

Legend:

---. Not analyzed

ft amsl, feet above mean sea level

mg/L, milligrams per liter

pCi/L, picocuries per liter

NOTES:

1. As indicated by the CCR rule (40 CFR 257.94), the Detection Monitoring Program monitors all constituents found in Appendix III.

2. Additional parameters collected for separate, Nebraska-specific permit reporting requirements.

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268

Doug

<b>Client Information</b>		Sampler: <u>Doug Harris</u>		Lab PM: Hummel, Matthew		Carrier Tracking No(s):		COC No: 310-70847-15390,1			
Client Contact: Doug Harris		Phone: <u>308-530-1124</u>		E-Mail: Shirley.Thompson@et.eurofinsus.com		State of Origin: Nebraska		Page: Page 1 of 2			
Company: Nebraska Public Power District				<b>Analysis Requested</b>				Job #:			
Address: 6089 S Hwy 25 Gerald Gentleman Station South		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6020A - Arsenic Boron, Calcium, Selenium TDS 2540C_Calcd, SM4500_HH 9056A_ORGFM_28D - (MOD) Chloride, Fluoride and Sulfate pH SM4500_HH		Total Number of containers		Preservation Codes:			
City: Sutherland		TAT Requested (days):						A - HCL		M - Hexane	
State, Zip: NE, 69165		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No						B - NaOH		N - None	
Phone: <u>308-530-1124</u>		PO #:						C - Zn Acetate		O - AsNaO2	
Email: ddharri@nppd.com		WO #:						D - Nitric Acid		P - Na2O4S	
Project Name: Gerald Gentleman Station Ash Pites		Project #: 31007155		E - NaHSO4		Q - Na2SO3		R - Na2S2O3			
Site: GGS		SSOW#:		F - MeOH		S - H2SO4		T - TSP Dodecahydrate			
Special Instructions/Note:		Other:		G - Amchlor		U - Acetone		V - MCAA			
J - DI Water		K - EDTA		L - EDA		W - pH 4-5		Y - Trizma			
Z - other (specify)											
<b>Sample Identification</b>		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)			
						Preservation Code:					
APMW-16A		5-6-24		0932		G		Water			
APMW-17		5-6-24		1027		G		Water			
APMW-15		5-6-24		1122		G		Water			
APMW-5		5-6-24		1145		G		Water			
APMW-18		5-6-24		1232		G		Water			
APMW-19		5-6-24		1337		G		Water			
APMW-4		5-6-24		1428		G		Water			
APMW-6		5-6-24		1532		G		Water			
APMW-8A		5-6-24		1627		G		Water			
APMW-10		5-6-24		1742		G		Water			
APMW-11		5-6-24		1832		G		Water			
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>						
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:						
Empty Kit Relinquished by:			Date: <u>4-16-20</u>		Time: <u>1000</u>		Method of Shipment: <u>FE</u>				
Relinquished by: <u>Douglas Harris</u>		Date/Time: <u>5-7-24 1245</u>		Company: <u>NPPD</u>		Received by:		Date/Time:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							





**Eurofins Cedar Falls**

3019 Venture Way  
Cedar Falls, IA 50613  
Phone (319) 277-2401 Phone (319) 277-2425

**Chain of Custody Record**

TestAmerica Omaha SC  
268

eurofins | Environment Testing

<b>Client Information</b>		Sampler: <b>Doug Harris</b>		Lab PM: Hummel, Matthew R		Carrier Tracking No(s):		COC No: 310-92182-22930.1				
Client Contact: Doug Harris		Phone: <b>308-530-1124</b>		E-Mail: Matthew.Hummel@et.eurofins.com		State of Origin:		Page: Page 1 of 1				
Company: Nebraska Public Power District				PWSID:		<b>Analysis Requested</b>						
Address: 6089 S Hwy 25 Gerald Gentleman Station South		Due Date Requested:		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> 9315_Ra226 - Radium-226 (GFPC) - 21 day decay <input type="checkbox"/> 9320_Ra228 - Radium-228 (GFPC) <input type="checkbox"/> 9056A_ORGFM_28D - (MOD) Fluoride <input type="checkbox"/> 6020B_7470A <input type="checkbox"/>		Total Number of containers		<b>Preservation Codes:</b> A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)				
City: Sutherland		TAT Requested (days):										
State, Zip: NE, 69165		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No										
Phone: 308-530-1124(Tel)		PO #: 4500255598 (2023)										
Email: ddharri@nppd.com		WO #:										
Project Name: GGS CCR & Landfill Assessment Monitoring		Project #: 31007155										
Site: <b>GGS</b>		SSOW#:										
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)					<b>Special Instructions/Note:</b>		
				Preservation Code:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
APMW-4		5-6-24	1645	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
APMW-11		5-6-24	1841	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Duplicate		5-6-24	1857	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
				Water		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
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Nebraska Public Power District - Gerald Gentleman Station  
Monitoring Well Equipment Calibration Log

DATE: 5/6/24

TIME: 0730

SAMPLING PERSONNEL: DDH JK

SAMPLING LOCATION(S): GGS

EQUIPMENT CALIBRATIONS:

Temperature (Deg C)		
MP-25T	Ref C	MP-25T
	<u>19.97</u>	<u>19.97</u>
	Temp Ok?	<u>Yes/No</u>

pH		
MP-25T	Ref	MP-25T
	7.0	<u>6.98</u>
	10.0	<u>9.98</u>
<u>SRF-69</u>		

Conductivity		
MP-25T	Ref	MP-25T
	<u>1413</u>	<u>1407</u>
<u>SRF-104</u>		

ORP (mV)		
MP-25T	Zobell	MP-25T
	Ref (mV)	(mV)
	_____	_____
<del>YSI 15A</del>	<del>Zobell</del>	<del>YSI 15A</del>
	<del>Ref (mV)</del>	<del>Rel (mV)</del>
	<del>_____</del>	<del>_____</del>

not doing unless needed

Turbidity (NTU)		
MP-25T	Ref	MP-25T
	10 NTU	_____
	DI (0 NTU)	_____
Hach 2100Q	10 NTU Verification	_____
	Reading:	_____
	Acceptable? Yes/No	_____
Calibration (NTU)		
Current Or Last		
Ref	Reading	_____
20	_____	_____
100	_____	_____
800	_____	_____
	Acceptable? Yes/No	_____

not doing with the step 7 resolution

DDH 12-15-21

DO		
MP-25T	Saturation Calibration	_____
	BP Entered	_____
	% Sat	_____
	Mg/l	_____
	OK? Yes/No	_____
YSI 55	Saturation Calibration	_____
	OK? Yes/No	_____

not using unless needed

WEATHER CONDITIONS: Cloudy & Windy  
Sprinkles early.

OBSERVATIONS/FIELD NOTES DURING SAMPLING EVENT:

ORP - use YSI Ecosense ORP15A  
at 0823 → Cal. = 235 & Reading = 235

Calibration Log Sheets

Nebraska Public Power District - Gerald Gentleman Station  
Monitoring Well Equipment Calibration Log

DATE: 5/7/24

TIME: 0830

SAMPLING PERSONNEL: DH JK

SAMPLING LOCATION(S): GGS

EQUIPMENT CALIBRATIONS:

Temperature (Deg C)		
MP-25T	Ref C	MP-25T
	<u>18.8</u>	<u>18.9</u>
	Temp Ok?	<input checked="" type="radio"/> Yes / <input type="radio"/> No

Turbidity (NTU)		
MP-25T	Ref	MP-25T
	10 NTU	_____
	DI (0 NTU)	_____
Hach 2100Q	10 NTU Verification Reading	_____
	Acceptable?	Yes/No
	Calibration (NTU)	
	Current Or Last	
	Ref	Reading
	20	_____
	100	_____
	800	_____
	Acceptable?	Yes/No

not doing with the step 7 resolution  
DDH  
12-15-21

Calibration Log Sheets

pH		
MP-25T	Ref	MP-25T
	7.0	<u>6.96</u>
SRF-67	10.0	<u>9.96</u>

Conductivity		
MP-25T	Ref	MP-25T
	<u>1413</u>	<u>1405</u>
SRF-106		

ORP (mV)		
MP-25T	Zobell	MP-25T
	Ref (mV)	(mV)
	_____	_____
<del>YSI 15A</del>	<del>Zobell</del>	<del>YSI 15A</del>
	<del>Ref (mV)</del>	<del>Rel (mV)</del>
	<del>_____</del>	<del>_____</del>

not doing unless needed

DO		
<del>MP-25T</del>	<del>Saturation Calibration</del>	<del>BP Entered</del> _____
	<del>% Sat</del>	<del>_____</del>
	<del>Mg/l</del>	<del>_____</del>
	<del>OK?</del>	<del>Yes/No</del>
<del>YSI 55</del>	<del>Saturation Calibration</del>	<del>OK? Yes/No</del>

not using unless needed

WEATHER CONDITIONS: Sunny & Windy

OBSERVATIONS/FIELD NOTES DURING SAMPLING EVENT:

ORP YSI Ecosense DRP 15A  
cal to 235

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GG5 Ash Pits  
 Well Number A PMW- 16A Date 5-6-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Depth to 78.0 / 98.0 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 96.72  
 Purging Device (pump type) Micropurge Bladder Pump  
 Well Conditions/Field Observations: All is OK

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
0910	87.98	230	200	/	13.06	838.6	7.04	/	/	/	WINDY Started pumping @ 0900
0915					13.14	841.6	7.03	/	/	/	
0920					13.38	844.5	7.03	/	/	/	
0925					13.28	850.4	7.04	/	/	/	
0930					13.30	850.0	7.03	/	/	190	Ecosense ORP15A
0932	87.98										500 ml unpreserved
0935											250 ml preserved
0938											250 ml unpreserved
Bottle Regulator 100 psi											
CPM 2 @ 25-5											





WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 5 Date 5-6-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 84.0 / 104.0 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 104.0  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
											- no purging / stabilization as there was just enough water to get samples * see water level note
											Did get samples - not anticipated we would due to water levels
1145											500 ml Unpreserved
1210											250 ml Preserved
1220											250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2											

No water level - level below pump  
 But it pumped water 23-7 CPM 2 setting  
 slow but steady  
 \* overall going out in early May good for water levels

just planting corn -  
 no irrigation yet

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits Depth to 104.8 / 124.8 of Screen  
 Well Number A PMW- 18 Date 5-6-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Purging Device (pump type) Micropurge Bladder Pump  
 Well Conditions/Field Observations: All is OK

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1210	113.92	230'		/	14.75	621.4	7.28	/	/	/	WINDY Started pumping at 1200
1215					14.70	610.0	7.29	/	/	/	
1220					14.84	606.5	7.29	/	/	/	
1225					14.94	604.7	7.29	/	/	/	
1230					14.94	605.4	7.29	/	/	148	Ecosense ORP15A
1232	114.05										500 ml unpreserved
1235											250 ml preserved
1237											250 ml unpreserved
Bottle Regulator 100 psi											
CPM 2	25-5	24-6									

②





WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 4 Date 5-6-24  
 Field Personnel Doug Harris JK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Depth to 111.0 / 131.0 of Screen  
 Top Bottom ?  
 Pump Intake at (ft. below MP) ?  
 Purging Device (pump type) Micropurge Bladder Pump

Well Conditions/Field Observations: All is OK now

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
											<u>WINDY</u>
											<u>started pumping @ 1355</u>
1405	128.35	230'	120	/	16.13	404.8	7.60	/	/	/	
1410					15.92	398.9	7.66	/	/	/	
1415					16.38	395.8	7.68	/	/	/	
1420					16.49	393.5	7.69	/	/	/	
1425					16.32	397.3	7.68	/	/	148	<u>Ecosense ORP15A</u>
1428	<u>No Reading</u>										<u>500ml Unpreserved</u>
1434											<u>250ml Preserved</u>
1436											<u>250 ml unpreserved</u>
1645											<u>1000 Pres. Assessment</u>
1710											<u>1000 Preserved Assessment</u>
1720											<u>250 Unpreserved Assessment</u>
1730											<u>250 Preserved Assessment</u>
<u>Assessment + Monitoring Samples</u>											
Bottle Regulator 100 psi											
CPM2 @ <u>24-6</u> <u>23-7</u>											







WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 11 Date 5-6-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 96.0 / 115.74 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 114.74  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1810	105.82	230'	200	/	13.18	562.5	7.30	/	/	/	WINDY Started pumping @ 1800
1815					13.15	559.3	7.32	/	/	/	
1820					13.12	553.6	7.30	/	/	/	
1825					13.06	553.5	7.31	/	/	/	
1830					13.00	552.4	7.32	/	/	152	EcoSense ORP15A
1832	105.98										500 ml Unpreserved
1835											250 ml Preserved
1838											250 ml Unpreserved
1841											1,000 Preserved Assessment
1846											1,000 Preserved Assessment
1851											250 Preserved Assessment
1854											250 Unpreserved Assessment
		1857									Dupl. 1000 ml Preserved Assessment
		1902									Dupl. 1000 ml Preserved Assessment
		1907									Dupl. 250 ml Preserved Assessment
		1910									Dupl. 250 ml Unpreserved Assessment

Assessment Monitoring Samples

Bottle Regulator 100 psi

CPM 2 @ 246







WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 14 Date 5-7-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Depth to 90.1 / 109.95 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 108.95  
 Purging Device (pump type) Micropurge Bladder Pump  
 Well Conditions/Field Observations: All is OK

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
											<i>Sunny &amp; Windy</i>
1100	99.32	230'	200	X	13.75	1241	6.92	/	/	/	Started pumping at 1052
1105					13.73	1290	6.92	/	/	/	
1110					13.78	1304	6.90	/	/	/	
1115					13.79	1324	6.90	/	/	/	
1120					13.79	1319	6.91	/	/	171	EcoSense ORP15A
1122	99.35										500 ml Unpreserved
1125											250 ml Preserved
1127											250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2 @ 25-5											

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Doug Harris  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

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## JOB DESCRIPTION

Gerald Gentleman Station CCR & Landfill

## JOB NUMBER

310-280659-1

# Eurofins Cedar Falls

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Authorized for release by  
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Revision 1



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# Case Narrative

Client: Nebraska Public Power District  
Project: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Job ID: 310-280659-1**

**Eurofins Cedar Falls**

## Job Narrative 310-280659-1

### REVISION

The report being provided is a revision of the original report sent on 5/16/2024. The report (revision 1) is being revised due to: After issuing the report the client noticed a clerical error for the collection dates for samples: APMW-12, APMW-13, and APMW-14. The collections dates were corrected in this version of the report.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### **Receipt**

The samples were received on 5/8/2024 8:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 1.6°C.

### **HPLC/IC**

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: APMW-16A (310-280659-1), APMW-17 (310-280659-2), APMW-15 (310-280659-3), APMW-5 (310-280659-4), APMW-18 (310-280659-5), APMW-19 (310-280659-6), APMW-4 (310-280659-7), APMW-6 (310-280659-8), APMW-8A (310-280659-9), APMW-10 (310-280659-10), APMW-11 (310-280659-11), APMW-12 (310-280659-12), APMW-13 (310-280659-13), APMW-14 (310-280659-14) and Duplicate (310-280659-15). Elevated reporting limits (RLs) are provided.

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

### **Metals**

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

### **General Chemistry**

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

Eurofins Cedar Falls

# Sample Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-280659-1	APMW-16A	Water	05/06/24 09:32	05/08/24 08:35
310-280659-2	APMW-17	Water	05/06/24 10:27	05/08/24 08:35
310-280659-3	APMW-15	Water	05/06/24 11:22	05/08/24 08:35
310-280659-4	APMW-5	Water	05/06/24 11:45	05/08/24 08:35
310-280659-5	APMW-18	Water	05/06/24 12:32	05/08/24 08:35
310-280659-6	APMW-19	Water	05/06/24 13:37	05/08/24 08:35
310-280659-7	APMW-4	Water	05/06/24 14:28	05/08/24 08:35
310-280659-8	APMW-6	Water	05/06/24 15:32	05/08/24 08:35
310-280659-9	APMW-8A	Water	05/06/24 16:27	05/08/24 08:35
310-280659-10	APMW-10	Water	05/06/24 17:42	05/08/24 08:35
310-280659-11	APMW-11	Water	05/06/24 18:32	05/08/24 08:35
310-280659-12	APMW-12	Water	05/07/24 09:47	05/08/24 08:35
310-280659-13	APMW-13	Water	05/07/24 10:37	05/08/24 08:35
310-280659-14	APMW-14	Water	05/07/24 11:22	05/08/24 08:35
310-280659-15	Duplicate	Water	05/06/24 16:40	05/08/24 08:35



# Detection Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-16A

## Lab Sample ID: 310-280659-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	29.6		5.00		mg/L	5		9056A	Total/NA
Sulfate	161		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00277		0.00200		mg/L	1		6020B	Total/NA
Boron	0.128		0.100		mg/L	1		6020B	Total/NA
Calcium	106		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	576		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-17

## Lab Sample ID: 310-280659-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	29.4		5.00		mg/L	5		9056A	Total/NA
Sulfate	132		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00237		0.00200		mg/L	1		6020B	Total/NA
Calcium	119		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00698		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	494		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-15

## Lab Sample ID: 310-280659-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20.1		5.00		mg/L	5		9056A	Total/NA
Sulfate	113		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00273		0.00200		mg/L	1		6020B	Total/NA
Boron	0.118		0.100		mg/L	1		6020B	Total/NA
Calcium	99.7		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	478		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-5

## Lab Sample ID: 310-280659-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.70		5.00		mg/L	5		9056A	Total/NA
Sulfate	31.4		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00540		0.00200		mg/L	1		6020B	Total/NA
Calcium	47.8		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	238		50.0		mg/L	1		SM 2540C	Total/NA
pH	8.2	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-18

## Lab Sample ID: 310-280659-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	66.5		5.00		mg/L	5		9056A	Total/NA
Sulfate	44.5		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00256		0.00200		mg/L	1		6020B	Total/NA
Calcium	82.8		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00576		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	382		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Detection Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-19

## Lab Sample ID: 310-280659-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35.7		5.00		mg/L	5		9056A	Total/NA
Sulfate	86.1		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00362		0.00200		mg/L	1		6020B	Total/NA
Calcium	84.0		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0106		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	416		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-4

## Lab Sample ID: 310-280659-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	42.5		5.00		mg/L	5		9056A	Total/NA
Sulfate	26.6		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00429		0.00200		mg/L	1		6020B	Total/NA
Calcium	51.5		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0142		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	246		50.0		mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-6

## Lab Sample ID: 310-280659-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	30.3		5.00		mg/L	5		9056A	Total/NA
Sulfate	25.9		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00419		0.00200		mg/L	1		6020B	Total/NA
Calcium	54.8		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00506		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	258		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-8A

## Lab Sample ID: 310-280659-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	73.6		5.00		mg/L	5		9056A	Total/NA
Sulfate	136		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00324		0.00200		mg/L	1		6020B	Total/NA
Calcium	121		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0191		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	520		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-10

## Lab Sample ID: 310-280659-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22.5		5.00		mg/L	5		9056A	Total/NA
Sulfate	43.8		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00290		0.00200		mg/L	1		6020B	Total/NA
Calcium	57.4		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00568		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	286		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls



# Detection Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-11

## Lab Sample ID: 310-280659-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	31.7		5.00		mg/L	5		9056A	Total/NA
Sulfate	58.4		5.00		mg/L	5		9056A	Total/NA
Calcium	80.5		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0132		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	352		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-12

## Lab Sample ID: 310-280659-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	159		5.00		mg/L	5		9056A	Total/NA
Sulfate	270		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00224		0.00200		mg/L	1		6020B	Total/NA
Boron	0.262		0.100		mg/L	1		6020B	Total/NA
Calcium	165		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	992		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-13

## Lab Sample ID: 310-280659-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	141		5.00		mg/L	5		9056A	Total/NA
Sulfate	256		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00257		0.00200		mg/L	1		6020B	Total/NA
Boron	0.252		0.100		mg/L	1		6020B	Total/NA
Calcium	160		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	962		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW-14

## Lab Sample ID: 310-280659-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	133		5.00		mg/L	5		9056A	Total/NA
Sulfate	193		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00226		0.00200		mg/L	1		6020B	Total/NA
Boron	0.225		0.100		mg/L	1		6020B	Total/NA
Calcium	164		0.500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	878		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: Duplicate

## Lab Sample ID: 310-280659-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	72.1		5.00		mg/L	5		9056A	Total/NA
Sulfate	136		5.00		mg/L	5		9056A	Total/NA
Arsenic	0.00323		0.00200		mg/L	1		6020B	Total/NA
Calcium	122		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0192		0.00500		mg/L	1		6020B	Total/NA
Total Dissolved Solids	548		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-16A**

**Lab Sample ID: 310-280659-1**

Date Collected: 05/06/24 09:32

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.6		5.00		mg/L			05/13/24 18:47	5
Fluoride	<1.00		1.00		mg/L			05/13/24 18:47	5
Sulfate	161		5.00		mg/L			05/13/24 18:47	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00277		0.00200		mg/L		05/09/24 09:30	05/13/24 20:44	1
Boron	0.128		0.100		mg/L		05/09/24 09:30	05/13/24 20:44	1
Calcium	106		0.500		mg/L		05/09/24 09:30	05/14/24 15:26	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 20:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	576		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			05/08/24 10:32	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-17**

**Lab Sample ID: 310-280659-2**

Date Collected: 05/06/24 10:27

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.4		5.00		mg/L			05/13/24 19:24	5
Fluoride	<1.00		1.00		mg/L			05/13/24 19:24	5
Sulfate	132		5.00		mg/L			05/13/24 19:24	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00237		0.00200		mg/L		05/09/24 09:30	05/13/24 21:03	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:03	1
Calcium	119		0.500		mg/L		05/09/24 09:30	05/14/24 15:32	1
Selenium	0.00698		0.00500		mg/L		05/09/24 09:30	05/13/24 21:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	494		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			05/08/24 10:33	1



# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-15**

**Lab Sample ID: 310-280659-3**

Date Collected: 05/06/24 11:22

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.1		5.00		mg/L			05/13/24 20:02	5
Fluoride	<1.00		1.00		mg/L			05/13/24 20:02	5
Sulfate	113		5.00		mg/L			05/13/24 20:02	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00273		0.00200		mg/L		05/09/24 09:30	05/13/24 21:05	1
Boron	0.118		0.100		mg/L		05/09/24 09:30	05/13/24 21:05	1
Calcium	99.7		0.500		mg/L		05/09/24 09:30	05/14/24 15:34	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	478		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.9	HF	1.0		SU			05/08/24 10:34	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-5**

**Lab Sample ID: 310-280659-4**

Date Collected: 05/06/24 11:45

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.70		5.00		mg/L			05/13/24 20:15	5
Fluoride	<1.00		1.00		mg/L			05/13/24 20:15	5
Sulfate	31.4		5.00		mg/L			05/13/24 20:15	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00540		0.00200		mg/L		05/09/24 09:30	05/13/24 21:08	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:08	1
Calcium	47.8		0.500		mg/L		05/09/24 09:30	05/14/24 15:36	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:08	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	238		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	8.2	HF	1.0		SU			05/08/24 10:35	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-18**

**Lab Sample ID: 310-280659-5**

Date Collected: 05/06/24 12:32

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.5		5.00		mg/L			05/13/24 20:28	5
Fluoride	<1.00		1.00		mg/L			05/13/24 20:28	5
Sulfate	44.5		5.00		mg/L			05/13/24 20:28	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00256		0.00200		mg/L		05/09/24 09:30	05/13/24 21:10	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:10	1
Calcium	82.8		0.500		mg/L		05/09/24 09:30	05/14/24 15:39	1
Selenium	0.00576		0.00500		mg/L		05/09/24 09:30	05/13/24 21:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	382		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			05/08/24 10:36	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-19**

**Lab Sample ID: 310-280659-6**

Date Collected: 05/06/24 13:37

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.7		5.00		mg/L			05/13/24 20:41	5
Fluoride	<1.00		1.00		mg/L			05/13/24 20:41	5
Sulfate	86.1		5.00		mg/L			05/13/24 20:41	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00362		0.00200		mg/L		05/09/24 09:30	05/13/24 21:12	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:12	1
Calcium	84.0		0.500		mg/L		05/09/24 09:30	05/14/24 15:41	1
Selenium	0.0106		0.00500		mg/L		05/09/24 09:30	05/13/24 21:12	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	416		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			05/08/24 10:37	1



# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280659-7**

Date Collected: 05/06/24 14:28

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.5		5.00		mg/L			05/13/24 20:53	5
Fluoride	<1.00		1.00		mg/L			05/13/24 20:53	5
Sulfate	26.6		5.00		mg/L			05/13/24 20:53	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00429		0.00200		mg/L		05/09/24 09:30	05/13/24 21:14	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:14	1
Calcium	51.5		0.500		mg/L		05/09/24 09:30	05/14/24 16:24	1
Selenium	0.0142		0.00500		mg/L		05/09/24 09:30	05/13/24 21:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	246		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	8.0	HF	1.0		SU			05/08/24 10:46	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-6**

**Lab Sample ID: 310-280659-8**

Date Collected: 05/06/24 15:32

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30.3		5.00		mg/L			05/13/24 21:06	5
Fluoride	<1.00		1.00		mg/L			05/13/24 21:06	5
Sulfate	25.9		5.00		mg/L			05/13/24 21:06	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00419		0.00200		mg/L		05/09/24 09:30	05/13/24 21:16	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:16	1
Calcium	54.8		0.500		mg/L		05/09/24 09:30	05/14/24 16:26	1
Selenium	0.00506		0.00500		mg/L		05/09/24 09:30	05/13/24 21:16	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	258		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.9	HF	1.0		SU			05/08/24 10:42	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-8A**

**Lab Sample ID: 310-280659-9**

Date Collected: 05/06/24 16:27

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73.6		5.00		mg/L			05/13/24 21:18	5
Fluoride	<1.00		1.00		mg/L			05/13/24 21:18	5
Sulfate	136		5.00		mg/L			05/13/24 21:18	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00324		0.00200		mg/L		05/09/24 09:30	05/13/24 21:19	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:19	1
Calcium	121		0.500		mg/L		05/09/24 09:30	05/14/24 16:28	1
Selenium	0.0191		0.00500		mg/L		05/09/24 09:30	05/13/24 21:19	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	520		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			05/08/24 10:45	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-10**

**Lab Sample ID: 310-280659-10**

Date Collected: 05/06/24 17:42

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.5		5.00		mg/L			05/13/24 21:32	5
Fluoride	<1.00		1.00		mg/L			05/13/24 21:32	5
Sulfate	43.8		5.00		mg/L			05/13/24 21:32	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00290		0.00200		mg/L		05/09/24 09:30	05/13/24 21:21	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:21	1
Calcium	57.4		0.500		mg/L		05/09/24 09:30	05/14/24 16:31	1
Selenium	0.00568		0.00500		mg/L		05/09/24 09:30	05/13/24 21:21	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	286		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.8	HF	1.0		SU			05/08/24 10:43	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280659-11**

Date Collected: 05/06/24 18:32

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>31.7</b>		5.00		mg/L			05/13/24 21:45	5
Fluoride	<1.00		1.00		mg/L			05/13/24 21:45	5
<b>Sulfate</b>	<b>58.4</b>		5.00		mg/L			05/13/24 21:45	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 21:23	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:23	1
<b>Calcium</b>	<b>80.5</b>		0.500		mg/L		05/09/24 09:30	05/14/24 16:33	1
<b>Selenium</b>	<b>0.0132</b>		0.00500		mg/L		05/09/24 09:30	05/13/24 21:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids (SM 2540C)</b>	<b>352</b>		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			05/08/24 10:47	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-12**

**Lab Sample ID: 310-280659-12**

Date Collected: 05/07/24 09:47

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	159		5.00		mg/L			05/13/24 21:58	5
Fluoride	<1.00		1.00		mg/L			05/13/24 21:58	5
Sulfate	270		5.00		mg/L			05/13/24 21:58	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00224		0.00200		mg/L		05/09/24 09:30	05/13/24 21:36	1
Boron	0.262		0.100		mg/L		05/09/24 09:30	05/13/24 21:36	1
Calcium	165		0.500		mg/L		05/09/24 09:30	05/14/24 16:37	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	992		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			05/08/24 10:42	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-13**

**Lab Sample ID: 310-280659-13**

Date Collected: 05/07/24 10:37

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	141		5.00		mg/L			05/13/24 22:38	5
Fluoride	<1.00		1.00		mg/L			05/13/24 22:38	5
Sulfate	256		5.00		mg/L			05/13/24 22:38	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00257		0.00200		mg/L		05/09/24 09:30	05/13/24 21:38	1
Boron	0.252		0.100		mg/L		05/09/24 09:30	05/13/24 21:38	1
Calcium	160		0.500		mg/L		05/09/24 09:30	05/14/24 16:39	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:38	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	962		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			05/08/24 10:39	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: APMW-14**

**Lab Sample ID: 310-280659-14**

Date Collected: 05/07/24 11:22

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	133		5.00		mg/L			05/13/24 22:52	5
Fluoride	<1.00		1.00		mg/L			05/13/24 22:52	5
Sulfate	193		5.00		mg/L			05/13/24 22:52	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00226		0.00200		mg/L		05/09/24 09:30	05/13/24 21:41	1
Boron	0.225		0.100		mg/L		05/09/24 09:30	05/13/24 21:41	1
Calcium	164		0.500		mg/L		05/09/24 09:30	05/14/24 16:42	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:41	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	878		50.0		mg/L			05/09/24 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			05/08/24 10:45	1

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280659-15**

Date Collected: 05/06/24 16:40

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.1		5.00		mg/L			05/13/24 23:05	5
Fluoride	<1.00		1.00		mg/L			05/13/24 23:05	5
Sulfate	136		5.00		mg/L			05/13/24 23:05	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00323		0.00200		mg/L		05/09/24 09:30	05/13/24 21:43	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 21:43	1
Calcium	122		0.500		mg/L		05/09/24 09:30	05/14/24 16:44	1
Selenium	0.0192		0.00500		mg/L		05/09/24 09:30	05/13/24 21:43	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	548		50.0		mg/L			05/09/24 16:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.9	HF	1.0		SU			05/08/24 10:44	1

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# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-421564/3**  
**Matrix: Water**  
**Analysis Batch: 421564**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			05/13/24 18:21	1
Fluoride	<0.200		0.200		mg/L			05/13/24 18:21	1
Sulfate	<1.00		1.00		mg/L			05/13/24 18:21	1

**Lab Sample ID: LCS 310-421564/4**  
**Matrix: Water**  
**Analysis Batch: 421564**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.967		mg/L		100	90 - 110
Fluoride	2.00	2.156		mg/L		108	90 - 110
Sulfate	10.0	10.56		mg/L		106	90 - 110

**Lab Sample ID: 310-280659-1 MS**  
**Matrix: Water**  
**Analysis Batch: 421564**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	29.6		25.0	52.70		mg/L		92	80 - 120
Fluoride	<1.00		5.00	5.234		mg/L		105	80 - 120
Sulfate	161		25.0	179.4	4	mg/L		75	80 - 120

**Lab Sample ID: 310-280659-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 421564**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29.6		25.0	53.70		mg/L		96	80 - 120	2	15
Fluoride	<1.00		5.00	5.373		mg/L		107	80 - 120	3	15
Sulfate	161		25.0	180.0	4	mg/L		78	80 - 120	0	15

## Method: 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 310-421062/1-A**  
**Matrix: Water**  
**Analysis Batch: 421541**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 20:39	1
Boron	<0.100		0.100		mg/L		05/09/24 09:30	05/13/24 20:39	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 20:39	1

**Lab Sample ID: MB 310-421062/1-A**  
**Matrix: Water**  
**Analysis Batch: 421633**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.500		0.500		mg/L		05/09/24 09:30	05/14/24 15:21	1

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# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Method: 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 310-421062/2-A**  
**Matrix: Water**  
**Analysis Batch: 421541**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1979		mg/L		99	80 - 120
Boron	0.200	0.1928		mg/L		96	80 - 120
Selenium	0.400	0.3736		mg/L		93	80 - 120

**Lab Sample ID: LCS 310-421062/2-A**  
**Matrix: Water**  
**Analysis Batch: 421633**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	2.00	2.006		mg/L		100	80 - 120

**Lab Sample ID: 310-280659-1 MS**  
**Matrix: Water**  
**Analysis Batch: 421541**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00277		0.200	0.2027		mg/L		100	75 - 125
Boron	0.128		0.200	0.3123		mg/L		92	75 - 125
Selenium	<0.00500		0.400	0.3792		mg/L		94	75 - 125

**Lab Sample ID: 310-280659-1 MS**  
**Matrix: Water**  
**Analysis Batch: 421633**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	106		2.00	111.9	4	mg/L		278	75 - 125

**Lab Sample ID: 310-280659-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 421541**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.00277		0.200	0.2043		mg/L		101	75 - 125	1	20
Boron	0.128		0.200	0.3123		mg/L		92	75 - 125	0	20
Selenium	<0.00500		0.400	0.3824		mg/L		95	75 - 125	1	20

**Lab Sample ID: 310-280659-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 421633**

**Client Sample ID: APMW-16A**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	106		2.00	115.4	4	mg/L		450	75 - 125	3	20

**Lab Sample ID: 310-280659-11 DU**  
**Matrix: Water**  
**Analysis Batch: 421541**

**Client Sample ID: APMW-11**  
**Prep Type: Total/NA**  
**Prep Batch: 421062**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.00200		<0.00200		mg/L		NC	20
Boron	<0.100		<0.100		mg/L		NC	20

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# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-280659-11 DU  
 Matrix: Water  
 Analysis Batch: 421541

Client Sample ID: APMW-11  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Selenium	0.0132		0.01310		mg/L		0.6	20

Lab Sample ID: 310-280659-11 DU  
 Matrix: Water  
 Analysis Batch: 421695

Client Sample ID: APMW-11  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Calcium	80.5		81.98		mg/L		2	20

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

Lab Sample ID: MB 310-421218/1  
 Matrix: Water  
 Analysis Batch: 421218

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			05/09/24 16:16	1

Lab Sample ID: LCS 310-421218/2  
 Matrix: Water  
 Analysis Batch: 421218

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	1000	932.0		mg/L		93	90 - 110

Lab Sample ID: 310-280659-7 DU  
 Matrix: Water  
 Analysis Batch: 421218

Client Sample ID: APMW-4  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	246		240.0		mg/L		2	20

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-420986/28  
 Matrix: Water  
 Analysis Batch: 420986

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: 310-280659-13 DU  
 Matrix: Water  
 Analysis Batch: 420986

Client Sample ID: APMW-13  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.6	HF	7.6		SU		0.1	20

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# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## HPLC/IC

### Analysis Batch: 421564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	9056A	
310-280659-2	APMW-17	Total/NA	Water	9056A	
310-280659-3	APMW-15	Total/NA	Water	9056A	
310-280659-4	APMW-5	Total/NA	Water	9056A	
310-280659-5	APMW-18	Total/NA	Water	9056A	
310-280659-6	APMW-19	Total/NA	Water	9056A	
310-280659-7	APMW-4	Total/NA	Water	9056A	
310-280659-8	APMW-6	Total/NA	Water	9056A	
310-280659-9	APMW-8A	Total/NA	Water	9056A	
310-280659-10	APMW-10	Total/NA	Water	9056A	
310-280659-11	APMW-11	Total/NA	Water	9056A	
310-280659-12	APMW-12	Total/NA	Water	9056A	
310-280659-13	APMW-13	Total/NA	Water	9056A	
310-280659-14	APMW-14	Total/NA	Water	9056A	
310-280659-15	Duplicate	Total/NA	Water	9056A	
MB 310-421564/3	Method Blank	Total/NA	Water	9056A	
LCS 310-421564/4	Lab Control Sample	Total/NA	Water	9056A	
310-280659-1 MS	APMW-16A	Total/NA	Water	9056A	
310-280659-1 MSD	APMW-16A	Total/NA	Water	9056A	

## Metals

### Prep Batch: 421062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	3005A	
310-280659-2	APMW-17	Total/NA	Water	3005A	
310-280659-3	APMW-15	Total/NA	Water	3005A	
310-280659-4	APMW-5	Total/NA	Water	3005A	
310-280659-5	APMW-18	Total/NA	Water	3005A	
310-280659-6	APMW-19	Total/NA	Water	3005A	
310-280659-7	APMW-4	Total/NA	Water	3005A	
310-280659-8	APMW-6	Total/NA	Water	3005A	
310-280659-9	APMW-8A	Total/NA	Water	3005A	
310-280659-10	APMW-10	Total/NA	Water	3005A	
310-280659-11	APMW-11	Total/NA	Water	3005A	
310-280659-12	APMW-12	Total/NA	Water	3005A	
310-280659-13	APMW-13	Total/NA	Water	3005A	
310-280659-14	APMW-14	Total/NA	Water	3005A	
310-280659-15	Duplicate	Total/NA	Water	3005A	
MB 310-421062/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-280659-1 MS	APMW-16A	Total/NA	Water	3005A	
310-280659-1 MSD	APMW-16A	Total/NA	Water	3005A	
310-280659-11 DU	APMW-11	Total/NA	Water	3005A	

### Analysis Batch: 421541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	6020B	421062
310-280659-2	APMW-17	Total/NA	Water	6020B	421062
310-280659-3	APMW-15	Total/NA	Water	6020B	421062
310-280659-4	APMW-5	Total/NA	Water	6020B	421062

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# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Metals (Continued)

### Analysis Batch: 421541 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-5	APMW-18	Total/NA	Water	6020B	421062
310-280659-6	APMW-19	Total/NA	Water	6020B	421062
310-280659-7	APMW-4	Total/NA	Water	6020B	421062
310-280659-8	APMW-6	Total/NA	Water	6020B	421062
310-280659-9	APMW-8A	Total/NA	Water	6020B	421062
310-280659-10	APMW-10	Total/NA	Water	6020B	421062
310-280659-11	APMW-11	Total/NA	Water	6020B	421062
310-280659-12	APMW-12	Total/NA	Water	6020B	421062
310-280659-13	APMW-13	Total/NA	Water	6020B	421062
310-280659-14	APMW-14	Total/NA	Water	6020B	421062
310-280659-15	Duplicate	Total/NA	Water	6020B	421062
MB 310-421062/1-A	Method Blank	Total/NA	Water	6020B	421062
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	6020B	421062
310-280659-1 MS	APMW-16A	Total/NA	Water	6020B	421062
310-280659-1 MSD	APMW-16A	Total/NA	Water	6020B	421062
310-280659-11 DU	APMW-11	Total/NA	Water	6020B	421062

### Analysis Batch: 421633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	6020B	421062
310-280659-2	APMW-17	Total/NA	Water	6020B	421062
310-280659-3	APMW-15	Total/NA	Water	6020B	421062
310-280659-4	APMW-5	Total/NA	Water	6020B	421062
310-280659-5	APMW-18	Total/NA	Water	6020B	421062
310-280659-6	APMW-19	Total/NA	Water	6020B	421062
MB 310-421062/1-A	Method Blank	Total/NA	Water	6020B	421062
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	6020B	421062
310-280659-1 MS	APMW-16A	Total/NA	Water	6020B	421062
310-280659-1 MSD	APMW-16A	Total/NA	Water	6020B	421062

### Analysis Batch: 421695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-7	APMW-4	Total/NA	Water	6020B	421062
310-280659-8	APMW-6	Total/NA	Water	6020B	421062
310-280659-9	APMW-8A	Total/NA	Water	6020B	421062
310-280659-10	APMW-10	Total/NA	Water	6020B	421062
310-280659-11	APMW-11	Total/NA	Water	6020B	421062
310-280659-12	APMW-12	Total/NA	Water	6020B	421062
310-280659-13	APMW-13	Total/NA	Water	6020B	421062
310-280659-14	APMW-14	Total/NA	Water	6020B	421062
310-280659-15	Duplicate	Total/NA	Water	6020B	421062
310-280659-11 DU	APMW-11	Total/NA	Water	6020B	421062

## General Chemistry

### Analysis Batch: 420986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	SM 4500 H+ B	
310-280659-2	APMW-17	Total/NA	Water	SM 4500 H+ B	
310-280659-3	APMW-15	Total/NA	Water	SM 4500 H+ B	
310-280659-4	APMW-5	Total/NA	Water	SM 4500 H+ B	

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# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## General Chemistry (Continued)

### Analysis Batch: 420986 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-5	APMW-18	Total/NA	Water	SM 4500 H+ B	
310-280659-6	APMW-19	Total/NA	Water	SM 4500 H+ B	
310-280659-7	APMW-4	Total/NA	Water	SM 4500 H+ B	
310-280659-8	APMW-6	Total/NA	Water	SM 4500 H+ B	
310-280659-9	APMW-8A	Total/NA	Water	SM 4500 H+ B	
310-280659-10	APMW-10	Total/NA	Water	SM 4500 H+ B	
310-280659-11	APMW-11	Total/NA	Water	SM 4500 H+ B	
310-280659-12	APMW-12	Total/NA	Water	SM 4500 H+ B	
310-280659-13	APMW-13	Total/NA	Water	SM 4500 H+ B	
310-280659-14	APMW-14	Total/NA	Water	SM 4500 H+ B	
310-280659-15	Duplicate	Total/NA	Water	SM 4500 H+ B	
LCS 310-420986/28	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-280659-13 DU	APMW-13	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 421218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280659-1	APMW-16A	Total/NA	Water	SM 2540C	
310-280659-2	APMW-17	Total/NA	Water	SM 2540C	
310-280659-3	APMW-15	Total/NA	Water	SM 2540C	
310-280659-4	APMW-5	Total/NA	Water	SM 2540C	
310-280659-5	APMW-18	Total/NA	Water	SM 2540C	
310-280659-6	APMW-19	Total/NA	Water	SM 2540C	
310-280659-7	APMW-4	Total/NA	Water	SM 2540C	
310-280659-8	APMW-6	Total/NA	Water	SM 2540C	
310-280659-9	APMW-8A	Total/NA	Water	SM 2540C	
310-280659-10	APMW-10	Total/NA	Water	SM 2540C	
310-280659-11	APMW-11	Total/NA	Water	SM 2540C	
310-280659-12	APMW-12	Total/NA	Water	SM 2540C	
310-280659-13	APMW-13	Total/NA	Water	SM 2540C	
310-280659-14	APMW-14	Total/NA	Water	SM 2540C	
310-280659-15	Duplicate	Total/NA	Water	SM 2540C	
MB 310-421218/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-421218/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-280659-7 DU	APMW-4	Total/NA	Water	SM 2540C	

# Lab Chronicle

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-16A

Date Collected: 05/06/24 09:32

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 18:47
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 20:44
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:26
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:32

## Client Sample ID: APMW-17

Date Collected: 05/06/24 10:27

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 19:24
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:03
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:32
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:33

## Client Sample ID: APMW-15

Date Collected: 05/06/24 11:22

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 20:02
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:05
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:34
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:34

## Client Sample ID: APMW-5

Date Collected: 05/06/24 11:45

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 20:15
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:08
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:36

Eurofins Cedar Falls



# Lab Chronicle

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-5

Date Collected: 05/06/24 11:45

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:35

## Client Sample ID: APMW-18

Date Collected: 05/06/24 12:32

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 20:28
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:10
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:39
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:36

## Client Sample ID: APMW-19

Date Collected: 05/06/24 13:37

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 20:41
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:12
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421633	DHM5	EET CF	05/14/24 15:41
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:37

## Client Sample ID: APMW-4

Date Collected: 05/06/24 14:28

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 20:53
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:14
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:24
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:46

# Lab Chronicle

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-6

Date Collected: 05/06/24 15:32

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 21:06
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:16
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:26
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:42

## Client Sample ID: APMW-8A

Date Collected: 05/06/24 16:27

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 21:18
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:19
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:28
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:45

## Client Sample ID: APMW-10

Date Collected: 05/06/24 17:42

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 21:32
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:21
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:31
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:43

## Client Sample ID: APMW-11

Date Collected: 05/06/24 18:32

Date Received: 05/08/24 08:35

## Lab Sample ID: 310-280659-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 21:45
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:23
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:33

Eurofins Cedar Falls

# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Client Sample ID: APMW-11

## Lab Sample ID: 310-280659-11

Date Collected: 05/06/24 18:32

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:47

## Client Sample ID: APMW-12

## Lab Sample ID: 310-280659-12

Date Collected: 05/07/24 09:47

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 21:58
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:36
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:37
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:42

## Client Sample ID: APMW-13

## Lab Sample ID: 310-280659-13

Date Collected: 05/07/24 10:37

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 22:38
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:38
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:39
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:39

## Client Sample ID: APMW-14

## Lab Sample ID: 310-280659-14

Date Collected: 05/07/24 11:22

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 22:52
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:41
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:42
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:45

# Lab Chronicle

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280659-15**

**Date Collected: 05/06/24 16:40**

**Matrix: Water**

**Date Received: 05/08/24 08:35**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	9056A		5	421564	QTZ5	EET CF	05/13/24 23:05
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:43
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:44
Total/NA	Analysis	SM 2540C		1	421218	ENB7	EET CF	05/09/24 16:16
Total/NA	Analysis	SM 4500 H+ B		1	420986	W9YR	EET CF	05/08/24 10:44

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



# Accreditation/Certification Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	05-27-24

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

# Method Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280659-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

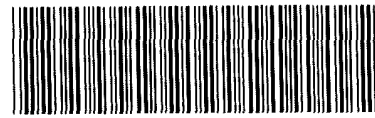
**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing  
America



310-280659 Chain of Custody

**Cooler/Sample Receipt and Temperature Log Form**

<b>Client Information</b>			
Client: <u>NPPD</u>			
City/State:	CITY	STATE	Project:
		<u>NE</u>	
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>5-8-24</u>	<u>8:35</u>	<u>MU</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>X</u>	Correction Factor (°C):	<u>0</u>
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>0.9</u>	Corrected Temp (°C):	<u>0.9</u>
• <b>Sample Container Temperature</b>			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login.			
<b>Additional Comments</b>			





Environment Testing  
America

Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>NPPD</u>			
City/State:	CITY	STATE	Project:
		<u>NE</u>	
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>5-8-24</u>	<u>835</u>	<u>MU</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>X</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.6</u>	Corrected Temp (°C):	<u>1.6</u>
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





<b>Client Information</b> Client Contact: Doug Harris Phone: 308-530-1124 Company: Nebraska Public Power District Address: 6089 S Hwy 25 Gerald Gentleman Station South City: Sutherland State: NE Zip: 69165 Phone: 308-530-1124 Email: ddhamr@nppd.com Project Name: Gerald Gentleman Station Ash Piles Site: GGS		Lab PM: Hummel Matthew E-Mail: Shirley.Thompson@et.eurofins.com State of Origin: Nebraska Carrier Tracking No(s): 310-70847-15390 1 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: WO #: Project #: SOW#:		Analysis Requested: Field Filtered Sample (Yes or No): Matrix (W=water, S=solid, O=wastewat, ST=TISSUE ASAP) Sample Type (C=Comp, G=grab) Sample Time Sample Date Preservation Code:	
Sample Identification APMW-16A APMW 17 APMW-15 APMW-5 APMW 18 APMW-19 APMW-4 APMW-6 APMW-8A APMW 10 APMW-11		Matrix Water Water Water Water Water Water Water Water Water Water Water	
Sample Date 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24 5-6-24		Sample Time 0932 1027 1122 1145 1232 1337 1428 1532 1627 1742 1832	
Field Filtered Sample (Yes or No) 6020A Arsenic Boron Calcium, Selenium 6020A Arsenic Boron Calcium, Selenium TDS 2540C_Caled SM4500_H+ 9056A_ORGM_28D (MOD) Chloride Fluoride and Sulfate PH SM4500_H+		Analysis Requested: D N	
Total Number of containers: <del>1</del>		Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)		Empty Kit Relinquished by: _____ Relinquished by: <i>Douglas Harris</i> Relinquished by: Relinquished by: Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date/Time: 5-7-24 1245 Date/Time: Date/Time:		Date: 4-16-24 Date/Time: 5-8-24 835 Date/Time: Date/Time:	
Company: NPPD Company: Company:		Method of Shipment: <i>FE</i> Received by: <i>ML</i> Received by: Received by:	
Cooler Temperature(s) °C and Other Remarks:		Ver: 01/16/2019	





# Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-280659-1

**Login Number: 280659**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Costello, Mackenzie K**

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

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Doug Harris  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

Generated 5/16/2024 4:32:05 PM

## JOB DESCRIPTION

Gerald Gentleman Station CCR & Landfill

## JOB NUMBER

310-280705-1

# Eurofins Cedar Falls

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
5/16/2024 4:32:05 PM

Authorized for release by  
Matthew Hummel, Project Manager I  
[Matthew.Hummel@et.eurofinsus.com](mailto:Matthew.Hummel@et.eurofinsus.com)  
(319)595-2010



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# Case Narrative

Client: Nebraska Public Power District  
Project: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

**Job ID: 310-280705-1**

**Eurofins Cedar Falls**

## Job Narrative 310-280705-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 5/8/2024 8:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: APMW-4 (310-280705-1), APMW-11 (310-280705-2) and Duplicate (310-280705-3). Elevated reporting limits (RLs) are provided.

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

### Metals

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

Eurofins Cedar Falls

# Sample Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-280705-1	APMW-4	Water	05/06/24 16:45	05/08/24 08:35
310-280705-2	APMW-11	Water	05/06/24 18:41	05/08/24 08:35
310-280705-3	Duplicate	Water	05/06/24 18:57	05/08/24 08:35

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



# Detection Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Client Sample ID: APMW-4

Lab Sample ID: 310-280705-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00445		0.00200		mg/L	1		6020B	Total/NA
Barium	0.0748		0.00200		mg/L	1		6020B	Total/NA
Lithium	0.0135		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00570		0.00200		mg/L	1		6020B	Total/NA
Selenium	0.0147		0.00500		mg/L	1		6020B	Total/NA

## Client Sample ID: APMW-11

Lab Sample ID: 310-280705-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.195		0.00200		mg/L	1		6020B	Total/NA
Lithium	0.0144		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00235		0.00200		mg/L	1		6020B	Total/NA
Selenium	0.0133		0.00500		mg/L	1		6020B	Total/NA

## Client Sample ID: Duplicate

Lab Sample ID: 310-280705-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.193		0.00200		mg/L	1		6020B	Total/NA
Lithium	0.0145		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00232		0.00200		mg/L	1		6020B	Total/NA
Selenium	0.0128		0.00500		mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280705-1**

Date Collected: 05/06/24 16:45

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<1.00		1.00		mg/L			05/10/24 19:36	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		05/09/24 09:30	05/14/24 16:55	1
<b>Arsenic</b>	<b>0.00445</b>		0.00200		mg/L		05/09/24 09:30	05/13/24 21:45	1
<b>Barium</b>	<b>0.0748</b>		0.00200		mg/L		05/09/24 09:30	05/13/24 21:45	1
Beryllium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:45	1
Cadmium	<0.000200		0.000200		mg/L		05/09/24 09:30	05/14/24 16:55	1
Chromium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:45	1
Cobalt	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:45	1
Lead	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:45	1
<b>Lithium</b>	<b>0.0135</b>		0.0100		mg/L		05/09/24 09:30	05/13/24 21:45	1
<b>Molybdenum</b>	<b>0.00570</b>		0.00200		mg/L		05/09/24 09:30	05/14/24 16:55	1
<b>Selenium</b>	<b>0.0147</b>		0.00500		mg/L		05/09/24 09:30	05/13/24 21:45	1
Thallium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:45	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/09/24 12:20	05/13/24 16:35	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280705-2**

Date Collected: 05/06/24 18:41

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<1.00		1.00		mg/L			05/10/24 19:48	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		05/09/24 09:30	05/14/24 16:57	1
Arsenic	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 21:47	1
<b>Barium</b>	<b>0.195</b>		0.00200		mg/L		05/09/24 09:30	05/13/24 21:47	1
Beryllium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:47	1
Cadmium	<0.000200		0.000200		mg/L		05/09/24 09:30	05/14/24 16:57	1
Chromium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:47	1
Cobalt	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:47	1
Lead	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:47	1
<b>Lithium</b>	<b>0.0144</b>		0.0100		mg/L		05/09/24 09:30	05/13/24 21:47	1
<b>Molybdenum</b>	<b>0.00235</b>		0.00200		mg/L		05/09/24 09:30	05/14/24 16:57	1
<b>Selenium</b>	<b>0.0133</b>		0.00500		mg/L		05/09/24 09:30	05/13/24 21:47	1
Thallium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:47	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/09/24 12:20	05/13/24 16:37	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280705-3**

Date Collected: 05/06/24 18:57

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<1.00		1.00		mg/L			05/10/24 20:00	5

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		05/09/24 09:30	05/14/24 16:59	1
Arsenic	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 21:49	1
<b>Barium</b>	<b>0.193</b>		0.00200		mg/L		05/09/24 09:30	05/13/24 21:49	1
Beryllium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:49	1
Cadmium	<0.000200		0.000200		mg/L		05/09/24 09:30	05/14/24 16:59	1
Chromium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 21:49	1
Cobalt	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:49	1
Lead	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 21:49	1
<b>Lithium</b>	<b>0.0145</b>		0.0100		mg/L		05/09/24 09:30	05/13/24 21:49	1
<b>Molybdenum</b>	<b>0.00232</b>		0.00200		mg/L		05/09/24 09:30	05/14/24 16:59	1
<b>Selenium</b>	<b>0.0128</b>		0.00500		mg/L		05/09/24 09:30	05/13/24 21:49	1
Thallium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 21:49	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/09/24 12:20	05/13/24 16:40	1

# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-421417/3  
 Matrix: Water  
 Analysis Batch: 421417

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.200		0.200		mg/L			05/10/24 15:09	1

Lab Sample ID: LCS 310-421417/4  
 Matrix: Water  
 Analysis Batch: 421417

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.019		mg/L		101	90 - 110

## Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-421062/1-A  
 Matrix: Water  
 Analysis Batch: 421541

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 20:39	1
Barium	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 20:39	1
Beryllium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 20:39	1
Chromium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 20:39	1
Cobalt	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 20:39	1
Lead	<0.000500		0.000500		mg/L		05/09/24 09:30	05/13/24 20:39	1
Lithium	<0.0100		0.0100		mg/L		05/09/24 09:30	05/13/24 20:39	1
Molybdenum	<0.00200		0.00200		mg/L		05/09/24 09:30	05/13/24 20:39	1
Selenium	<0.00500		0.00500		mg/L		05/09/24 09:30	05/13/24 20:39	1
Thallium	<0.00100		0.00100		mg/L		05/09/24 09:30	05/13/24 20:39	1

Lab Sample ID: MB 310-421062/1-A  
 Matrix: Water  
 Analysis Batch: 421633

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.000200		0.000200		mg/L		05/09/24 09:30	05/14/24 15:21	1

Lab Sample ID: MB 310-421062/1-A  
 Matrix: Water  
 Analysis Batch: 421844

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		05/09/24 09:30	05/15/24 19:50	1

Lab Sample ID: LCS 310-421062/2-A  
 Matrix: Water  
 Analysis Batch: 421541

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1979		mg/L		99	80 - 120
Barium	0.100	0.09758		mg/L		98	80 - 120
Beryllium	0.100	0.08693		mg/L		87	80 - 120
Chromium	0.100	0.09869		mg/L		99	80 - 120

Eurofins Cedar Falls

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-421062/2-A  
 Matrix: Water  
 Analysis Batch: 421541

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Cobalt	0.100	0.09962		mg/L		100	80 - 120
Lead	0.200	0.2131		mg/L		107	80 - 120
Lithium	0.200	0.1945		mg/L		97	80 - 120
Molybdenum	0.200	0.1686		mg/L		84	80 - 120
Selenium	0.400	0.3736		mg/L		93	80 - 120
Thallium	0.100	0.1090		mg/L		109	80 - 120

Lab Sample ID: LCS 310-421062/2-A  
 Matrix: Water  
 Analysis Batch: 421633

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Cadmium	0.100	0.09992		mg/L		100	80 - 120

Lab Sample ID: LCS 310-421062/2-A  
 Matrix: Water  
 Analysis Batch: 421844

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 421062

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Antimony	0.200	0.2159		mg/L		108	80 - 120

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-421176/1-A  
 Matrix: Water  
 Analysis Batch: 421518

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 421176

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.000200		0.000200		mg/L		05/09/24 12:20	05/13/24 15:42	1

Lab Sample ID: LCS 310-421176/2-A  
 Matrix: Water  
 Analysis Batch: 421518

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 421176

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Mercury	0.00167	0.001546		mg/L		93	80 - 120

# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## HPLC/IC

### Analysis Batch: 421417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	9056A	
310-280705-2	APMW-11	Total/NA	Water	9056A	
310-280705-3	Duplicate	Total/NA	Water	9056A	
MB 310-421417/3	Method Blank	Total/NA	Water	9056A	
LCS 310-421417/4	Lab Control Sample	Total/NA	Water	9056A	

## Metals

### Prep Batch: 421062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	3005A	
310-280705-2	APMW-11	Total/NA	Water	3005A	
310-280705-3	Duplicate	Total/NA	Water	3005A	
MB 310-421062/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Prep Batch: 421176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	7470A	
310-280705-2	APMW-11	Total/NA	Water	7470A	
310-280705-3	Duplicate	Total/NA	Water	7470A	
MB 310-421176/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-421176/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 421518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	7470A	421176
310-280705-2	APMW-11	Total/NA	Water	7470A	421176
310-280705-3	Duplicate	Total/NA	Water	7470A	421176
MB 310-421176/1-A	Method Blank	Total/NA	Water	7470A	421176
LCS 310-421176/2-A	Lab Control Sample	Total/NA	Water	7470A	421176

### Analysis Batch: 421541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	6020B	421062
310-280705-2	APMW-11	Total/NA	Water	6020B	421062
310-280705-3	Duplicate	Total/NA	Water	6020B	421062
MB 310-421062/1-A	Method Blank	Total/NA	Water	6020B	421062
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	6020B	421062

### Analysis Batch: 421633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-421062/1-A	Method Blank	Total/NA	Water	6020B	421062
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	6020B	421062

### Analysis Batch: 421695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	6020B	421062
310-280705-2	APMW-11	Total/NA	Water	6020B	421062
310-280705-3	Duplicate	Total/NA	Water	6020B	421062

Eurofins Cedar Falls



# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Metals

### Analysis Batch: 421844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-421062/1-A	Method Blank	Total/NA	Water	6020B	421062
LCS 310-421062/2-A	Lab Control Sample	Total/NA	Water	6020B	421062

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# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280705-1**

Date Collected: 05/06/24 16:45

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421417	QTZ5	EET CF	05/10/24 19:36
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:45
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:55
Total/NA	Prep	7470A			421176	A6US	EET CF	05/09/24 12:20
Total/NA	Analysis	7470A		1	421518	A6US	EET CF	05/13/24 16:35

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280705-2**

Date Collected: 05/06/24 18:41

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421417	QTZ5	EET CF	05/10/24 19:48
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:47
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:57
Total/NA	Prep	7470A			421176	A6US	EET CF	05/09/24 12:20
Total/NA	Analysis	7470A		1	421518	A6US	EET CF	05/13/24 16:37

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280705-3**

Date Collected: 05/06/24 18:57

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	421417	QTZ5	EET CF	05/10/24 20:00
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421541	DHM5	EET CF	05/13/24 21:49
Total/NA	Prep	3005A			421062	KM3E	EET CF	05/09/24 09:30
Total/NA	Analysis	6020B		1	421695	NFT2	EET CF	05/14/24 16:59
Total/NA	Prep	7470A			421176	A6US	EET CF	05/09/24 12:20
Total/NA	Analysis	7470A		1	421518	A6US	EET CF	05/13/24 16:40

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

# Accreditation/Certification Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	09-29-24

- 1
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# Method Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

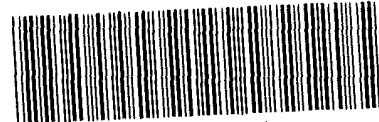
**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing  
America



310-280705 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Nebraska Public Power</u>			
City/State:	CITY	STATE	Project:
		<u>NE</u>	
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>5/8/24</u>	<u>0835</u>	<u>[Signature]</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>R</u>	Correction Factor (°C):	<u>+0.0</u>
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• <b>Sample Container Temperature</b>			
Container(s) used:	CONTAINER 1	CONTAINER 2	
	<u>PLIC Nitric</u>		
Uncorrected Temp (°C):	<u>3.1</u>		
Corrected Temp (°C):	<u>3.1</u>		
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



# Chain of Custody Record

<b>Client Information</b>		Sampler <u>Doug Harris</u>		Lab PM <u>Hummel Matthew R</u>		Carrier Tracking No(s) <u>310-92182-22930 1</u>	
Client Contact <u>Doug Harris</u>		Phone <u>308 530-1124</u>		E-Mail <u>Matthew.Hummel@et.eurofins.com</u>		Page <u>1 of 1</u>	
Company <u>Nebraska Public Power District</u>		PWSID		State of Origin		Job #	
Address <u>6089 S Hwy 25 Gerald Gentleman Station South</u>		Due Date Requested		Analysis Requested		Preservation Codes	
City <u>Sutherland</u>		TAT Requested (days)		Total Number of Containers <u>X</u>		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R NaHSO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W PH 4-5 Y Trizma Z other (specify)	
State Zip <u>NE 69165</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		9315_Ra226 Radium-226 (GFC) 21 day decay		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J Di Water K EDTA L EDA Other	
Phone <u>308-530-1124(Tel)</u>		PO # <u>4500255598 (2023)</u>		9056A_ORGFM_28D (MOD) Fluoride		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R NaHSO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W PH 4-5 Y Trizma Z other (specify)	
Email <u>ddharr@nppd.com</u>		WO #		9320_Ra228 Radium-228 (GFC)		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J Di Water K EDTA L EDA Other	
Project Name <u>GGC CCR &amp; Landfill Assessment Monitoring</u>		Project # <u>31007155</u>		Field Filled Sample (Yes or No) <u>X</u>		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R NaHSO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W PH 4-5 Y Trizma Z other (specify)	
Site <u>GG</u>		SSOW#		Field Filled Sample (Yes or No) <u>X</u>		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R NaHSO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W PH 4-5 Y Trizma Z other (specify)	
<b>Sample Identification</b>		Sample Date		Sample Time		Special Instructions/Note	
<u>APMW-4</u>		<u>5-6-24</u>		<u>1645</u>		<u>X</u>	
<u>APMW-11</u>		<u>5-6-24</u>		<u>1841</u>		<u>X</u>	
<u>Duplicate</u>		<u>5-6-24</u>		<u>1857</u>		<u>X</u>	
Sample Type (C=Comp, G=grab)		Sample Preservation Code		Matrix (W=water, S=solid, O=over/wh, BT=Thau, A=Air)		Special Instructions/Note	
<u>G</u>		<u>G</u>		<u>Water</u>		<u>X</u>	
<u>G</u>		<u>G</u>		<u>Water</u>		<u>X</u>	
<u>G</u>		<u>G</u>		<u>Water</u>		<u>X</u>	
<u>Water</u>		<u>Water</u>		<u>Water</u>		<u>X</u>	

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

Deliverable Requested I II III IV Other (specify)

Empty Kit Relinquished by Doug Harris Date 5-7-24 Time 1245 Company NPPD

Relinquished by Doug Harris Date/Time 5-7-24 1245 Company NPPD

Relinquished by Doug Harris Date/Time 5-7-24 1245 Company NPPD

Custody Seals Intact  Yes  No

Custody Seal No 51824 0835

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For        Months

Special Instructions/QC Requirements

Method of Shipment:       

Received by        Date/Time        Company       

Received by        Date/Time        Company       

Received by        Date/Time        Company       

Cooler Temperature(s) °C and Other Remarks.

## Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-280705-1

**Login Number: 280705**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

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





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Doug Harris  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

Generated 6/5/2024 4:18:21 PM

## JOB DESCRIPTION

Gerald Gentleman Station CCR & Landfill

## JOB NUMBER

310-280705-2



# Eurofins Cedar Falls

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
6/5/2024 4:18:21 PM

Authorized for release by  
Matthew Hummel, Project Manager I  
[Matthew.Hummel@et.eurofinsus.com](mailto:Matthew.Hummel@et.eurofinsus.com)  
(319)595-2010



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# Case Narrative

Client: Nebraska Public Power District  
Project: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Job ID: 310-280705-2**

**Eurofins Cedar Falls**

## Job Narrative 310-280705-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 5/8/2024 8:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

### Gas Flow Proportional Counter

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

### Rad

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

Eurofins Cedar Falls

# Sample Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-280705-1	APMW-4	Water	05/06/24 16:45	05/08/24 08:35
310-280705-2	APMW-11	Water	05/06/24 18:41	05/08/24 08:35
310-280705-3	Duplicate	Water	05/06/24 18:57	05/08/24 08:35

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# Detection Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280705-1**

No Detections.

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280705-2**

No Detections.

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280705-3**

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280705-1**

Date Collected: 05/06/24 16:45

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172		0.101	0.102	1.00	0.129	pCi/L	05/13/24 10:09	06/04/24 23:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					05/13/24 10:09	06/04/24 23:18	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.452	0.462	1.00	0.608	pCi/L	05/13/24 10:14	05/31/24 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					05/13/24 10:14	05/31/24 12:13	1
Y Carrier	81.9		30 - 110					05/13/24 10:14	05/31/24 12:13	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.19		0.463	0.473	5.00	0.608	pCi/L		06/05/24 11:11	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280705-2**

Date Collected: 05/06/24 18:41

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0304	U	0.0839	0.0840	1.00	0.155	pCi/L	05/13/24 10:09	06/04/24 23:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					05/13/24 10:09	06/04/24 23:18	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.260	U	0.334	0.335	1.00	0.556	pCi/L	05/13/24 10:14	05/31/24 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					05/13/24 10:14	05/31/24 12:13	1
Y Carrier	84.9		30 - 110					05/13/24 10:14	05/31/24 12:13	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.290	U	0.344	0.345	5.00	0.556	pCi/L		06/05/24 11:11	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280705-3**

Date Collected: 05/06/24 18:57

Matrix: Water

Date Received: 05/08/24 08:35

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0831	U	0.0860	0.0864	1.00	0.136	pCi/L	05/13/24 10:09	06/04/24 23:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		30 - 110					05/13/24 10:09	06/04/24 23:18	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0572	U	0.314	0.314	1.00	0.571	pCi/L	05/13/24 10:14	05/31/24 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		30 - 110					05/13/24 10:14	05/31/24 12:13	1
Y Carrier	82.2		30 - 110					05/13/24 10:14	05/31/24 12:13	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.140	U	0.326	0.326	5.00	0.571	pCi/L		06/05/24 11:11	1



# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-661407/1-A**  
**Matrix: Water**  
**Analysis Batch: 664625**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 661407**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02375	U	0.0739	0.0740	1.00	0.140	pCi/L	05/13/24 10:09	06/04/24 23:24	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	92.8		30 - 110		05/13/24 10:09	06/04/24 23:24	1			

**Lab Sample ID: LCS 160-661407/2-A**  
**Matrix: Water**  
**Analysis Batch: 664625**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 661407**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.80		1.17	1.00	0.134	pCi/L	95	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	91.8		30 - 110						

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-661408/1-A**  
**Matrix: Water**  
**Analysis Batch: 664147**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 661408**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.4504	U	0.376	0.379	1.00	0.587	pCi/L	05/13/24 10:14	05/31/24 12:17	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	92.8		30 - 110		05/13/24 10:14	05/31/24 12:17	1			
Y Carrier	81.5		30 - 110		05/13/24 10:14	05/31/24 12:17	1			

**Lab Sample ID: LCS 160-661408/2-A**  
**Matrix: Water**  
**Analysis Batch: 664147**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 661408**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.89	10.14		1.40	1.00	0.585	pCi/L	114	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	91.8		30 - 110						
Y Carrier	81.5		30 - 110						

# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

## Rad

### Prep Batch: 661407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	PrecSep-21	
310-280705-2	APMW-11	Total/NA	Water	PrecSep-21	
310-280705-3	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-661407/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-661407/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 661408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280705-1	APMW-4	Total/NA	Water	PrecSep_0	
310-280705-2	APMW-11	Total/NA	Water	PrecSep_0	
310-280705-3	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-661408/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-661408/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

**Client Sample ID: APMW-4**

**Lab Sample ID: 310-280705-1**

Date Collected: 05/06/24 16:45

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			661407	KAK	EET SL	05/13/24 10:09
Total/NA	Analysis	9315		1	664627	SCB	EET SL	06/04/24 23:18
Total/NA	Prep	PrecSep_0			661408	KAK	EET SL	05/13/24 10:14
Total/NA	Analysis	9320		1	664149	SCB	EET SL	05/31/24 12:13
Total/NA	Analysis	Ra226_Ra228		1	664851	FLC	EET SL	06/05/24 11:11

**Client Sample ID: APMW-11**

**Lab Sample ID: 310-280705-2**

Date Collected: 05/06/24 18:41

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			661407	KAK	EET SL	05/13/24 10:09
Total/NA	Analysis	9315		1	664627	SCB	EET SL	06/04/24 23:18
Total/NA	Prep	PrecSep_0			661408	KAK	EET SL	05/13/24 10:14
Total/NA	Analysis	9320		1	664149	SCB	EET SL	05/31/24 12:13
Total/NA	Analysis	Ra226_Ra228		1	664851	FLC	EET SL	06/05/24 11:11

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-280705-3**

Date Collected: 05/06/24 18:57

Matrix: Water

Date Received: 05/08/24 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			661407	KAK	EET SL	05/13/24 10:09
Total/NA	Analysis	9315		1	664627	SCB	EET SL	06/04/24 23:18
Total/NA	Prep	PrecSep_0			661408	KAK	EET SL	05/13/24 10:14
Total/NA	Analysis	9320		1	664149	SCB	EET SL	05/31/24 12:13
Total/NA	Analysis	Ra226_Ra228		1	664851	FLC	EET SL	06/05/24 11:11

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Nebraska Public Power District  
 Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	10-31-24

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

# Method Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

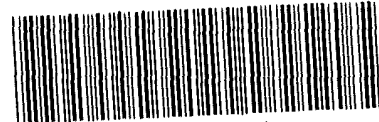
#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





Environment Testing  
America



310-280705 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Nebraska Public Power</u>			
City/State:	CITY	STATE	Project:
		<u>NE</u>	
<b>Receipt Information</b>			
Date/Time Received:	DATE	TIME	Received By:
	<u>5/8/24</u>	<u>0835</u>	<u>[Signature]</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>R</u>	Correction Factor (°C):	<u>+0.0</u>
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• <b>Sample Container Temperature</b>			
Container(s) used:	CONTAINER 1	CONTAINER 2	
	<u>PLIC Nitric</u>		
Uncorrected Temp (°C):	<u>3.1</u>		
Corrected Temp (°C):	<u>3.1</u>		
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			

**Chain of Custody Record**

<b>Client Information</b>		Sampler <u>Doug Harris</u>		Lab PM <u>Hummel Matthew R</u>		Carrier Tracking No(s) <u>310-92182-22930 1</u>	
Client Contact <u>Doug Harris</u>		Phone <u>308 530-1124</u>		E-Mail <u>Matthew.Hummel@et.eurofins.com</u>		Page <u>1 of 1</u>	
Company <u>Nebraska Public Power District</u>		PWSID		State of Origin		Job #	
Address <u>6089 S Hwy 25 Gerald Gentleman Station South</u>		Due Date Requested		Analysis Requested		Preservation Codes	
City <u>Sutherland</u>		TAT Requested (days)		Total Number of Containers <u>X</u>		M Hexane	
State <u>NE</u>		Compliance Project <u>Δ Yes Δ No</u>		9315_Ra226 Radium-226 (GFC) 21 day decay		N None	
Phone <u>308-530-1124(Tel)</u>		PO # <u>4500255598 (2023)</u>		9056A_ORGFM_28D (MOD) Fluoride		O AsNaO2	
Email <u>ddharris@nppd.com</u>		WO #		9320_Ra228 Radium-228 (GFC)		P Na2O4S	
Project Name <u>GGC CCR &amp; Landfill Assessment Monitoring</u>		Project # <u>31007155</u>		Field Filled Sample (Yes or No) <u>X</u>		Q Na2SO3	
Site <u>GGC</u>		SSOW#		Field Filled Sample (Yes or No) <u>X</u>		R NaHSO4	
Sample Identification		Sample Date		Sample Time		S H2SO4	
APMW-4		5-6-24		1645		T TSP Dodecahydrate	
APMW-11		5-6-24		1841		U Acetone	
Duplicate		5-6-24		1857		V MCAA	
Matrix (W=water, S=solid, O=over/under, BT=Thru, A=Air)		Sample Type (C=Comp, G=grab)		Preservation Code		W PH 4-5	
Water		G		D		Y Trizma	
Water		G		N		Z other (specify)	
Water		G		D		Special Instructions/Note	
Water		G		D			
Possible Hazard Identification		Sample Date		Sample Time			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		5-6-24		1645			
Deliverable Requested I II III IV Other (specify)		Sample Date		Sample Time			
Empty Kit Relinquished by <u>Doughland Harris</u>		5-7-24		1245			
Relinquished by <u>Doughland Harris</u>		Date		Time			
Relinquished by		5-7-24		1245			
Relinquished by		Date		Time			
Custody Seals Intact <u>Δ Yes Δ No</u>		Date		Time			
Custody Seal No		5-7-24		1245			
Company		Date		Time			
Company		5-7-24		1245			
Company		Date		Time			
Company		5-7-24		1245			
Cooler Temperature(s) °C and Other Remarks.		Date		Time			
Cooler Temperature(s) °C and Other Remarks.		5-7-24		1245			



**Eurofins Cedar Falls**  
 3019 Venture Way  
 Cedar Falls, IA 50613  
 Phone: 319-277-2401 Fax: 319-277-2425

# Chain of Custody Record



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Lab P.M.: Hummel, Matthew R	Camera Tracking No(s): 310-72188.1
Client Contact: Shipping/Receiving		E-Mail: Matthew.Hummel@et.eurofins.com	Page: Page 1 of 1
Company: Test/America Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon	Job #: 310-280705-2
Address: 13715 Rider Trail North, Earth City, MO, 63045		Preservation Codes:	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		-	
Email:			
Project Name: Gerald Gentleman Station CCR & Landfill			
Site:			
Due Date Requested: 5/30/2024			
TAT Requested (days):			
PO #:			
WO #:			
Project #: 31007155			
SSOW#:			
<b>Analysis Requested</b>			
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	
935_Ra226/PreSep_21 Radium-226 (GFPC) - 21 day decay		920_Ra228/PreSep_0 Radium-228 (GFPC)	
R226Ra228 GFPC/ Combined Radium-226 and Radium-228			
Total Number of Containers			
APMW-4 (310-280705-1)	5/6/24 16:45 Central	Water	2
APMW-11 (310-280705-2)	5/6/24 18:41 Central	Water	2
Duplicate (310-280705-3)	5/6/24 18:57 Central	Water	2
Special Instructions/Note:			
Other:			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis, it is the responsibility of the client to provide the appropriate accreditation. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.</p>			
<b>Possible Hazard Identification</b>			
Unconfirmed			
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2			
Special Instructions/QC Requirements: <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months			
Empty Kit Relinquished by: Date: Time: Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 5/24/2024 10:20	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
Received by: <i>M. Pinette</i>		Date/Time: MAY 10 2024 09:00	
Received by:		Date/Time:	
Received by:		Date/Time:	
Cooler Temperature(s) °C and Other Remarks:			



## Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-280705-2

**Login Number: 280705**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Homolar, Dana J**

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

## Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-280705-2

**Login Number: 280705**

**List Number: 2**

**Creator: Pinette, Meadow L**

**List Source: Eurofins St. Louis**

**List Creation: 05/10/24 02:24 PM**

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

# Tracer/Carrier Summary

Client: Nebraska Public Power District  
Project/Site: Gerald Gentleman Station CCR & Landfill

Job ID: 310-280705-2

## Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
310-280705-1	APMW-4	91.0	
310-280705-2	APMW-11	92.0	
310-280705-3	Duplicate	96.8	
LCS 160-661407/2-A	Lab Control Sample	91.8	
MB 160-661407/1-A	Method Blank	92.8	
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			

## Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-280705-1	APMW-4	91.0	81.9
310-280705-2	APMW-11	92.0	84.9
310-280705-3	Duplicate	96.8	82.2
LCS 160-661408/2-A	Lab Control Sample	91.8	81.5
MB 160-661408/1-A	Method Blank	92.8	81.5
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			
Y = Y Carrier			

**Eurofins Cedar Falls**

3019 Venture Way  
 Cedar Falls, IA 50613  
 Phone (319) 277-2401 Phone (319) 277-2425

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <u>Doug Harris</u>		Lab PM: Calhoun, Conner M		Carrier Tracking No(s):		COC No: 310-98036-26680.1			
Client Contact: Doug Harris		Phone: <u>308-530-1124</u>		E-Mail: Conner.Calhoun@et.eurofinsus.com		State of Origin:		Page: Page 1 of 2			
Company: Nebraska Public Power District		PWSID:		<b>Analysis Requested</b>						Job #:	
Address: 6089 S Hwy 25 Gerald Gentleman Station South		Due Date Requested:								Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6020B - Arsenic, Boron, Calcium, Selenium 2540C - Calc'd, SM4500_H+ 9056A_ORGFM_28D - Chloride, Fluoride, Sulfate <u>SM4500 H+ PH</u>	
City: Sutherland		TAT Requested (days):		Other:							
State, Zip: NE, 69165		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Special Instructions/Note:							
Phone: 308-530-1124(Tel)		PO #: 4500266733									
Email: ddharri@nppd.com		WO #:									
Project Name: GGS Ash Pit Detection Monitoring		Project #: 31007155									
Site: <u>Gerald Gentleman Station</u>		SSOW#:									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)</b>			
								<b>Preservation Code:</b>			
								D N N			
APMW 16A		12-3-24		1037		G		Water			
APMW 17		12-3-24		1132		G		Water			
APMW15		12-3-24		1205		G		Water			
<del>APMW 5</del>		<del></del>		<del></del>		<del></del>		<del>Water</del>			
APMW 18		12-3-24		1252		G		Water			
APMW 19		12-3-24		1347		G		Water			
<del>APMW 4</del>		<del></del>		<del></del>		<del></del>		<del>Water</del>			
APMW 6		12-3-24		1502		G		Water			
APMW 8A		12-3-24		1602		G		Water			
APMW 10		12-3-24		1652		G		Water			
APMW 11		12-3-24		1737		G		Water			
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>						
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:						
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:				
Relinquished by: <u>Douglas D Harris</u>			Date/Time: <u>12-4-24 1230</u>		Company: <u>NPPD</u>		Received by:		Date/Time:		
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:						

**Eurofins Cedar Falls**

3019 Venture Way  
 Cedar Falls, IA 50613  
 Phone (319) 277-2401 Phone (319) 277-2425

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <u>Doug Harris</u>		Lab PM: <u>Calhoun, Conner M</u>		Carrier Tracking No(s):		COC No: <u>310-98036-26680.2</u>							
Client Contact: <u>Doug Harris</u>		Phone: <u>308-530-1124</u>		E-Mail: <u>Conner.Calhoun@et.eurofinsus.com</u>		State of Origin:		Page: <u>Page 2 of 2</u>							
Company: <u>Nebraska Public Power District</u>			PWSID:		<b>Analysis Requested</b>					Job #:					
Address: <u>6089 S Hwy 25 Gerald Gentleman Station South</u>			Due Date Requested:							Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Preservation Codes: D - HNO3 N - None	
City: <u>Sutherland</u>			TAT Requested (days):												
State, Zip: <u>NE, 69165</u>			Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No												
Phone: <u>308-530-1124(Tel)</u>			PO #: <u>4500266733</u>												
Email: <u>ddharri@nppd.com</u>			WO #:												
Project Name: <u>GGs Ash Pit Detection Monitoring</u>			Project #: <u>31007155</u>												
Site: <u>Gerald Gentleman Station</u>			SSOW#:		Total Number of containers		Other:		Special Instructions/Note:						
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab)							Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)	6020B - Arsenic, Boron, Calcium, Selenium	2540C - Calc. TDS	9056A_ORGFM_280 - Chloride, Fluoride, Sulfate	SM4500_H+ - PH
				Preservation Code:								D	N	N	N
APMW 12		<u>12-4-24</u>	<u>0942</u>	<u>G</u>							Water	X	X	X	X
APMW 13		<u>12-4-24</u>	<u>1042</u>	<u>G</u>							Water	X	X	X	X
APMW 14		<u>12-4-24</u>	<u>1137</u>	<u>G</u>							Water	X	X	X	X
Duplicate		<u>12-3-24</u>	<u>1355</u>	<u>G</u>	Water	X	X	X	X						
					Water										
<b>Possible Hazard Identification</b>					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>										
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:										
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:								
Relinquished by: <u>Douglas A Harris</u>			Date/Time: <u>12-4-24 1230</u>		Company: <u>NPPD</u>		Received by:		Date/Time:		Company:				
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		Company:				
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		Company:				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:										



Nebraska Public Power District - Gerald Gentleman Station  
Monitoring Well Equipment Calibration Log

DATE: 12-3-24

TIME: 0805

SAMPLING PERSONNEL: DH JK

SAMPLING LOCATION(S): GGs

EQUIPMENT CALIBRATIONS:

Temperature (Deg C)		
MP-25T	Ref C	MP-25T
	<u>22.6</u>	<u>22.61</u>
	Temp Ok?	Yes/No
<u>EcoSense</u>	<u>ORP 15A</u>	

pH		
MP-25T	Ref	MP-25T
	<u>7.0</u>	<u>7.02</u>
	10.0	<u>10.00</u>
<u>SRF-72</u>		

Conductivity		
MP-25T	Ref	MP-25T
	<u>1413</u>	<u>1399</u>
<u>SRF-97</u>		

ORP (mV)		
MP-25T	Zobell	MP-25T
	Ref (mV)	(mV)
<del>YSI 15A</del>	<del>Zobell</del>	<del>YSI 15A</del>
	<del>Ref (mV)</del>	<del>Rel (mV)</del>

not doing unless needed

Turbidity (NTU)		
<del>MP-25T</del>	<del>Ref</del>	<del>MP-25T</del>
	<del>10 NTU</del>	<del>_____</del>
	<del>DI (0 NTU)</del>	<del>_____</del>
<del>Hach 2100Q</del>	<del>10 NTU Verification</del>	<del>_____</del>
	<del>Reading</del>	<del>_____</del>
	<del>Acceptable? Yes/No</del>	<del>_____</del>
	<del>Calibration (NTU)</del>	<del>_____</del>
	<del>Current Or Last</del>	<del>_____</del>
	<del>Ref</del>	<del>Reading</del>
	<del>20</del>	<del>_____</del>
	<del>100</del>	<del>_____</del>
	<del>800</del>	<del>_____</del>
	<del>Acceptable? Yes/No</del>	<del>_____</del>

not doing with the step 7 resolution on DDH 12-15-21

DO	
<del>MP-25T</del>	<del>Saturation Calibration</del>
	<del>BP Entered _____</del>
	<del>% Sat _____</del>
	<del>Mg/l _____</del>
	<del>OK? Yes/No _____</del>
<del>YSI 55</del>	<del>Saturation Calibration</del>
	<del>OK? Yes/No _____</del>

not using unless needed

WEATHER CONDITIONS: Cold - 15 F last night - see APMW-16A  
Notes - frozen

OBSERVATIONS/FIELD NOTES DURING SAMPLING EVENT:  
Temperature - use Ecosense ORP 15A  
ORP - use YSI Ecosense ORP 15A - OK to 235  
- see manual page for calibration

Calibration Log Sheets



Nebraska Public Power District - Gerald Gentleman Station  
Monitoring Well Equipment Calibration Log

DATE: 12-4-24

TIME: 0810

SAMPLING PERSONNEL: DH JK

SAMPLING LOCATION(S): GGS

EQUIPMENT CALIBRATIONS:

Temperature (Deg C)		
MP-25T	Ref C	MP-25T
	Temp Ok?	Yes/No

pH		
MP-25T	Ref	MP-25T
	7.0	<u>7.05</u>
	10.0	<u>10.00</u>
<i>SRF - not done</i>		

Conductivity		
MP-25T	Ref	MP-25T
	<u>1413</u>	<u>1403</u>
<i>SRF-102</i>		

ORP (mV)		
MP-25T	Zobell Ref (mV)	MP-25T (mV)
<del>YSI 15A</del>	<del>Zobell Ref (mV)</del>	<del>YSI 15A Rel (mV)</del>

*not doing unless needed*

Turbidity (NTU)		
<del>MP-25T</del>	<del>Ref</del>	<del>MP-25T</del>
	<del>10 NTU</del>	<del>DI (0 NTU)</del>
<del>Hach 2100Q</del>	<del>10 NTU Verification Reading</del>	<del>Acceptable? Yes/No</del>
	<del>Calibration (NTU)</del>	<del>Current Or Last</del>
	<del>Ref</del>	<del>Reading</del>
	<del>20</del>	<del>_____</del>
	<del>100</del>	<del>_____</del>
	<del>800</del>	<del>_____</del>
	<del>Acceptable? Yes/No</del>	<del>_____</del>

*not doing with the step 7 resolution on DDH 12-15-21*

DO		
<del>MP-25T</del>	<del>Saturation Calibration</del>	<del>BP Entered</del>
	<del>% Sat</del>	<del>Mg/l</del>
	<del>OK? Yes/No</del>	<del>_____</del>
<del>YSI 55</del>	<del>Saturation Calibration</del>	<del>OK? Yes/No</del>
	<del>_____</del>	<del>_____</del>

*not using unless needed*

WEATHER CONDITIONS: Windy & Sunny

OBSERVATIONS/FIELD NOTES DURING SAMPLING EVENT: Calibrated  
ORP --- YSI Ecosense ORP 15A - OK to 235

Temperature - checked OK w/ YSI Ecosense ORP 15A

Calibration Log Sheets



WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 17 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 76.0 / 96.0 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 92.73  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1110	86.15	220'	200	/	12.21	821.2	7.14	/	/	/	Sunny 40° Started pumping at 1102
1115					12.32	817.6	7.14	/	/	/	
1120					12.40	813.8	7.12	/	/	/	
1125					12.45	810.3	7.14	/	/	/	
1130					12.46	806.0	7.14	/	/	175	
1132	86.15										500 ml Unpreserved
1135											250 ml Preserved
1137											250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2	@ 25-5										

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 15 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 88.0 / 108.7 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 107.7  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1155	—	—	—	—	11.71	579.1	7.96	/	/	/	No Well Level Reading Took a few <del>NO</del> readings Pumped slowly
1156					11.79	584.8	7.92	/	/		
1157					11.87	596.3	7.88	/	/		
1158					11.93	640.0	7.73	/	/		
1159					11.97	706.3	7.52	/	/	165	
1205	—	—	—	—							500 ml Unpreserved 250 ml Preserved 250 ml Unpreserved
1215											
1220											
Bottle Regulator 100 psi											
CPM 2	N/A										

- purge not completely normal as water was low and we were concerned about getting enough water for sample



WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits Depth to 104.8 / 124.8 of Screen  
 Well Number A PMW- 18 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK  
 Pump Intake at (ft. below MP) 122.04  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1230	116.38	220 <sup>c</sup>	200		13.23	735.3	7.35	/	/	/	Sunny 45° breezy Started pumping at 1222
1235					13.30	731.6	7.35	/	/	/	
1240					13.40	728.3	7.35	/	/	/	
1245					13.47	728.2	7.36	/	/	/	
1250					13.53	729.0	7.36	/	/	153	
1252	116.64										Ecosense ORP15A  500 Unpreserved 250 Preserved 250 Unpreserved
1255											
1257											
Bottle Regulator 100 psi											
CPM 2	25-5										
	24-6										

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 19 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 127.1 / 147.0 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 144.2  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1325	140.32	220'	200	—	13.98	619.4	7.47	/	/	/	54° Sunny, Wind Humidity 35%
1330					14.03	601.0	7.34	/	/		
1335					14.01	601.8	7.34	/	/		
1340					14.06	603.6	7.36	/	/		
1345					14.10	605.2	7.35	/	/	171	
1347	140.44	—————									500 ml Unpreserved
1350											250 ml Preserved
1352											250 ml Unpreserved
1355		—————									Duplicate 500 ml Unpreserved
1358											Duplicate 250 ml Preserved
1400											Duplicate 250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2	@	23-7									

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 4 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations:

Depth to 111.0 / 131.0 of Screen  
Top Bottom  
 Pump Intake at (ft. below MP) \_\_\_\_\_  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
											Out of water
											No samples Well dry
											- hopeful that this well will have water next spring for a sample - after winter recovery
											- it was dry in the fall of 2023 and then we got samples from it Q2 2024
Bottle Regulator 100 psi											
CPM 2											



WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits Depth to 110.0' 129.9' of Screen  
 Well Number A PMW- 6 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Purge Intake at (ft. below MP) 128.9  
 Purging Device (pump type) Micropurge Bladder Pump  
 Well Conditions/Field Observations: All is OK

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1440	124.53	220'	200	—	13.93	458.5	7.50	/	/	/	Sun & Wind 50° Started pumping @ 1433
1445					13.86	454.9	7.52	/	/	/	
1450					13.87	455.0	7.52	/	/	/	
1455					13.85	451.6	7.55	/	/	/	
1500					13.84	453.0	7.54	/	/	168	Ecosense ORP15A
1502	124.95	~~~~~									500 ml Unpreserved
1505											250 ml Preserved
1507											250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2	@	24-6									
		23-7									

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 8A Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is good

Depth to 104.7 124.7 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 122.8  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1540	115.55	220	200	—	13.90	645.1	7.30	/	/	/	Start pumping at 1530
1545					13.84	644.8	7.31	/	/	/	
1550					13.84	649.8	7.31	/	/	/	
1555					13.87	653.3	7.33	/	/	/	
1600					13.86	654.5	7.32	/	/	164	
1602	115.64	<hr/>									500 ml Unpreserved
1605											250 ml Preserved
1607											250 ml Unpreserved
Bottle Regulator 100 psi											
CPM 2 @ 24-6											

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 10 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 91.0 / 130.27 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 129.27  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1630	122.53	220'	200	—	13.05	442.5	7.68	/	/	/	Started pumping @ 1622 Sunny, light breeze
1635					12.99	436.7	7.67	/	/	/	
1640					12.97	441.4	7.65	/	/	/	
1645					12.91	446.7	7.68	/	/	/	
1650					12.80	443.9	7.67	/	/	169	
											Ecosense ORP15A
1652	124.55	—	—	—	—	—	—	—	—	—	500ml Unpreserved 250ml Preserved 250ml Unpreserved
1655											
1657											
Bottle Regulator 100 psi											
CPM 2	(a) 24-6										

WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 11 Date 12-3-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 96.01 115.74 of Screen  
 Top Bottom  
 Pump Intake at (ft. below MP) 114.74  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
											Started pumping at 1707 - Sunset, 45 deg.
1715	107.88	220'	200	←	12.16	594.2	7.43	/	/	/	
1720					12.17	599.0	7.42	/	/	/	
1725					12.09	586.7	7.40	/	/	/	
1730					12.07	592.3	7.42	/	/	/	
1735					12.04	593.8	7.42	/	/	178	Ecosense ORP 15A
1737	108.10										500 ml Unpreserved
1740											250 ml Preserved
1742											250 ml Unpreserved
1744											Assessment 1000 ml Preserved
1750											Assessment 1000 ml Preserved
1755											Assessment 250 ml Preserved
1758											Assessment 250 ml Unpreserved
		1800									Duplicate Assessment 1,000 ml Preserved
		1805									Duplicate Assessment 1,000 ml Preserved
		1810									Duplicate Assessment 250 ml Preserved
		1812									Duplicate Assessment 250 ml Unpreserved

Bottle Regulator 100 psi

CPM 2 @ 24-6



WELL PURGING-FIELD QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) GGs Ash Pits  
 Well Number A PMW- 13 Date 12-4-24  
 Field Personnel Doug Harris JWK  
 Sampling Organization NPPD  
 Identify MP TOC  
 Well Conditions/Field Observations: All is OK

Depth to 95.0 / 115.95 of Screen  
Top Bottom  
 Pump Intake at (ft. below MP) 114.95  
 Purging Device (pump type) Micropurge Bladder Pump

Clock Time (24hr)	Water Depth below MP (ft)	Pump Dial Setting	Purge Rate (ml/min)	Cum. Volume Purged (ml)	Temp. (C)	Spec. Conduct. (us/cm)	pH	Turbidity (ntu)	DO (mg/l)	ORP (mV)	Comments
1020	106.40	220'	200	<del>200</del>	11.76	1423	7.03	/	/	/	Started pumping @ 1013 Sun/Breeze 40°
1025					12.07	1446	7.02	/	/	/	
1030					12.10	1447	7.02	/	/	/	
1035					12.22	1446	7.02	/	/	/	
1040					12.28	1455	7.02	/	/	206	
1042	106.45										500 ml Unpreserved 250 ml Preserved 250 ml Unpreserved
1045											
1048											
Bottle Regulator 100 psi											
CPM 2 @ 24-6											



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Doug Harris  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

Generated 12/13/2024 2:08:24 PM

## JOB DESCRIPTION

GGs Ash Pit Detection Monitoring

## JOB NUMBER

310-296492-1



# Eurofins Cedar Falls

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



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Authorized for release by  
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# Case Narrative

Client: Nebraska Public Power District  
Project: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Job ID: 310-296492-1**

**Eurofins Cedar Falls**

## Job Narrative 310-296492-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 12/5/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 4.4°C and 5.9°C.

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Sample Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-296492-1	APMW 16A	Water	12/03/24 10:37	12/05/24 09:00
310-296492-2	APMW 17	Water	12/03/24 11:32	12/05/24 09:00
310-296492-3	APMW 15	Water	12/03/24 12:05	12/05/24 09:00
310-296492-4	APMW 18	Water	12/03/24 12:52	12/05/24 09:00
310-296492-5	APMW 19	Water	12/03/24 13:47	12/05/24 09:00
310-296492-6	APMW 6	Water	12/03/24 15:02	12/05/24 09:00
310-296492-7	APMW 8A	Water	12/03/24 16:02	12/05/24 09:00
310-296492-8	APMW 10	Water	12/03/24 16:52	12/05/24 09:00
310-296492-9	APMW 11	Water	12/03/24 17:37	12/05/24 09:00
310-296492-10	APMW 12	Water	12/04/24 09:42	12/05/24 09:00
310-296492-11	APMW 13	Water	12/04/24 10:42	12/05/24 09:00
310-296492-12	APMW 14	Water	12/04/24 11:37	12/05/24 09:00
310-296492-13	Duplicate	Water	12/03/24 13:55	12/05/24 09:00



# Detection Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Client Sample ID: APMW 16A

## Lab Sample ID: 310-296492-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00274		0.00200		mg/L	1		6020B	Total/NA
Boron	0.130		0.100		mg/L	1		6020B	Total/NA
Calcium	113		0.500		mg/L	1		6020B	Total/NA
Fluoride	0.345		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	160		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	604		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	30.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.5	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 17

## Lab Sample ID: 310-296492-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00230		0.00200		mg/L	1		6020B	Total/NA
Calcium	117		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00842		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.220		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	131		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	514		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	33.5		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 15

## Lab Sample ID: 310-296492-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00266		0.00200		mg/L	1		6020B	Total/NA
Boron	0.102		0.100		mg/L	1		6020B	Total/NA
Calcium	105		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00514		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.278		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	141		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	564		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	29.1		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.6	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 18

## Lab Sample ID: 310-296492-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00230		0.00200		mg/L	1		6020B	Total/NA
Calcium	89.7		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00725		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.214		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	23.6		10.0		mg/L	2		D516-16	Total/NA
Total Dissolved Solids	404		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	116		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 19

## Lab Sample ID: 310-296492-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00368		0.00200		mg/L	1		6020B	Total/NA
Calcium	68.4		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00961		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.266		0.100		mg/L	1		4500 F C-2011	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Detection Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Client Sample ID: APMW 19 (Continued)

Lab Sample ID: 310-296492-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	63.7		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	374		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	31.8		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 6

Lab Sample ID: 310-296492-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00411		0.00200		mg/L	1		6020B	Total/NA
Calcium	50.8		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00574		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.317		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	27.0		5.00		mg/L	1		D516-16	Total/NA
Total Dissolved Solids	318		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	31.4		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 8A

Lab Sample ID: 310-296492-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00275		0.00200		mg/L	1		6020B	Total/NA
Calcium	77.0		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0164		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.232		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	34.3		25.0		mg/L	5		D516-16	Total/NA
Total Dissolved Solids	338		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	84.6		4.00		mg/L	2		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 10

Lab Sample ID: 310-296492-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00321		0.00200		mg/L	1		6020B	Total/NA
Calcium	50.5		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00760		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.275		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	44.8		10.0		mg/L	2		D516-16	Total/NA
Total Dissolved Solids	280		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	23.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.9	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 11

Lab Sample ID: 310-296492-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	73.5		0.500		mg/L	1		6020B	Total/NA
Selenium	0.0182		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.279		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	56.0		10.0		mg/L	2		D516-16	Total/NA
Total Dissolved Solids	348		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	37.6		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Detection Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Client Sample ID: APMW 12

## Lab Sample ID: 310-296492-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00229		0.00200		mg/L	1		6020B	Total/NA
Boron	0.261		0.100		mg/L	1		6020B	Total/NA
Calcium	152		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00644		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.117		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	264		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	972		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	149		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 13

## Lab Sample ID: 310-296492-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00266		0.00200		mg/L	1		6020B	Total/NA
Boron	0.292		0.100		mg/L	1		6020B	Total/NA
Calcium	139		0.500		mg/L	1		6020B	Total/NA
Fluoride	0.169		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	226		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	920		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	117		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: APMW 14

## Lab Sample ID: 310-296492-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00226		0.00200		mg/L	1		6020B	Total/NA
Boron	0.193		0.100		mg/L	1		6020B	Total/NA
Calcium	147		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00567		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.166		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	169		50.0		mg/L	10		D516-16	Total/NA
Total Dissolved Solids	794		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	115		20.0		mg/L	10		SM 4500 Cl- E	Total/NA
pH	7.4	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: Duplicate

## Lab Sample ID: 310-296492-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00393		0.00200		mg/L	1		6020B	Total/NA
Calcium	70.6		0.500		mg/L	1		6020B	Total/NA
Selenium	0.00983		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.247		0.100		mg/L	1		4500 F C-2011	Total/NA
Sulfate	66.7		10.0		mg/L	2		D516-16	Total/NA
Total Dissolved Solids	372		50.0		mg/L	1		SM 2540C	Total/NA
Chloride	29.9		2.00		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 16A**

**Lab Sample ID: 310-296492-1**

Date Collected: 12/03/24 10:37

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00274		0.00200		mg/L		12/06/24 09:00	12/11/24 16:48	1
Boron	0.130		0.100		mg/L		12/06/24 09:00	12/11/24 16:48	1
Calcium	113		0.500		mg/L		12/06/24 09:00	12/11/24 16:48	1
Selenium	<0.00500		0.00500		mg/L		12/06/24 09:00	12/11/24 16:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.345		0.100		mg/L			12/13/24 10:42	1
Sulfate (ASTM D516-16)	160		25.0		mg/L			12/10/24 15:29	5
Total Dissolved Solids (SM 2540C)	604		50.0		mg/L			12/05/24 16:35	1
Chloride (SM 4500 Cl- E)	30.6		2.00		mg/L			12/09/24 14:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	1.0		SU			12/05/24 12:27	1





# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 17**

**Lab Sample ID: 310-296492-2**

Date Collected: 12/03/24 11:32

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.00230</b>		0.00200		mg/L		12/06/24 09:00	12/11/24 16:50	1
Boron	<0.100		0.100		mg/L		12/06/24 09:00	12/11/24 16:50	1
<b>Calcium</b>	<b>117</b>		0.500		mg/L		12/06/24 09:00	12/11/24 16:50	1
<b>Selenium</b>	<b>0.00842</b>		0.00500		mg/L		12/06/24 09:00	12/11/24 16:50	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoride (SM 4500 F C-2011)</b>	<b>0.220</b>		0.100		mg/L			12/13/24 10:51	1
<b>Sulfate (ASTM D516-16)</b>	<b>131</b>		25.0		mg/L			12/10/24 15:29	5
<b>Total Dissolved Solids (SM 2540C)</b>	<b>514</b>		50.0		mg/L			12/05/24 16:35	1
<b>Chloride (SM 4500 Cl- E)</b>	<b>33.5</b>		2.00		mg/L			12/09/24 14:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			12/05/24 12:24	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 15**

**Lab Sample ID: 310-296492-3**

Date Collected: 12/03/24 12:05

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00266		0.00200		mg/L		12/06/24 09:00	12/11/24 16:52	1
Boron	0.102		0.100		mg/L		12/06/24 09:00	12/11/24 16:52	1
Calcium	105		0.500		mg/L		12/06/24 09:00	12/11/24 16:52	1
Selenium	0.00514		0.00500		mg/L		12/06/24 09:00	12/11/24 16:52	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.278		0.100		mg/L			12/13/24 10:55	1
Sulfate (ASTM D516-16)	141		25.0		mg/L			12/10/24 15:30	5
Total Dissolved Solids (SM 2540C)	564		50.0		mg/L			12/05/24 16:35	1
Chloride (SM 4500 Cl- E)	29.1		2.00		mg/L			12/09/24 14:14	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	1.0		SU			12/05/24 12:18	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 18**

**Lab Sample ID: 310-296492-4**

Date Collected: 12/03/24 12:52

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00230		0.00200		mg/L		12/06/24 09:00	12/11/24 16:55	1
Boron	<0.100		0.100		mg/L		12/06/24 09:00	12/11/24 16:55	1
Calcium	89.7		0.500		mg/L		12/06/24 09:00	12/11/24 16:55	1
Selenium	0.00725		0.00500		mg/L		12/06/24 09:00	12/11/24 16:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.214		0.100		mg/L			12/13/24 10:58	1
Sulfate (ASTM D516-16)	23.6		10.0		mg/L			12/10/24 15:30	2
Total Dissolved Solids (SM 2540C)	404		50.0		mg/L			12/05/24 16:35	1
Chloride (SM 4500 Cl- E)	116		20.0		mg/L			12/09/24 14:14	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			12/05/24 12:26	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 19**

**Lab Sample ID: 310-296492-5**

Date Collected: 12/03/24 13:47

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00368		0.00200		mg/L		12/10/24 09:30	12/12/24 12:48	1
Boron	<0.100	F1	0.100		mg/L		12/10/24 09:30	12/12/24 12:48	1
Calcium	68.4		0.500		mg/L		12/10/24 09:30	12/12/24 12:48	1
Selenium	0.00961		0.00500		mg/L		12/10/24 09:30	12/12/24 12:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.266		0.100		mg/L			12/13/24 11:08	1
Sulfate (ASTM D516-16)	63.7		25.0		mg/L			12/10/24 15:32	5
Total Dissolved Solids (SM 2540C)	374		50.0		mg/L			12/05/24 16:35	1
Chloride (SM 4500 Cl- E)	31.8		2.00		mg/L			12/09/24 14:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			12/05/24 12:20	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 6**

**Lab Sample ID: 310-296492-6**

Date Collected: 12/03/24 15:02

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.00411</b>		0.00200		mg/L		12/10/24 09:30	12/12/24 13:11	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 13:11	1
<b>Calcium</b>	<b>50.8</b>		0.500		mg/L		12/10/24 09:30	12/12/24 13:11	1
<b>Selenium</b>	<b>0.00574</b>		0.00500		mg/L		12/10/24 09:30	12/12/24 13:11	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoride (SM 4500 F C-2011)</b>	<b>0.317</b>		0.100		mg/L			12/13/24 11:11	1
<b>Sulfate (ASTM D516-16)</b>	<b>27.0</b>		5.00		mg/L			12/10/24 15:32	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>318</b>		50.0		mg/L			12/05/24 16:35	1
<b>Chloride (SM 4500 Cl- E)</b>	<b>31.4</b>		2.00		mg/L			12/09/24 14:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.9</b>	<b>HF</b>	1.0		SU			12/05/24 12:17	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 8A**

**Lab Sample ID: 310-296492-7**

Date Collected: 12/03/24 16:02

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00275		0.00200		mg/L		12/10/24 09:30	12/12/24 13:14	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 13:14	1
Calcium	77.0		0.500		mg/L		12/10/24 09:30	12/12/24 13:14	1
Selenium	0.0164		0.00500		mg/L		12/10/24 09:30	12/12/24 13:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.232		0.100		mg/L			12/13/24 11:14	1
Sulfate (ASTM D516-16)	34.3		25.0		mg/L			12/10/24 15:33	5
Total Dissolved Solids (SM 2540C)	338		50.0		mg/L			12/05/24 16:35	1
Chloride (SM 4500 Cl- E)	84.6		4.00		mg/L			12/09/24 14:15	2
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			12/05/24 12:16	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 10**

**Lab Sample ID: 310-296492-8**

Date Collected: 12/03/24 16:52

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00321		0.00200		mg/L		12/10/24 09:30	12/12/24 13:17	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 13:17	1
Calcium	50.5		0.500		mg/L		12/10/24 09:30	12/12/24 13:17	1
Selenium	0.00760		0.00500		mg/L		12/10/24 09:30	12/12/24 13:17	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.275		0.100		mg/L			12/13/24 11:17	1
Sulfate (ASTM D516-16)	44.8		10.0		mg/L			12/10/24 15:33	2
Total Dissolved Solids (SM 2540C)	280		50.0		mg/L			12/06/24 17:28	1
Chloride (SM 4500 Cl- E)	23.6		2.00		mg/L			12/11/24 16:23	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.9	HF	1.0		SU			12/05/24 12:21	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 11**

**Lab Sample ID: 310-296492-9**

Date Collected: 12/03/24 17:37

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		12/10/24 09:30	12/12/24 13:20	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 13:20	1
<b>Calcium</b>	<b>73.5</b>		0.500		mg/L		12/10/24 09:30	12/12/24 13:20	1
<b>Selenium</b>	<b>0.0182</b>		0.00500		mg/L		12/10/24 09:30	12/12/24 13:20	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoride (SM 4500 F C-2011)</b>	<b>0.279</b>		0.100		mg/L			12/13/24 11:20	1
<b>Sulfate (ASTM D516-16)</b>	<b>56.0</b>		10.0		mg/L			12/10/24 15:33	2
<b>Total Dissolved Solids (SM 2540C)</b>	<b>348</b>		50.0		mg/L			12/06/24 17:28	1
<b>Chloride (SM 4500 Cl- E)</b>	<b>37.6</b>		2.00		mg/L			12/11/24 16:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			12/05/24 12:19	1



# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 12**

**Lab Sample ID: 310-296492-10**

Date Collected: 12/04/24 09:42

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00229		0.00200		mg/L		12/10/24 09:30	12/12/24 13:23	1
Boron	0.261		0.100		mg/L		12/10/24 09:30	12/12/24 13:23	1
Calcium	152		0.500		mg/L		12/10/24 09:30	12/12/24 13:23	1
Selenium	0.00644		0.00500		mg/L		12/10/24 09:30	12/12/24 13:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.117		0.100		mg/L			12/13/24 11:24	1
Sulfate (ASTM D516-16)	264		50.0		mg/L			12/10/24 15:34	10
Total Dissolved Solids (SM 2540C)	972		50.0		mg/L			12/06/24 17:28	1
Chloride (SM 4500 Cl- E)	149		20.0		mg/L			12/11/24 16:24	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			12/05/24 12:29	1



# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 13**

**Lab Sample ID: 310-296492-11**

Date Collected: 12/04/24 10:42

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00266		0.00200		mg/L		12/10/24 09:30	12/12/24 13:26	1
Boron	0.292		0.100		mg/L		12/10/24 09:30	12/12/24 13:26	1
Calcium	139		0.500		mg/L		12/10/24 09:30	12/12/24 13:26	1
Selenium	<0.00500		0.00500		mg/L		12/10/24 09:30	12/12/24 13:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.169		0.100		mg/L			12/13/24 11:27	1
Sulfate (ASTM D516-16)	226		50.0		mg/L			12/10/24 15:34	10
Total Dissolved Solids (SM 2540C)	920		50.0		mg/L			12/06/24 17:28	1
Chloride (SM 4500 Cl- E)	117		20.0		mg/L			12/11/24 16:25	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			12/05/24 12:31	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 14**

**Lab Sample ID: 310-296492-12**

Date Collected: 12/04/24 11:37

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00226		0.00200		mg/L		12/10/24 09:30	12/12/24 13:28	1
Boron	0.193		0.100		mg/L		12/10/24 09:30	12/12/24 13:28	1
Calcium	147		0.500		mg/L		12/10/24 09:30	12/12/24 13:28	1
Selenium	0.00567		0.00500		mg/L		12/10/24 09:30	12/12/24 13:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.166		0.100		mg/L			12/13/24 11:30	1
Sulfate (ASTM D516-16)	169		50.0		mg/L			12/10/24 15:35	10
Total Dissolved Solids (SM 2540C)	794		50.0		mg/L			12/06/24 17:28	1
Chloride (SM 4500 Cl- E)	115		20.0		mg/L			12/11/24 16:25	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	1.0		SU			12/05/24 12:30	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-296492-13**

Date Collected: 12/03/24 13:55

Matrix: Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00393		0.00200		mg/L		12/10/24 09:30	12/12/24 13:31	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 13:31	1
Calcium	70.6		0.500		mg/L		12/10/24 09:30	12/12/24 13:31	1
Selenium	0.00983		0.00500		mg/L		12/10/24 09:30	12/12/24 13:31	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.247		0.100		mg/L			12/13/24 11:33	1
Sulfate (ASTM D516-16)	66.7		10.0		mg/L			12/10/24 15:35	2
Total Dissolved Solids (SM 2540C)	372		50.0		mg/L			12/06/24 17:28	1
Chloride (SM 4500 Cl- E)	29.9		2.00		mg/L			12/11/24 16:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	1.0		SU			12/05/24 12:28	1

# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Method: 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 310-441684/1-A**  
**Matrix: Water**  
**Analysis Batch: 442277**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 441684**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		12/06/24 09:00	12/11/24 15:38	1
Boron	<0.100		0.100		mg/L		12/06/24 09:00	12/11/24 15:38	1
Calcium	<0.500		0.500		mg/L		12/06/24 09:00	12/11/24 15:38	1
Selenium	<0.00500		0.00500		mg/L		12/06/24 09:00	12/11/24 15:38	1

**Lab Sample ID: LCS 310-441684/2-A**  
**Matrix: Water**  
**Analysis Batch: 442277**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 441684**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.2120		mg/L		106	80 - 120
Boron	0.200	0.1894		mg/L		95	80 - 120
Calcium	2.00	1.919		mg/L		96	80 - 120
Selenium	0.400	0.3983		mg/L		100	80 - 120

**Lab Sample ID: MB 310-442005/1-A**  
**Matrix: Water**  
**Analysis Batch: 442386**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 442005**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		12/10/24 09:30	12/12/24 12:42	1
Boron	<0.100		0.100		mg/L		12/10/24 09:30	12/12/24 12:42	1
Calcium	<0.500		0.500		mg/L		12/10/24 09:30	12/12/24 12:42	1
Selenium	<0.00500		0.00500		mg/L		12/10/24 09:30	12/12/24 12:42	1

**Lab Sample ID: LCS 310-442005/2-A**  
**Matrix: Water**  
**Analysis Batch: 442386**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 442005**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.1964		mg/L		98	80 - 120
Boron	0.200	0.1819		mg/L		91	80 - 120
Calcium	2.00	1.788		mg/L		89	80 - 120
Selenium	0.400	0.3925		mg/L		98	80 - 120

**Lab Sample ID: 310-296492-5 MS**  
**Matrix: Water**  
**Analysis Batch: 442386**

**Client Sample ID: APMW 19**  
**Prep Type: Total/NA**  
**Prep Batch: 442005**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00368		0.200	0.2076		mg/L		102	75 - 125
Boron	<0.100	F1	0.200	0.2541	F1	mg/L		127	75 - 125
Calcium	68.4		2.00	69.99	4	mg/L		80	75 - 125
Selenium	0.00961		0.400	0.4087		mg/L		100	75 - 125

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-296492-5 MSD  
 Matrix: Water  
 Analysis Batch: 442386

Client Sample ID: APMW 19  
 Prep Type: Total/NA  
 Prep Batch: 442005

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Arsenic	0.00368		0.200	0.2077		mg/L		102	75 - 125	0	20
Boron	<0.100	F1	0.200	0.2559	F1	mg/L		128	75 - 125	1	20
Calcium	68.4		2.00	69.58	4	mg/L		60	75 - 125	1	20
Selenium	0.00961		0.400	0.4072		mg/L		99	75 - 125	0	20

## Method: 4500 F C-2011 - Fluoride (Ion-selective Electrode)

Lab Sample ID: MB 310-442471/17  
 Matrix: Water  
 Analysis Batch: 442471

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Fluoride	<0.100		0.100		mg/L			12/13/24 10:35	1

Lab Sample ID: LCS 310-442471/18  
 Matrix: Water  
 Analysis Batch: 442471

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Fluoride	2.00	1.993		mg/L		100	90 - 110

Lab Sample ID: 310-296492-1 MS  
 Matrix: Water  
 Analysis Batch: 442471

Client Sample ID: APMW 16A  
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Fluoride	0.345		1.00	1.220		mg/L		88	75 - 125

Lab Sample ID: 310-296492-1 MSD  
 Matrix: Water  
 Analysis Batch: 442471

Client Sample ID: APMW 16A  
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Fluoride	0.345		1.00	1.196		mg/L		85	75 - 125	2	20

## Method: D516-16 - Sulfate

Lab Sample ID: MB 310-442139/16  
 Matrix: Water  
 Analysis Batch: 442139

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	<5.00		5.00		mg/L			12/10/24 15:27	1

Lab Sample ID: LCS 310-442139/14  
 Matrix: Water  
 Analysis Batch: 442139

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Sulfate	10.0	9.944		mg/L		99	85 - 115

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# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

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

Lab Sample ID: MB 310-441708/1  
 Matrix: Water  
 Analysis Batch: 441708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			12/05/24 16:35	1

Lab Sample ID: LCS 310-441708/2  
 Matrix: Water  
 Analysis Batch: 441708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1008		mg/L		101	88 - 110

Lab Sample ID: 310-296492-1 DU  
 Matrix: Water  
 Analysis Batch: 441708

Client Sample ID: APMW 16A  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	604		604.0		mg/L		0	16

Lab Sample ID: MB 310-441856/1  
 Matrix: Water  
 Analysis Batch: 441856

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			12/06/24 17:28	1

Lab Sample ID: LCS 310-441856/2  
 Matrix: Water  
 Analysis Batch: 441856

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986.0		mg/L		99	88 - 110

Lab Sample ID: 310-296492-8 DU  
 Matrix: Water  
 Analysis Batch: 441856

Client Sample ID: APMW 10  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	280		274.0		mg/L		2	16

## Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 310-442017/16  
 Matrix: Water  
 Analysis Batch: 442017

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			12/09/24 14:09	1



# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 310-442017/14  
 Matrix: Water  
 Analysis Batch: 442017

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.67		mg/L		107	90 - 110

Lab Sample ID: MB 310-442249/16  
 Matrix: Water  
 Analysis Batch: 442249

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.00		2.00		mg/L			12/11/24 16:22	1

Lab Sample ID: LCS 310-442249/14  
 Matrix: Water  
 Analysis Batch: 442249

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.797		mg/L		98	90 - 110

Lab Sample ID: 310-296492-8 MS  
 Matrix: Water  
 Analysis Batch: 442249

Client Sample ID: APMW 10  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	23.6		10.0	31.68		mg/L		81	73 - 110

Lab Sample ID: 310-296492-8 MSD  
 Matrix: Water  
 Analysis Batch: 442249

Client Sample ID: APMW 10  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	23.6		10.0	31.86		mg/L		83	73 - 110	1	14

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-441668/1  
 Matrix: Water  
 Analysis Batch: 441668

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: LCS 310-441668/28  
 Matrix: Water  
 Analysis Batch: 441668

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-296492-2 DU

Matrix: Water

Analysis Batch: 441668

Client Sample ID: APMW 17

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.7	HF	7.7		SU		0.1	20

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

# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Metals

### Prep Batch: 441684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	3005A	
310-296492-2	APMW 17	Total/NA	Water	3005A	
310-296492-3	APMW 15	Total/NA	Water	3005A	
310-296492-4	APMW 18	Total/NA	Water	3005A	
MB 310-441684/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-441684/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Prep Batch: 442005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-5	APMW 19	Total/NA	Water	3005A	
310-296492-6	APMW 6	Total/NA	Water	3005A	
310-296492-7	APMW 8A	Total/NA	Water	3005A	
310-296492-8	APMW 10	Total/NA	Water	3005A	
310-296492-9	APMW 11	Total/NA	Water	3005A	
310-296492-10	APMW 12	Total/NA	Water	3005A	
310-296492-11	APMW 13	Total/NA	Water	3005A	
310-296492-12	APMW 14	Total/NA	Water	3005A	
310-296492-13	Duplicate	Total/NA	Water	3005A	
MB 310-442005/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-442005/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-296492-5 MS	APMW 19	Total/NA	Water	3005A	
310-296492-5 MSD	APMW 19	Total/NA	Water	3005A	

### Analysis Batch: 442277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	6020B	441684
310-296492-2	APMW 17	Total/NA	Water	6020B	441684
310-296492-3	APMW 15	Total/NA	Water	6020B	441684
310-296492-4	APMW 18	Total/NA	Water	6020B	441684
MB 310-441684/1-A	Method Blank	Total/NA	Water	6020B	441684
LCS 310-441684/2-A	Lab Control Sample	Total/NA	Water	6020B	441684

### Analysis Batch: 442386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-5	APMW 19	Total/NA	Water	6020B	442005
310-296492-6	APMW 6	Total/NA	Water	6020B	442005
310-296492-7	APMW 8A	Total/NA	Water	6020B	442005
310-296492-8	APMW 10	Total/NA	Water	6020B	442005
310-296492-9	APMW 11	Total/NA	Water	6020B	442005
310-296492-10	APMW 12	Total/NA	Water	6020B	442005
310-296492-11	APMW 13	Total/NA	Water	6020B	442005
310-296492-12	APMW 14	Total/NA	Water	6020B	442005
310-296492-13	Duplicate	Total/NA	Water	6020B	442005
MB 310-442005/1-A	Method Blank	Total/NA	Water	6020B	442005
LCS 310-442005/2-A	Lab Control Sample	Total/NA	Water	6020B	442005
310-296492-5 MS	APMW 19	Total/NA	Water	6020B	442005
310-296492-5 MSD	APMW 19	Total/NA	Water	6020B	442005

# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## General Chemistry

### Analysis Batch: 441668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	SM 4500 H+ B	
310-296492-2	APMW 17	Total/NA	Water	SM 4500 H+ B	
310-296492-3	APMW 15	Total/NA	Water	SM 4500 H+ B	
310-296492-4	APMW 18	Total/NA	Water	SM 4500 H+ B	
310-296492-5	APMW 19	Total/NA	Water	SM 4500 H+ B	
310-296492-6	APMW 6	Total/NA	Water	SM 4500 H+ B	
310-296492-7	APMW 8A	Total/NA	Water	SM 4500 H+ B	
310-296492-8	APMW 10	Total/NA	Water	SM 4500 H+ B	
310-296492-9	APMW 11	Total/NA	Water	SM 4500 H+ B	
310-296492-10	APMW 12	Total/NA	Water	SM 4500 H+ B	
310-296492-11	APMW 13	Total/NA	Water	SM 4500 H+ B	
310-296492-12	APMW 14	Total/NA	Water	SM 4500 H+ B	
310-296492-13	Duplicate	Total/NA	Water	SM 4500 H+ B	
LCS 310-441668/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-441668/28	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-296492-2 DU	APMW 17	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 441708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	SM 2540C	
310-296492-2	APMW 17	Total/NA	Water	SM 2540C	
310-296492-3	APMW 15	Total/NA	Water	SM 2540C	
310-296492-4	APMW 18	Total/NA	Water	SM 2540C	
310-296492-5	APMW 19	Total/NA	Water	SM 2540C	
310-296492-6	APMW 6	Total/NA	Water	SM 2540C	
310-296492-7	APMW 8A	Total/NA	Water	SM 2540C	
MB 310-441708/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-441708/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-296492-1 DU	APMW 16A	Total/NA	Water	SM 2540C	

### Analysis Batch: 441856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-8	APMW 10	Total/NA	Water	SM 2540C	
310-296492-9	APMW 11	Total/NA	Water	SM 2540C	
310-296492-10	APMW 12	Total/NA	Water	SM 2540C	
310-296492-11	APMW 13	Total/NA	Water	SM 2540C	
310-296492-12	APMW 14	Total/NA	Water	SM 2540C	
310-296492-13	Duplicate	Total/NA	Water	SM 2540C	
MB 310-441856/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-441856/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-296492-8 DU	APMW 10	Total/NA	Water	SM 2540C	

### Analysis Batch: 442017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	SM 4500 Cl- E	
310-296492-2	APMW 17	Total/NA	Water	SM 4500 Cl- E	
310-296492-3	APMW 15	Total/NA	Water	SM 4500 Cl- E	
310-296492-4	APMW 18	Total/NA	Water	SM 4500 Cl- E	
310-296492-5	APMW 19	Total/NA	Water	SM 4500 Cl- E	
310-296492-6	APMW 6	Total/NA	Water	SM 4500 Cl- E	
310-296492-7	APMW 8A	Total/NA	Water	SM 4500 Cl- E	

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# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## General Chemistry (Continued)

### Analysis Batch: 442017 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-442017/16	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 310-442017/14	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

### Analysis Batch: 442139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	D516-16	
310-296492-2	APMW 17	Total/NA	Water	D516-16	
310-296492-3	APMW 15	Total/NA	Water	D516-16	
310-296492-4	APMW 18	Total/NA	Water	D516-16	
310-296492-5	APMW 19	Total/NA	Water	D516-16	
310-296492-6	APMW 6	Total/NA	Water	D516-16	
310-296492-7	APMW 8A	Total/NA	Water	D516-16	
310-296492-8	APMW 10	Total/NA	Water	D516-16	
310-296492-9	APMW 11	Total/NA	Water	D516-16	
310-296492-10	APMW 12	Total/NA	Water	D516-16	
310-296492-11	APMW 13	Total/NA	Water	D516-16	
310-296492-12	APMW 14	Total/NA	Water	D516-16	
310-296492-13	Duplicate	Total/NA	Water	D516-16	
MB 310-442139/16	Method Blank	Total/NA	Water	D516-16	
LCS 310-442139/14	Lab Control Sample	Total/NA	Water	D516-16	

### Analysis Batch: 442249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-8	APMW 10	Total/NA	Water	SM 4500 Cl- E	
310-296492-9	APMW 11	Total/NA	Water	SM 4500 Cl- E	
310-296492-10	APMW 12	Total/NA	Water	SM 4500 Cl- E	
310-296492-11	APMW 13	Total/NA	Water	SM 4500 Cl- E	
310-296492-12	APMW 14	Total/NA	Water	SM 4500 Cl- E	
310-296492-13	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 310-442249/16	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 310-442249/14	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
310-296492-8 MS	APMW 10	Total/NA	Water	SM 4500 Cl- E	
310-296492-8 MSD	APMW 10	Total/NA	Water	SM 4500 Cl- E	

### Analysis Batch: 442471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1	APMW 16A	Total/NA	Water	4500 F C-2011	
310-296492-2	APMW 17	Total/NA	Water	4500 F C-2011	
310-296492-3	APMW 15	Total/NA	Water	4500 F C-2011	
310-296492-4	APMW 18	Total/NA	Water	4500 F C-2011	
310-296492-5	APMW 19	Total/NA	Water	4500 F C-2011	
310-296492-6	APMW 6	Total/NA	Water	4500 F C-2011	
310-296492-7	APMW 8A	Total/NA	Water	4500 F C-2011	
310-296492-8	APMW 10	Total/NA	Water	4500 F C-2011	
310-296492-9	APMW 11	Total/NA	Water	4500 F C-2011	
310-296492-10	APMW 12	Total/NA	Water	4500 F C-2011	
310-296492-11	APMW 13	Total/NA	Water	4500 F C-2011	
310-296492-12	APMW 14	Total/NA	Water	4500 F C-2011	
310-296492-13	Duplicate	Total/NA	Water	4500 F C-2011	
MB 310-442471/17	Method Blank	Total/NA	Water	4500 F C-2011	
LCS 310-442471/18	Lab Control Sample	Total/NA	Water	4500 F C-2011	

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# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## General Chemistry (Continued)

### Analysis Batch: 442471 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296492-1 MS	APMW 16A	Total/NA	Water	4500 F C-2011	
310-296492-1 MSD	APMW 16A	Total/NA	Water	4500 F C-2011	

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# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 16A**

**Lab Sample ID: 310-296492-1**

Date Collected: 12/03/24 10:37

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			441684	F5MW	EET CF	12/06/24 09:00
Total/NA	Analysis	6020B		1	442277	NFT2	EET CF	12/11/24 16:48
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 10:42
Total/NA	Analysis	D516-16		5	442139	ENB7	EET CF	12/10/24 15:29
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 Cl- E		1	442017	ENB7	EET CF	12/09/24 14:12
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:27

**Client Sample ID: APMW 17**

**Lab Sample ID: 310-296492-2**

Date Collected: 12/03/24 11:32

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			441684	F5MW	EET CF	12/06/24 09:00
Total/NA	Analysis	6020B		1	442277	NFT2	EET CF	12/11/24 16:50
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 10:51
Total/NA	Analysis	D516-16		5	442139	ENB7	EET CF	12/10/24 15:29
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 Cl- E		1	442017	ENB7	EET CF	12/09/24 14:12
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:24

**Client Sample ID: APMW 15**

**Lab Sample ID: 310-296492-3**

Date Collected: 12/03/24 12:05

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			441684	F5MW	EET CF	12/06/24 09:00
Total/NA	Analysis	6020B		1	442277	NFT2	EET CF	12/11/24 16:52
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 10:55
Total/NA	Analysis	D516-16		5	442139	ENB7	EET CF	12/10/24 15:30
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 Cl- E		1	442017	ENB7	EET CF	12/09/24 14:14
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:18

**Client Sample ID: APMW 18**

**Lab Sample ID: 310-296492-4**

Date Collected: 12/03/24 12:52

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			441684	F5MW	EET CF	12/06/24 09:00
Total/NA	Analysis	6020B		1	442277	NFT2	EET CF	12/11/24 16:55
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 10:58
Total/NA	Analysis	D516-16		2	442139	ENB7	EET CF	12/10/24 15:30

# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Client Sample ID: APMW 18

Lab Sample ID: 310-296492-4

Date Collected: 12/03/24 12:52

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 CI- E		10	442017	ENB7	EET CF	12/09/24 14:14
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:26

## Client Sample ID: APMW 19

Lab Sample ID: 310-296492-5

Date Collected: 12/03/24 13:47

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 12:48
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:08
Total/NA	Analysis	D516-16		5	442139	ENB7	EET CF	12/10/24 15:32
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 CI- E		1	442017	ENB7	EET CF	12/09/24 14:15
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:20

## Client Sample ID: APMW 6

Lab Sample ID: 310-296492-6

Date Collected: 12/03/24 15:02

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:11
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:11
Total/NA	Analysis	D516-16		1	442139	ENB7	EET CF	12/10/24 15:32
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 CI- E		1	442017	ENB7	EET CF	12/09/24 14:15
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:17

## Client Sample ID: APMW 8A

Lab Sample ID: 310-296492-7

Date Collected: 12/03/24 16:02

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:14
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:14
Total/NA	Analysis	D516-16		5	442139	ENB7	EET CF	12/10/24 15:33
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 CI- E		2	442017	ENB7	EET CF	12/09/24 14:15
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:16



# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 10**

**Lab Sample ID: 310-296492-8**

Date Collected: 12/03/24 16:52

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:17
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:17
Total/NA	Analysis	D516-16		2	442139	ENB7	EET CF	12/10/24 15:33
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 Cl- E		1	442249	ENB7	EET CF	12/11/24 16:23
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:21

**Client Sample ID: APMW 11**

**Lab Sample ID: 310-296492-9**

Date Collected: 12/03/24 17:37

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:20
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:20
Total/NA	Analysis	D516-16		2	442139	ENB7	EET CF	12/10/24 15:33
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 Cl- E		1	442249	ENB7	EET CF	12/11/24 16:24
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:19

**Client Sample ID: APMW 12**

**Lab Sample ID: 310-296492-10**

Date Collected: 12/04/24 09:42

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:23
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:24
Total/NA	Analysis	D516-16		10	442139	ENB7	EET CF	12/10/24 15:34
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 Cl- E		10	442249	ENB7	EET CF	12/11/24 16:24
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:29

**Client Sample ID: APMW 13**

**Lab Sample ID: 310-296492-11**

Date Collected: 12/04/24 10:42

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:26
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:27
Total/NA	Analysis	D516-16		10	442139	ENB7	EET CF	12/10/24 15:34

# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

**Client Sample ID: APMW 13**

**Lab Sample ID: 310-296492-11**

Date Collected: 12/04/24 10:42

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 CI- E		10	442249	ENB7	EET CF	12/11/24 16:25
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:31

**Client Sample ID: APMW 14**

**Lab Sample ID: 310-296492-12**

Date Collected: 12/04/24 11:37

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:28
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:30
Total/NA	Analysis	D516-16		10	442139	ENB7	EET CF	12/10/24 15:35
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 CI- E		10	442249	ENB7	EET CF	12/11/24 16:25
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:30

**Client Sample ID: Duplicate**

**Lab Sample ID: 310-296492-13**

Date Collected: 12/03/24 13:55

Matrix: Water

Date Received: 12/05/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			442005	F5MW	EET CF	12/10/24 09:30
Total/NA	Analysis	6020B		1	442386	NFT2	EET CF	12/12/24 13:31
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:33
Total/NA	Analysis	D516-16		2	442139	ENB7	EET CF	12/10/24 15:35
Total/NA	Analysis	SM 2540C		1	441856	XJ7V	EET CF	12/06/24 17:28
Total/NA	Analysis	SM 4500 CI- E		1	442249	ENB7	EET CF	12/11/24 16:27
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:28

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

# Accreditation/Certification Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	09-29-25

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

# Method Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Detection Monitoring

Job ID: 310-296492-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
D516-16	Sulfate	ASTM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 Cl- E	Chloride, Total	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

**Protocol References:**

ASTM = ASTM International

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment-Testing  
America



310-296492 Chain of Custody

1  
2  
3  
4  
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14

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Nebraska Public Power</u>			
City/State:	<u>Sutherland</u> <small>CITY</small>	<u>NE</u> <small>STATE</small>	Project:
<b>Receipt Information</b>			
Date/Time Received:	<u>12-5-24</u> <small>DATE</small>	<u>9:00</u> <small>TIME</small>	Received By: <u>PH</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>5.9</u>		Corrected Temp (°C): <u>5.9</u>	
• <b>Sample Container Temperature</b>			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



Environment Testing  
America

Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Nebraska Public Power</u>			
City/State:	<u>Sutherland</u>	STATE: <u>NE</u>	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE: <u>12-5-24</u>	TIME: <u>9:00</u>	Received By: <u>PH</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If yes: Cooler # <u>2</u> of <u>2</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If yes: Which VOA samples are in cooler? ↓			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>4.4</u>		Corrected Temp (°C): <u>4.4</u>	
• <b>Sample Container Temperature</b>			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



# Chain of Custody Record

<b>Client Information</b>		Sampler: <u>Doug Harris</u>		Lab PM: <u>Calhoun, Conner M</u>		Carrier Tracking No(s): <u>310-98036-26680 1</u>	
Client Contact: <u>Doug Harris</u>		Phone: <u>308-530-1124</u>		E-Mail: <u>Conner.Calhoun@et.eurofins.com</u>		Page: <u>Page 1 of 2</u>	
Company: <u>Nebraska Public Power District</u>		PWSID: _____		State of Origin: _____		Job #: _____	
Address: <u>6089 S Hwy 25 Gerald Gentleman Station South</u>		Due Date Requested: _____		Analysis Requested: _____		Preservation Codes: <u>D HNO3</u> <u>N - None</u>	
City: <u>Sutherland</u>		TAT Requested (days): _____		Field Filtered Sample (Yes or No): <u>X</u>		Other: _____	
State: <u>NE</u>		Compliance Project: <u>Δ Yes Δ No</u>		Matrix: <u>Water</u>		Total Number of Containers: <u>X</u>	
Zip: <u>69165</u>		PO #: <u>4500266733</u>		Sample Type (C=Comp, G=grab): <u>G</u>		Special Instructions/Note: _____	
Phone: <u>308-530-1124(Tel)</u>		WO #: _____		Sample Time: <u>1037</u>		Special Instructions/Note: _____	
Email: <u>ddharr@nppd.com</u>		Project #: <u>31007155</u>		Sample Date: <u>12-3-24</u>		Special Instructions/Note: _____	
Project Name: <u>GGG Ash Pit Detection Monitoring</u>		SSOW#: _____		Sample Date: <u>12-3-24</u>		Special Instructions/Note: _____	
Site: <u>Gerald Gentleman Station</u>		Sample Date: <u>12-3-24</u>		Sample Date: <u>12-3-24</u>		Special Instructions/Note: _____	
Sample Identification		Sample Date		Sample Time		Sample Type	
APMW 16A		12-3-24	1037	G	Water	X	
APMW 17		12-3-24	1132	G	Water	X	
APMW 15		12-3-24	1205	G	Water	X	
APMW 5		12-3-24	1252	G	Water	X	
APMW 18		12-3-24	1347	G	Water	X	
APMW 19		12-3-24	1502	G	Water	X	
APMW 4		12-3-24	1602	G	Water	X	
APMW 6		12-3-24	1652	G	Water	X	
APMW 8A		12-3-24	1737	G	Water	X	
APMW 10		12-3-24					
APMW 11		12-3-24					
<b>Possible Hazard Identification</b>		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant	
Deliverable Requested I II III IV Other (specify)		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological	
Empty Kit Relinquished by: _____		Date: _____		Time: _____		Method of Shipment: _____	
Relinquished by: <u>Doug Harris</u>		Date/Time: <u>12-4-24 12:30</u>		Company: <u>NPPD</u>		Received by: <u>WA</u>	
Relinquished by: _____		Date/Time: _____		Company: _____		Received by: _____	
Relinquished by: _____		Date/Time: _____		Company: _____		Received by: _____	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No: _____		Cooler Temperature(s) °C and Other Remarks: _____		Special Instructions/QC Requirements: _____	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For _____ Months	







## Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-296492-1

**Login Number: 296492**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Hirsch, Preston**

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





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Doug Harris  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

Generated 1/15/2025 10:31:03 AM Revision 2

## JOB DESCRIPTION

GGs Ash Pit Assessment Monitoring  
NPPD Gerald Gentleman Station CCR

## JOB NUMBER

310-296505-1

# Eurofins Cedar Falls

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Authorized for release by  
Conner Calhoun, Client Service Manager  
[Conner.Calhoun@et.eurofinsus.com](mailto:Conner.Calhoun@et.eurofinsus.com)  
(319)277-2401

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1/15/2025 10:31:03 AM  
Revision 2



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# Case Narrative

Client: Nebraska Public Power District  
Project: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

**Job ID: 310-296505-1**

**Eurofins Cedar Falls**

## Job Narrative 310-296505-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 12/5/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

# Case Narrative

Client: Nebraska Public Power District  
Project: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

**Job ID: 310-296505-2**

**Eurofins Cedar Falls**

## Job Narrative 310-296505-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 12/5/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

### Gas Flow Proportional Counter

Method 9315\_Ra226: Radium-226 prep batch 160-692618

Insufficient sample volume was available to perform a sample duplicate for the following samples: CCR APMW 11 (310-296505-1) and CCR Duplicate (310-296505-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method 9320\_Ra228: Radium-228 prep batch 160-692619

Insufficient sample volume was available to perform a sample duplicate for the following samples: CCR APMW 11 (310-296505-1) and CCR Duplicate (310-296505-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

### Rad

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

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# Case Narrative

Client: Nebraska Public Power District  
Project: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

**Job ID: 310-296505-3**

**Eurofins Cedar Falls**

## Job Narrative 310-296505-3

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 12/5/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

### Metals

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

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# Sample Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-296505-1	CCR APMW 11	Ground Water	12/03/24 17:44	12/05/24 09:00
310-296505-2	CCR Duplicate	Ground Water	12/03/24 18:00	12/05/24 09:00

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# Detection Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Client Sample ID: CCR APMW 11

## Lab Sample ID: 310-296505-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.210		0.00200		mg/L	1		6020B	Total/NA
Lithium	0.0152		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00250		0.00200		mg/L	1		6020B	Total/NA
Selenium	0.0171		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.287		0.100		mg/L	1		4500 F C-2011	Total/NA
Total Dissolved Solids	420		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: CCR Duplicate

## Lab Sample ID: 310-296505-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.211		0.00200		mg/L	1		6020B	Total/NA
Lithium	0.0145		0.0100		mg/L	1		6020B	Total/NA
Molybdenum	0.00227		0.00200		mg/L	1		6020B	Total/NA
Selenium	0.0177		0.00500		mg/L	1		6020B	Total/NA
Fluoride	0.279		0.100		mg/L	1		4500 F C-2011	Total/NA
Total Dissolved Solids	382		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

**Client Sample ID: CCR APMW 11**

**Lab Sample ID: 310-296505-1**

Date Collected: 12/03/24 17:44

Matrix: Ground Water

Date Received: 12/05/24 09:00

**Method: SW846 6020B - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 16:10	1
Arsenic	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 16:10	1
<b>Barium</b>	<b>0.210</b>		0.00200		mg/L		01/14/25 09:00	01/14/25 16:10	1
Beryllium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 16:10	1
Cadmium	<0.000200		0.000200		mg/L		01/14/25 09:00	01/14/25 16:10	1
Chromium	<0.00500		0.00500		mg/L		01/14/25 09:00	01/14/25 16:10	1
Cobalt	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 16:10	1
Lead	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 16:10	1
<b>Lithium</b>	<b>0.0152</b>		0.0100		mg/L		01/14/25 09:00	01/14/25 16:10	1
<b>Molybdenum</b>	<b>0.00250</b>		0.00200		mg/L		01/14/25 09:00	01/14/25 16:10	1
<b>Selenium</b>	<b>0.0171</b>		0.00500		mg/L		01/14/25 09:00	01/14/25 16:10	1
Thallium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 16:10	1

**Method: SW846 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		12/16/24 10:30	12/16/24 17:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoride (SM 4500 F C-2011)</b>	<b>0.287</b>		0.100		mg/L			12/11/24 16:13	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>420</b>		50.0		mg/L			12/05/24 16:35	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.8</b>	<b>HF</b>	1.0		SU			12/05/24 12:32	1

**Method: SW846 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.174</b>		0.115	0.116	1.00	0.159	pCi/L	12/09/24 09:23	01/04/25 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		30 - 110					12/09/24 09:23	01/04/25 12:59	1

**Method: SW846 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.373	0.374	1.00	0.660	pCi/L	12/09/24 09:28	12/30/24 13:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		30 - 110					12/09/24 09:28	12/30/24 13:55	1
Y Carrier	86.0		30 - 110					12/09/24 09:28	12/30/24 13:55	1

**Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.325	U	0.390	0.392	5.00	0.660	pCi/L		01/08/25 09:24	1

# Client Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Client Sample ID: CCR Duplicate

## Lab Sample ID: 310-296505-2

Date Collected: 12/03/24 18:00

Matrix: Ground Water

Date Received: 12/05/24 09:00

### Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 16:13	1
Arsenic	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 16:13	1
<b>Barium</b>	<b>0.211</b>		0.00200		mg/L		01/14/25 09:00	01/14/25 16:13	1
Beryllium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 16:13	1
Cadmium	<0.000200		0.000200		mg/L		01/14/25 09:00	01/14/25 16:13	1
Chromium	<0.00500		0.00500		mg/L		01/14/25 09:00	01/14/25 16:13	1
Cobalt	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 16:13	1
Lead	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 16:13	1
<b>Lithium</b>	<b>0.0145</b>		0.0100		mg/L		01/14/25 09:00	01/14/25 16:13	1
<b>Molybdenum</b>	<b>0.00227</b>		0.00200		mg/L		01/14/25 09:00	01/14/25 16:13	1
<b>Selenium</b>	<b>0.0177</b>		0.00500		mg/L		01/14/25 09:00	01/14/25 16:13	1
Thallium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 16:13	1

### Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		12/16/24 10:30	12/16/24 17:16	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoride (SM 4500 F C-2011)</b>	<b>0.279</b>		0.100		mg/L			12/13/24 11:37	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>382</b>		50.0		mg/L			12/05/24 16:35	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.7</b>	<b>HF</b>	1.0		SU			12/05/24 12:33	1

### Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
<b>Radium-226</b>	<b>0.179</b>		0.108	0.109	1.00	0.141	pCi/L	12/09/24 09:23	01/04/25 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.0		30 - 110					12/09/24 09:23	01/04/25 12:59	1

### Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.504	U	0.435	0.438	1.00	0.681	pCi/L	12/09/24 09:28	12/30/24 13:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.0		30 - 110					12/09/24 09:28	12/30/24 13:55	1
Y Carrier	85.2		30 - 110					12/09/24 09:28	12/30/24 13:55	1

### Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
<b>Combined Radium 226 + 228</b>	<b>0.683</b>		0.448	0.451	5.00	0.681	pCi/L		01/08/25 09:24	1

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# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Method: 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 310-444522/1-A**  
**Matrix: Water**  
**Analysis Batch: 444671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 444522**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 15:41	1
Arsenic	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 15:41	1
Barium	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 15:41	1
Beryllium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 15:41	1
Cadmium	<0.000200		0.000200		mg/L		01/14/25 09:00	01/14/25 15:41	1
Chromium	<0.00500		0.00500		mg/L		01/14/25 09:00	01/14/25 15:41	1
Cobalt	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 15:41	1
Lead	<0.000500		0.000500		mg/L		01/14/25 09:00	01/14/25 15:41	1
Lithium	<0.0100		0.0100		mg/L		01/14/25 09:00	01/14/25 15:41	1
Molybdenum	<0.00200		0.00200		mg/L		01/14/25 09:00	01/14/25 15:41	1
Selenium	<0.00500		0.00500		mg/L		01/14/25 09:00	01/14/25 15:41	1
Thallium	<0.00100		0.00100		mg/L		01/14/25 09:00	01/14/25 15:41	1

**Lab Sample ID: LCS 310-444522/2-A**  
**Matrix: Water**  
**Analysis Batch: 444671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 444522**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2066		mg/L		103	80 - 120
Arsenic	0.200	0.1974		mg/L		99	80 - 120
Barium	0.100	0.1060		mg/L		106	80 - 120
Beryllium	0.100	0.1002		mg/L		100	80 - 120
Cadmium	0.100	0.1012		mg/L		101	80 - 120
Chromium	0.100	0.1044		mg/L		104	80 - 120
Cobalt	0.100	0.09677		mg/L		97	80 - 120
Lead	0.200	0.2050		mg/L		102	80 - 120
Lithium	0.200	0.1895		mg/L		95	80 - 120
Molybdenum	0.200	0.1993		mg/L		100	80 - 120
Selenium	0.400	0.3804		mg/L		95	80 - 120
Thallium	0.100	0.09368		mg/L		94	80 - 120

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 310-442497/1-A**  
**Matrix: Water**  
**Analysis Batch: 442626**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 442497**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		12/16/24 10:30	12/16/24 16:21	1

**Lab Sample ID: LCS 310-442497/2-A**  
**Matrix: Water**  
**Analysis Batch: 442626**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 442497**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001481		mg/L		89	80 - 120

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# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Method: 4500 F C-2011 - Fluoride (Ion-selective Electrode)

Lab Sample ID: MB 310-442273/28  
 Matrix: Water  
 Analysis Batch: 442273

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			12/11/24 15:14	1

Lab Sample ID: LCS 310-442273/29  
 Matrix: Water  
 Analysis Batch: 442273

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	2.043		mg/L		102	90 - 110

Lab Sample ID: MB 310-442471/17  
 Matrix: Water  
 Analysis Batch: 442471

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			12/13/24 10:35	1

Lab Sample ID: LCS 310-442471/18  
 Matrix: Water  
 Analysis Batch: 442471

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.00	1.993		mg/L		100	90 - 110

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

Lab Sample ID: MB 310-441708/1  
 Matrix: Water  
 Analysis Batch: 441708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			12/05/24 16:35	1

Lab Sample ID: LCS 310-441708/2  
 Matrix: Water  
 Analysis Batch: 441708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1008		mg/L		101	88 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-441668/28  
 Matrix: Water  
 Analysis Batch: 441668

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

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# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-692618/1-A**  
**Matrix: Water**  
**Analysis Batch: 696788**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 692618**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.0000	U	0.0552	0.0552	1.00	0.117	pCi/L	12/09/24 09:23	01/04/25 12:47	1
Carrier	MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	94.2		30 - 110			12/09/24 09:23	01/04/25 12:47	1		

**Lab Sample ID: LCS 160-692618/2-A**  
**Matrix: Water**  
**Analysis Batch: 696788**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 692618**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	9.58	9.002		0.990	1.00	0.130	pCi/L	94	75 - 125
Carrier	LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	92.5		30 - 110						

**Lab Sample ID: LCSD 160-692618/3-A**  
**Matrix: Water**  
**Analysis Batch: 696788**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 692618**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	9.58	8.813		0.979	1.00	0.171	pCi/L	92	75 - 125	0.1	1
Carrier	LCSD		Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	90.5		30 - 110								

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-692619/1-A**  
**Matrix: Water**  
**Analysis Batch: 695868**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 692619**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.02737	U	0.265	0.265	1.00	0.491	pCi/L	12/09/24 09:28	12/30/24 11:55	1
Carrier	MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	94.2		30 - 110			12/09/24 09:28	12/30/24 11:55	1		
Y Carrier	83.7		30 - 110			12/09/24 09:28	12/30/24 11:55	1		

# QC Sample Results

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-692619/2-A**  
**Matrix: Water**  
**Analysis Batch: 695868**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 692619**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-228	8.22	9.542		1.30	1.00	0.574	pCi/L	116	75 - 125	
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	92.5		30 - 110							
Y Carrier	82.2		30 - 110							

**Lab Sample ID: LCSD 160-692619/3-A**  
**Matrix: Water**  
**Analysis Batch: 695868**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 692619**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		RER	RER Limit
Radium-228	8.22	8.466		1.19	1.00	0.514	pCi/L	103	75 - 125	0.43	1	
<b>LCSD LCSD</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	90.5		30 - 110									
Y Carrier	83.7		30 - 110									



# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Metals

### Prep Batch: 442497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	7470A	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	7470A	
MB 310-442497/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-442497/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 442626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	7470A	442497
310-296505-2	CCR Duplicate	Total/NA	Ground Water	7470A	442497
MB 310-442497/1-A	Method Blank	Total/NA	Water	7470A	442497
LCS 310-442497/2-A	Lab Control Sample	Total/NA	Water	7470A	442497

### Prep Batch: 444522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	3005A	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	3005A	
MB 310-444522/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-444522/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Analysis Batch: 444671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	6020B	444522
310-296505-2	CCR Duplicate	Total/NA	Ground Water	6020B	444522
MB 310-444522/1-A	Method Blank	Total/NA	Water	6020B	444522
LCS 310-444522/2-A	Lab Control Sample	Total/NA	Water	6020B	444522

## General Chemistry

### Analysis Batch: 441668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	SM 4500 H+ B	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	SM 4500 H+ B	
LCS 310-441668/28	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 441708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	SM 2540C	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	SM 2540C	
MB 310-441708/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-441708/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 442273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	4500 F C-2011	
MB 310-442273/28	Method Blank	Total/NA	Water	4500 F C-2011	
LCS 310-442273/29	Lab Control Sample	Total/NA	Water	4500 F C-2011	

### Analysis Batch: 442471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-2	CCR Duplicate	Total/NA	Ground Water	4500 F C-2011	
MB 310-442471/17	Method Blank	Total/NA	Water	4500 F C-2011	

Eurofins Cedar Falls

# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## General Chemistry (Continued)

### Analysis Batch: 442471 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-442471/18	Lab Control Sample	Total/NA	Water	4500 F C-2011	

## Rad

### Prep Batch: 692618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	PrecSep-21	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	PrecSep-21	
MB 160-692618/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-692618/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-692618/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 692619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-296505-1	CCR APMW 11	Total/NA	Ground Water	PrecSep_0	
310-296505-2	CCR Duplicate	Total/NA	Ground Water	PrecSep_0	
MB 160-692619/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-692619/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-692619/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

**Client Sample ID: CCR APMW 11**

**Lab Sample ID: 310-296505-1**

**Date Collected: 12/03/24 17:44**

**Matrix: Ground Water**

**Date Received: 12/05/24 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			444522	F5MW	EET CF	01/14/25 09:00
Total/NA	Analysis	6020B		1	444671	NFT2	EET CF	01/14/25 16:10
Total/NA	Prep	7470A			442497	QTZ5	EET CF	12/16/24 10:30
Total/NA	Analysis	7470A		1	442626	QTZ5	EET CF	12/16/24 17:14
Total/NA	Analysis	4500 F C-2011		1	442273	WZC8	EET CF	12/11/24 16:13
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:32
Total/NA	Prep	PrecSep-21			692618	BCE	EET SL	12/09/24 09:23
Total/NA	Analysis	9315		1	696789	FLC	EET SL	01/04/25 12:59
Total/NA	Prep	PrecSep_0			692619	BCE	EET SL	12/09/24 09:28
Total/NA	Analysis	9320		1	695719	CMM	EET SL	12/30/24 13:55
Total/NA	Analysis	Ra226_Ra228		1	697191	SCB	EET SL	01/08/25 09:24

**Client Sample ID: CCR Duplicate**

**Lab Sample ID: 310-296505-2**

**Date Collected: 12/03/24 18:00**

**Matrix: Ground Water**

**Date Received: 12/05/24 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			444522	F5MW	EET CF	01/14/25 09:00
Total/NA	Analysis	6020B		1	444671	NFT2	EET CF	01/14/25 16:13
Total/NA	Prep	7470A			442497	QTZ5	EET CF	12/16/24 10:30
Total/NA	Analysis	7470A		1	442626	QTZ5	EET CF	12/16/24 17:16
Total/NA	Analysis	4500 F C-2011		1	442471	WZC8	EET CF	12/13/24 11:37
Total/NA	Analysis	SM 2540C		1	441708	XJ7V	EET CF	12/05/24 16:35
Total/NA	Analysis	SM 4500 H+ B		1	441668	W9YR	EET CF	12/05/24 12:33
Total/NA	Prep	PrecSep-21			692618	BCE	EET SL	12/09/24 09:23
Total/NA	Analysis	9315		1	696789	FLC	EET SL	01/04/25 12:59
Total/NA	Prep	PrecSep_0			692619	BCE	EET SL	12/09/24 09:28
Total/NA	Analysis	9320		1	695719	CMM	EET SL	12/30/24 13:55
Total/NA	Analysis	Ra226_Ra228		1	697191	SCB	EET SL	01/08/25 09:24

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Nebraska Public Power District  
 Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	IA100001	09-29-25

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-24 *
Oklahoma	NELAP	9997	12-31-24 *
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

# Method Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

## Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

## Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Environment Testing  
America



310-296505 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Nebraska PPD</u>			
City/State:	CITY	STATE	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE <u>12/5/24</u>	TIME <u>700</u>	Received By: <u>AS</u>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>2</u>	Correction Factor (°C):	<u>0</u>
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>0.1</u>	Corrected Temp (°C):	<u>0.1</u>
• <b>Sample Container Temperature</b>			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			





# Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-296505-1

**Login Number: 296505**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Hirsch, Preston**

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.



# Tracer/Carrier Summary

Client: Nebraska Public Power District  
Project/Site: GGS Ash Pit Assessment Monitoring

Job ID: 310-296505-1

## Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)							
310-296505-1	CCR APMW 11	88.5							
310-296505-2	CCR Duplicate	83.0							

#### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)							
LCS 160-692618/2-A	Lab Control Sample	92.5							
LCSD 160-692618/3-A	Lab Control Sample Dup	90.5							
MB 160-692618/1-A	Method Blank	94.2							

#### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)						
310-296505-1	CCR APMW 11	88.5	86.0						
310-296505-2	CCR Duplicate	83.0	85.2						

#### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

## Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)						
LCS 160-692619/2-A	Lab Control Sample	92.5	82.2						
LCSD 160-692619/3-A	Lab Control Sample Dup	90.5	83.7						
MB 160-692619/1-A	Method Blank	94.2	83.7						

#### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

**APPENDIX B**

# Comparative Statistical Results

**Table 1: Comparative Statistics - APMW-5 (Upgradient)**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	***	--	--
Calcium, Total	mg/L	CUSUM	120.2	47.8	71.5	Yes	***	--	--
Chloride	mg/L	CUSUM	108.1	8.7	35.7	Yes	***	--	--
Fluoride	mg/L	CUSUM	1.785	< 1.00	0.787	Yes	***	--	--
pH, Field	pH units	NP-PL	7.23, 9.71	*	--	--	***	--	--
Sulfate	mg/L	CUSUM	76.9	31.4	42.1	Yes	***	--	--
Total Dissolved Solids	mg/L	CUSUM	653	238	385.8	Yes	***	--	--

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

\* Field parameters were unable to be collected during sampling of APMW-5 during the Q2 2024 sampling event. See text for further discussion.

\*\*\* APMW-5 was dry during the Q4 2024 sampling event. See text for details.

**Table 2: Comparative Statistics - APMW-15 (Upgradient)**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	0.118	--	Yes	0.102	--	Yes
Calcium, Total	mg/L	CUSUM	145.0	99.7	105.8	Yes	105.0	106	Yes
Chloride	mg/L	CUSUM	40.4	20.1	34.0	Yes	29.1	34.0	Yes
Fluoride	mg/L	NP-PL	0.716	< 1.000	--	Yes *	0.278	--	Yes
pH, Field	pH units	CUSUM	6.24, 8.15	7.23	7.20, 7.35	Yes	7.52	7.20, 7.43	Yes
Sulfate <sup>1</sup>	mg/L	CUSUM	209	113	138	Yes	141	138	Yes
Total Dissolved Solids	mg/L	CUSUM	853	478	585	Yes	564	585	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

\* See text for discussion of non-detects greater than the statistical



**Table 3: Comparative Statistics - APMW-16A (Upgradient)**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	0.128	--	Yes	0.13	--	Yes
Calcium, Total <sup>1</sup>	mg/L	CUSUM	199.3	106	133.6	Yes	113.0	133.5	Yes
Chloride <sup>1</sup>	mg/L	CUSUM	126.2	29.6	56.4	Yes	30.6	56.2	Yes
Fluoride	mg/L	NP-PL	1.490	< 1.000	--	Yes	0.345	--	Yes
pH, Field	pH units	CUSUM	6.08, 8.00	7.03	7.04, 7.04	Yes	7.11	7.04, 7.04	Yes
Sulfate <sup>1</sup>	mg/L	CUSUM	278	161	194	Yes	160	193	Yes
Total Dissolved Solids <sup>1</sup>	mg/L	CUSUM	1046	576	715	Yes	604	714	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

1. Seasonality was detected in the baseline period. Statistical limits may vary slightly between monitoring events due to deseasonalization of the data or if seasonality is not identified in the full data set (i.e. the baseline period and any comparative points).

**Table 4: Comparative Statistics - APMW-17 (Upgradient)**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	184	119	140	Yes	117	140	Yes
Chloride	mg/L	CUSUM	59.0	29.4	42.5	Yes	33.5	42.5	Yes
Fluoride	mg/L	NP-PL	1.070	< 1.00	--	Yes	0.22	--	Yes
pH, Field	pH units	CUSUM	5.99, 7.88	7.07	7.12, 7.31	Yes	7.14	7.12, 7.12	Yes
Sulfate	mg/L	CUSUM	225	132	142	Yes	131	142	Yes
Total Dissolved Solids	mg/L	CUSUM	927	494	589	Yes	514	589	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 5: Comparative Statistics - APMW-4**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	***	--	--
Calcium, Total	mg/L	CUSUM	64.3	51.5	55.1	Yes	***	--	--
Chloride	mg/L	CUSUM	51.4	42.5	41.3	Yes	***	--	--
Fluoride	mg/L	NP-PL	0.569	< 1.000	--	Yes **	***	--	--
pH, Field	pH units	CUSUM	6.21, 9.02	7.68	7.60, 7.70	Yes	***	--	--
Sulfate	mg/L	CUSUM	40.5	26.6	28.0	Yes	***	--	--
Total Dissolved Solids	mg/L	CUSUM	428	246	306	Yes	***	--	--

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

\* Two sets of results were collected for fluoride for the CCR and Nebraska-specific sampling programs. Statistical analysis has

\*\* See text for discussion of non-detects greater than the statistical limit and changes to the reporting limit for Fluoride.

\*\*\* APMW-4 was dry during the Q4 2024 sampling event. See text for details.



**Table 6: Comparative Statistics - APMW-6**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	65.7	54.8	52.428	Yes	50.8	52.4	Yes
Chloride	mg/L	CUSUM	20.4	30.3	81.7	No - Verified Exceedance	31.4	100.3	No - Verified Exceedance
Fluoride	mg/L	NP-PL	0.713	< 1.000	--	Yes *	0.317	--	Yes
pH, Field	pH units	CUSUM	6.24, 8.62	7.5	7.43, 7.43	Yes	7.54	7.43, 7.43	Yes
Sulfate	mg/L	CUSUM	38.4	25.9	28.1	Yes	27.0	28.1	Yes
Total Dissolved Solids	mg/L	CUSUM	414	258	291	Yes	318	291	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

\* See text for discussion of non-detects greater than the statistical limit and changes to the reporting limit for Fluoride.



**Table 7: Comparative Statistics - APMW-8A**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	175.6	121.0	105.7	Yes	77	105.7	Yes
Chloride	mg/L	CUSUM	104.9	73.6	81.7	Yes	84.6	81.7	Yes
Fluoride	mg/L	NP-PL	13.700	< 1.000	--	Yes	0.232	--	Yes
pH, Field	pH units	CUSUM	5.86, 8.61	7.17	7.23, 7.23	Yes	7.32	7.23, 7.23	Yes
Sulfate	mg/L	CUSUM	244.9	136.0	97.4	Yes	34.3	90.5	Yes
Total Dissolved Solids	mg/L	CUSUM	850	520	536	Yes	338	536	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 8: Comparative Statistics - APMW-10**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	78.3	57.4	62.5	Yes	50.5	62.5	Yes
Chloride	mg/L	CUSUM	63.8	22.5	38.1	Yes	23.6	38.1	Yes
Fluoride	mg/L	NP-PL	3.780	< 1.000	--	Yes	0.275	--	Yes
pH, Field	pH units	CUSUM	5.95, 8.89	7.46	7.42, 7.42	Yes	7.67	7.42, 7.42	Yes
Sulfate	mg/L	CUSUM	72.4	43.8	46.1	Yes	44.8	46.1	Yes
Total Dissolved Solids	mg/L	CUSUM	489	286	358	Yes	280	358	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 9: Comparative Statistics - APMW-11**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	101.7	80.5	81.6	Yes	73.5	81.6	Yes
Chloride	mg/L	CUSUM	137.0	31.7	74.2	Yes	37.6	74.16	Yes
Fluoride	mg/L	NP-PL	6.96	< 1.000 *	--	Yes	0.283 *	--	Yes
pH, Field	pH units	CUSUM	6.89, 7.83	7.32	7.36, 7.36	Yes	7.42	7.36, 7.36	Yes
Sulfate	mg/L	CUSUM	75.0	58.4	71.1	Yes	56.0	82.7	No - Potential Exceedance
Total Dissolved Solids	mg/L	CUSUM	622	352	438	Yes	348	438	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

\* Two sets of results were collected for fluoride for the CCR and Nebraska-specific sampling programs. Statistical analysis has been conducted on the average of both results, based on recommendations from the Unified Guidance (USEPA 2009).

**Table 10: Comparative Statistics - APMW-12**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/7/2024			12/4/2024		
Boron, Total	mg/L	CUSUM	0.389	0.262	0.283	Yes	0.261	0.283	Yes
Calcium, Total	mg/L	CUSUM	203	165	166	Yes	152	166	Yes
Chloride	mg/L	CUSUM	272	159	163	Yes	149	163	Yes
Fluoride	mg/L	NP-PL	21.300	< 1.000	--	Yes	0.117	--	Yes
pH, Field	pH units	CUSUM	6.28, 7.66	6.88	6.97, 6.97	Yes	7.00	6.97, 6.97	Yes
Sulfate	mg/L	CUSUM	383	270	302	Yes	264	302	Yes
Total Dissolved Solids	mg/L	CUSUM	1602	992	1108	Yes	972	1108	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 11: Comparative Statistics - APMW-13**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/7/2024			12/4/2024		
Boron, Total	mg/L	CUSUM	0.449	0.252	0.314	Yes	0.292	0.314	Yes
Calcium, Total	mg/L	CUSUM	196	160	148	Yes	139	148	Yes
Chloride	mg/L	CUSUM	190	141	141	Yes	117	141	Yes
Fluoride	mg/L	NP-PL	8.250	< 1.000	--	Yes	0.169	--	Yes
pH, Field	pH units	CUSUM	6.05, 8.11	6.9	7.08, 7.08	Yes	7.02	7.08, 7.08	Yes
Sulfate	mg/L	CUSUM	362	256	264	Yes	226	264	Yes
Total Dissolved Solids	mg/L	CUSUM	1215	962	1026	Yes	920	1026	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 12: Comparative Statistics - APMW-14**

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/7/2024			12/4/2024		
Boron, Total	mg/L	CUSUM	0.382	0.225	0.261	Yes	0.193	0.261	Yes
Calcium, Total	mg/L	CUSUM	195	164	158	Yes	147	158	Yes
Chloride	mg/L	CUSUM	207	133	135	Yes	115	135	Yes
Fluoride	mg/L	NP-PL	19.200	< 1.000	--	Yes	0.166	--	Yes
pH, Field	pH units	CUSUM	6.03, 8.44	6.91	7.17, 7.17	Yes	7.04	7.17, 7.17	Yes
Sulfate	mg/L	CUSUM	272	193	217	Yes	169	217	Yes
Total Dissolved Solids	mg/L	CUSUM	1240	878	949	Yes	794	949	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart



**Table 13: Comparative Statistics - APMW-18**

		Statistica I Method	Statistica I Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	103.7	82.8	94.1	Yes	89.7	97.3	Yes
Chloride	mg/L	CUSUM	160.4	66.5	126.1	Yes	116.0	160.1	Yes
Fluoride	mg/L	NP-PL	1.740	< 1.000	--	Yes	0.214	--	Yes
pH, Field	pH units	CUSUM	5.99, 8.01	7.29	7.33, 7.33	Yes	7.36	7.33, 7.33	Yes
Sulfate	mg/L	CUSUM	147.7	44.5	38.3	Yes	23.6	38.3	Yes
Total Dissolved Solids	mg/L	CUSUM	638	382	401	Yes	404	401	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

**Table 14: Comparative Statistics - APMW-19**

		Statistica I Method	Statistica I Limit	Detection Monitoring Result	CUSUM Value	Within Limit?	Detection Monitoring Result	CUSUM Value	Within Limit?
<b>Detection Monitoring Analytes</b>	<b>Units</b>			5/6/2024			12/3/2024		
Boron, Total	mg/L	NP-PL	0.200	< 0.100	--	Yes	< 0.100	--	Yes
Calcium, Total	mg/L	CUSUM	142.9	84.0	85.3	Yes	68.4	85.3	Yes
Chloride	mg/L	CUSUM	71.7	35.7	40.0	Yes	31.8	40.0	Yes
Fluoride	mg/L	NP-PL	0.665	< 1.000	--	Yes *	0.266	--	Yes
pH, Field	pH units	CUSUM	6.25, 8.29	7.27	7.27, 7.27	Yes	7.35	7.27, 7.27	Yes
Sulfate	mg/L	CUSUM	191.2	86.1	84.3	Yes	63.7	84.3	Yes
Total Dissolved Solids	mg/L	CUSUM	645	416	468	Yes	374	468	Yes

Notes:

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

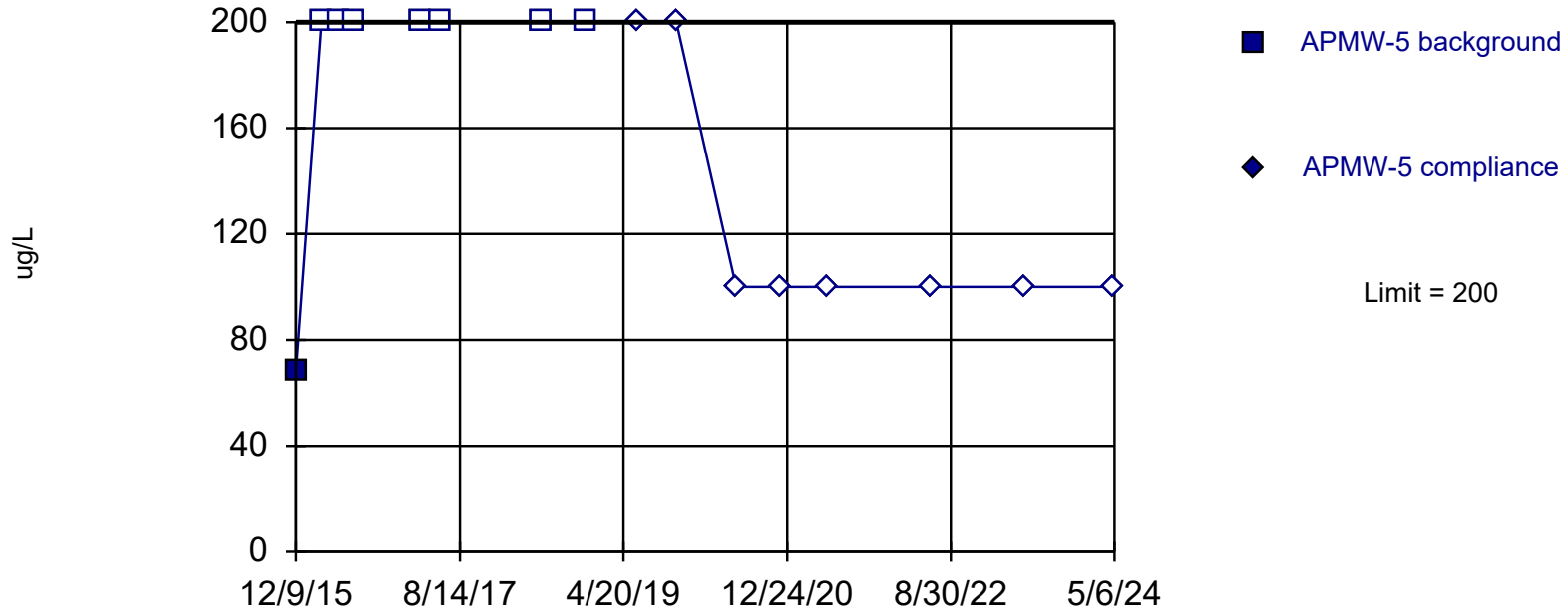
\* See text for discussion of non-detects greater than the statistical limit and changes to the reporting limit for Fluoride.



Within Limit

## Prediction Limit

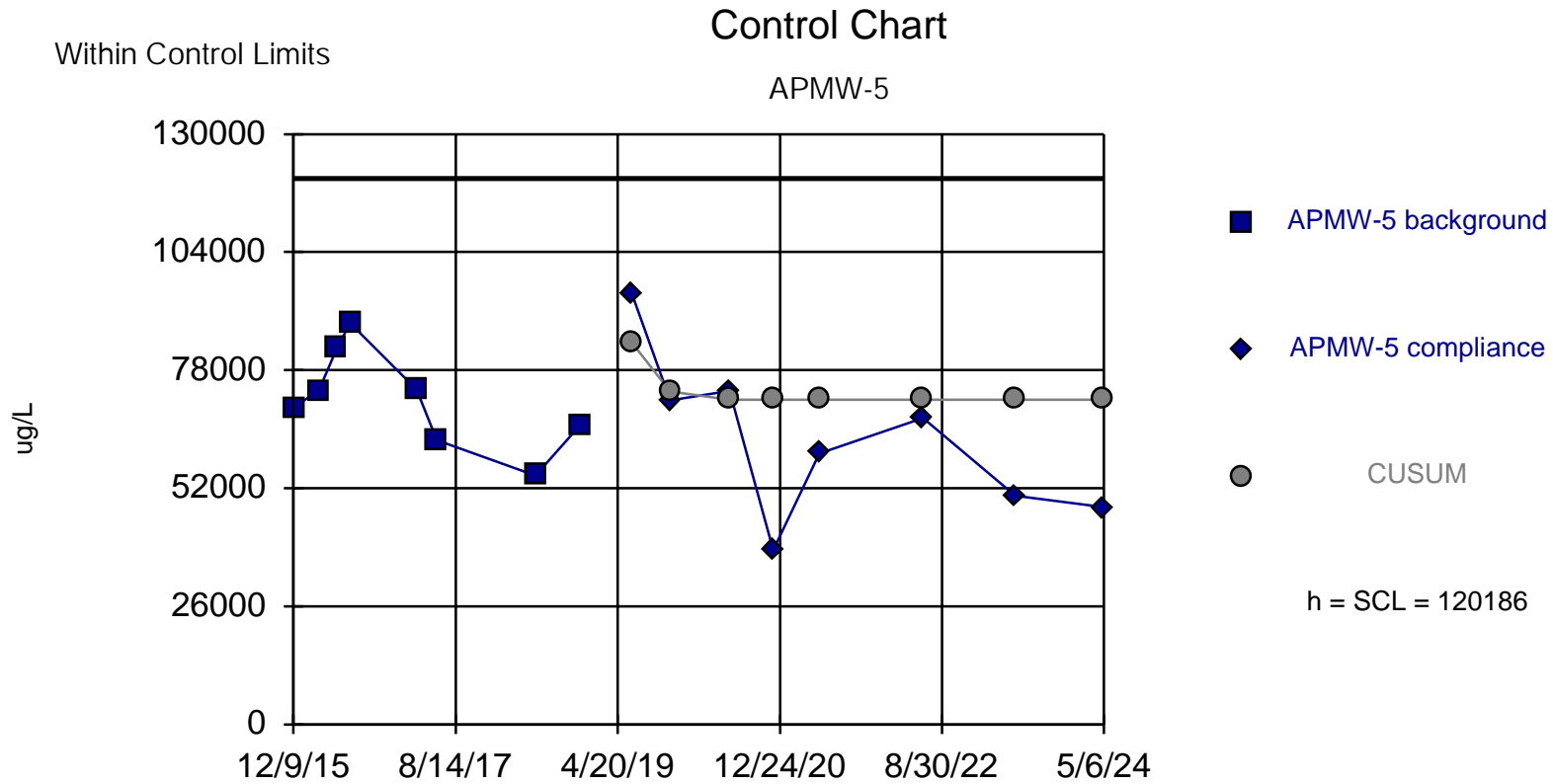
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 8 background values. 87.5% NDs. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:04 AM

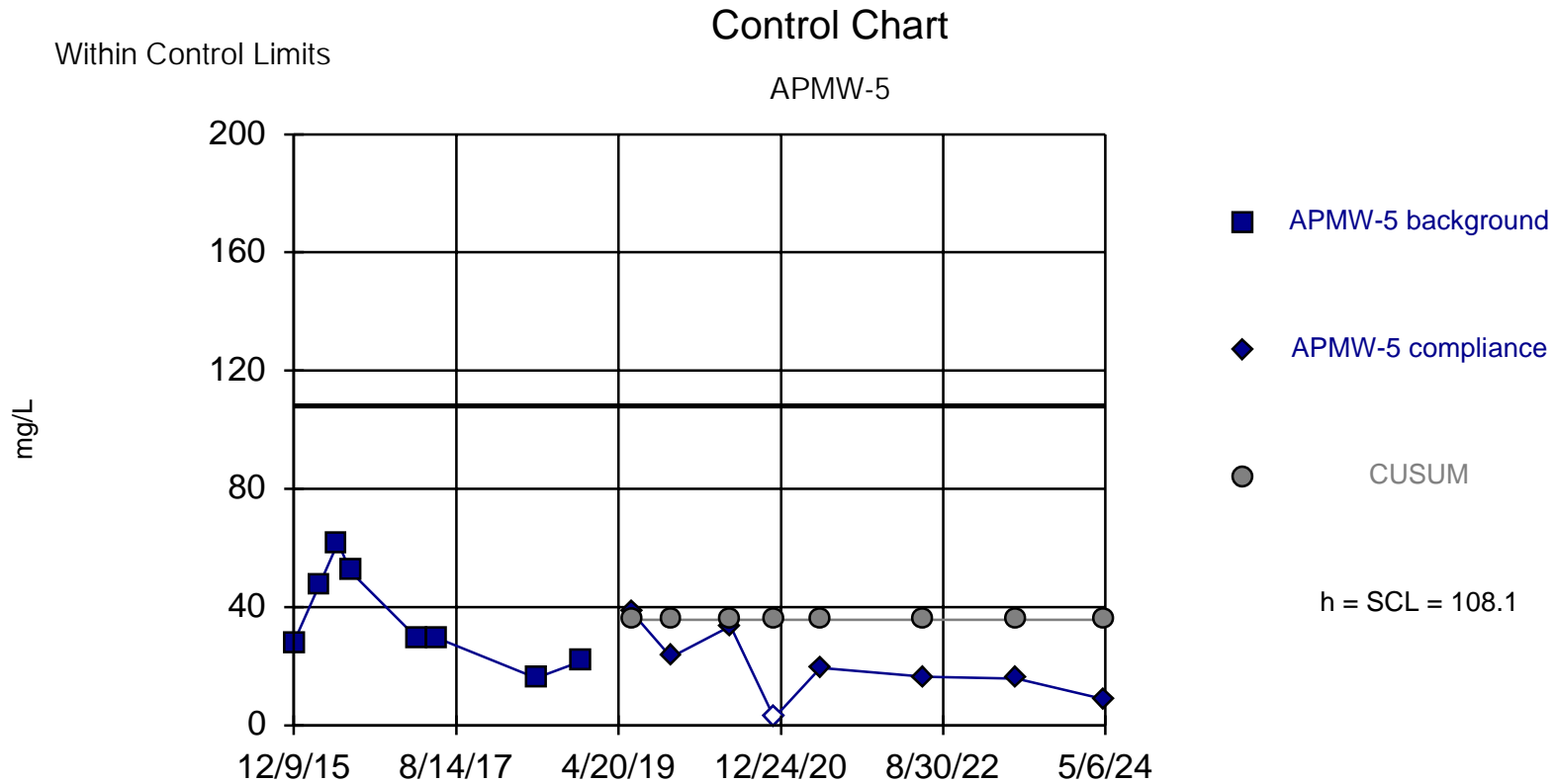
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=71450, Std. Dev.=10830, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9804, critical = 0.818. Report alpha = 0.00978. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Calcium Analysis Run 7/1/2024 10:41 AM

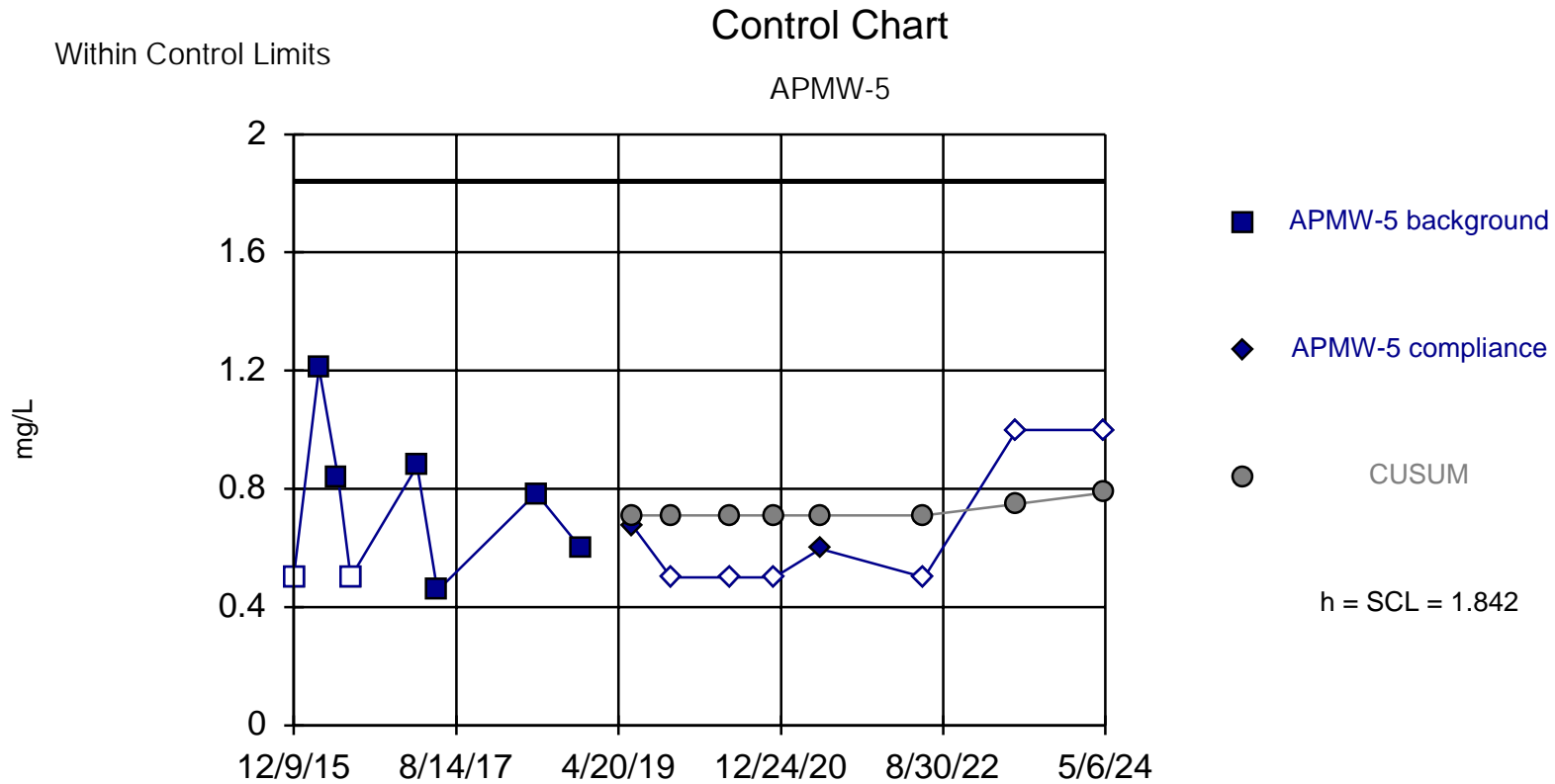
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=35.74, Std. Dev.=16.08, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9191, critical = 0.818. Report alpha = 0.00978. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Chloride Analysis Run 7/1/2024 10:41 AM

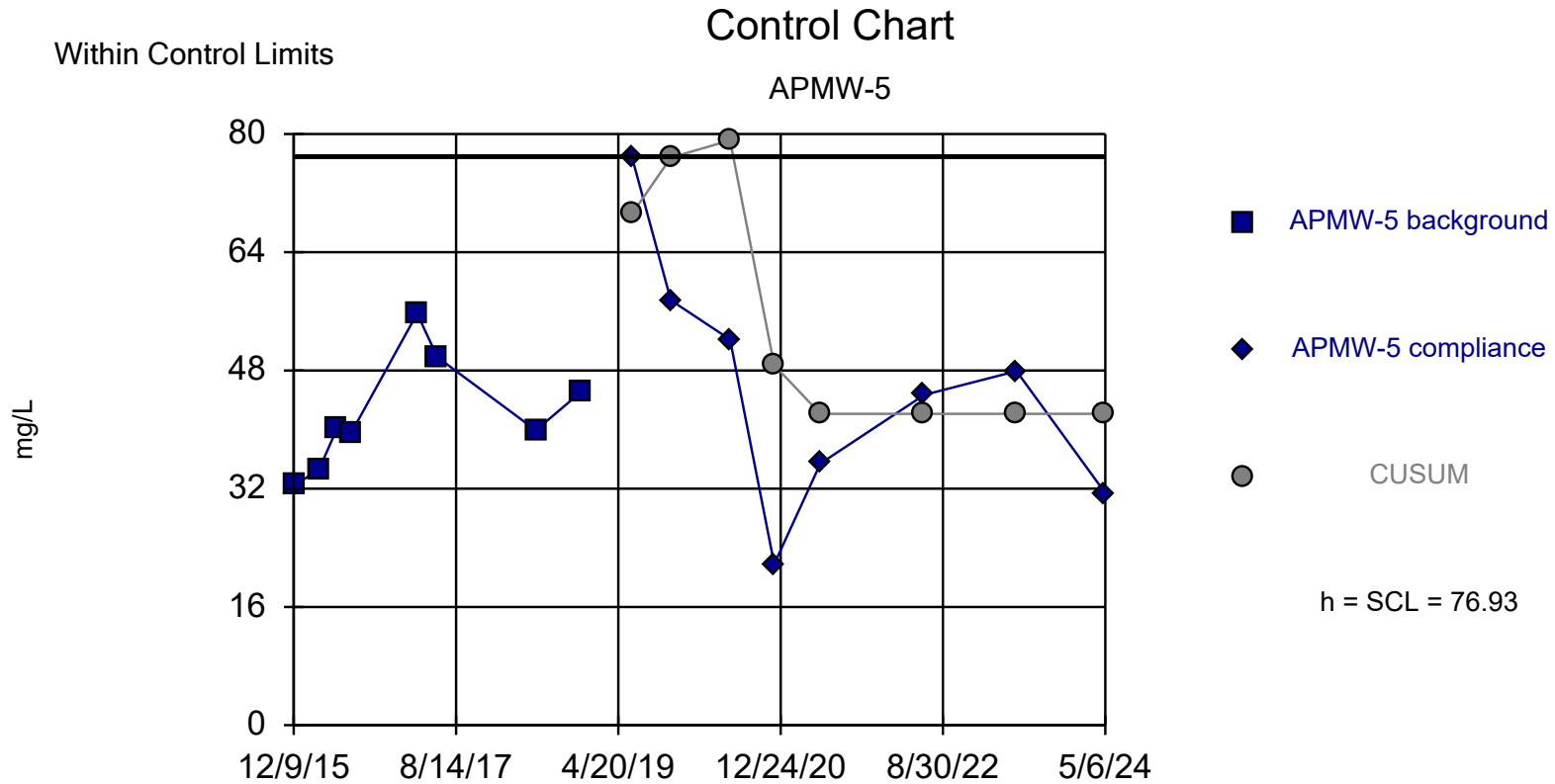
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.7101, Std. Dev.=0.2515, n=8, 25% NDs. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8971, critical = 0.818. Report alpha = 0.00978. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Fluoride Analysis Run 7/1/2024 10:41 AM

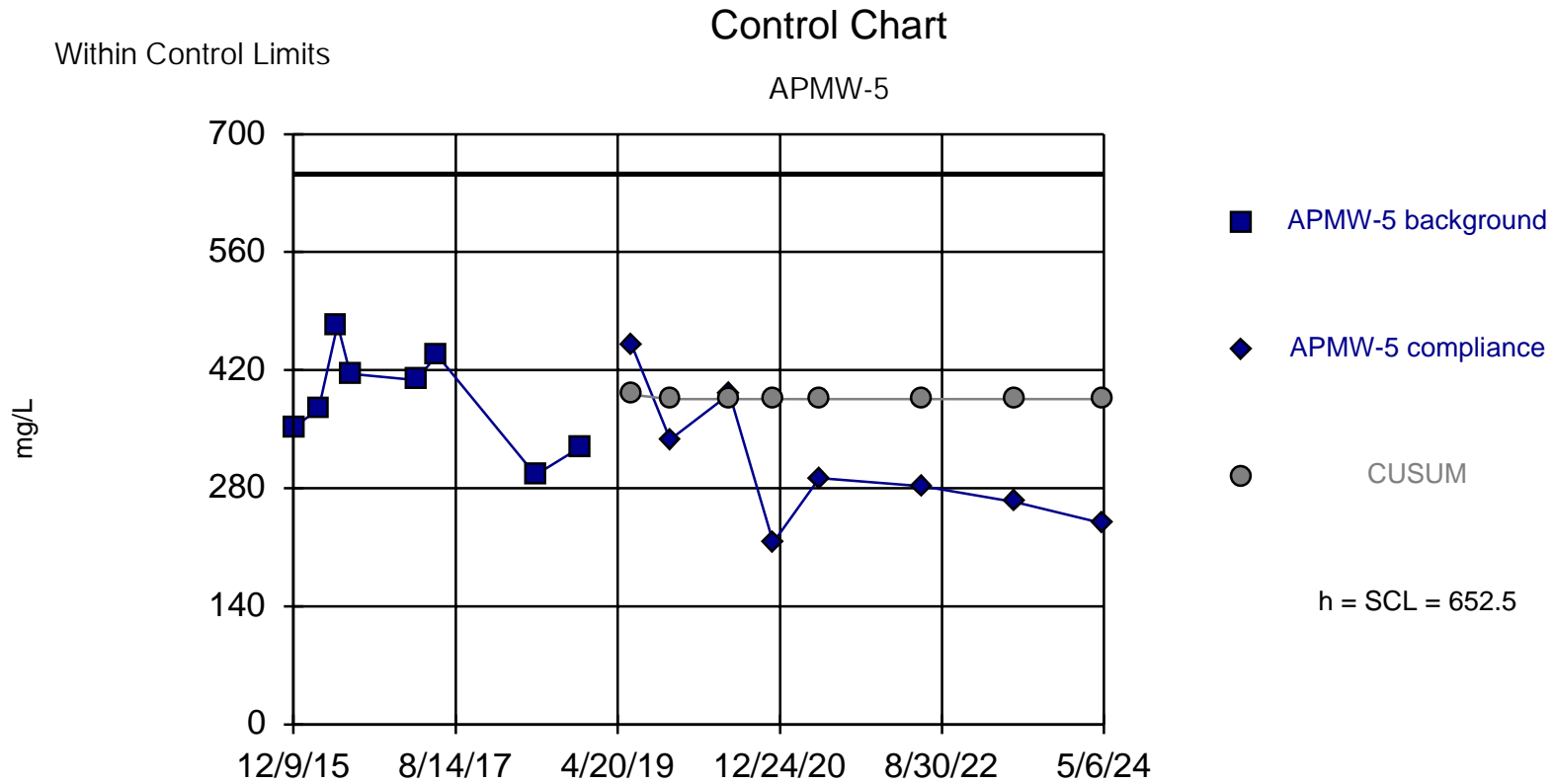
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=42.14, Std. Dev.=7.731, n=8. Exceedance nullified by following point per option settings. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9474, critical = 0.818. Report alpha = 0.009486. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Sulfate Analysis Run 1/27/2025 10:36 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



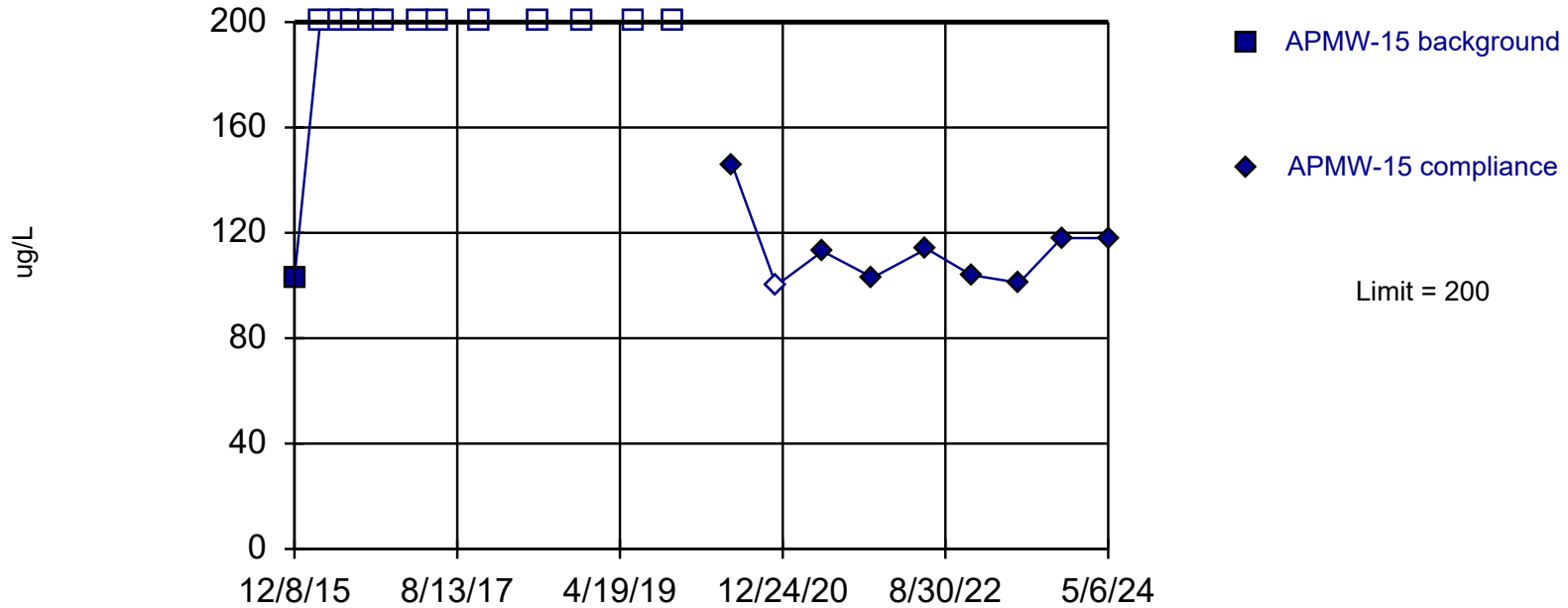
Background Data Summary: Mean=385.8, Std. Dev.=59.28, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9843, critical = 0.818. Report alpha = 0.00978. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 10:41 AM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

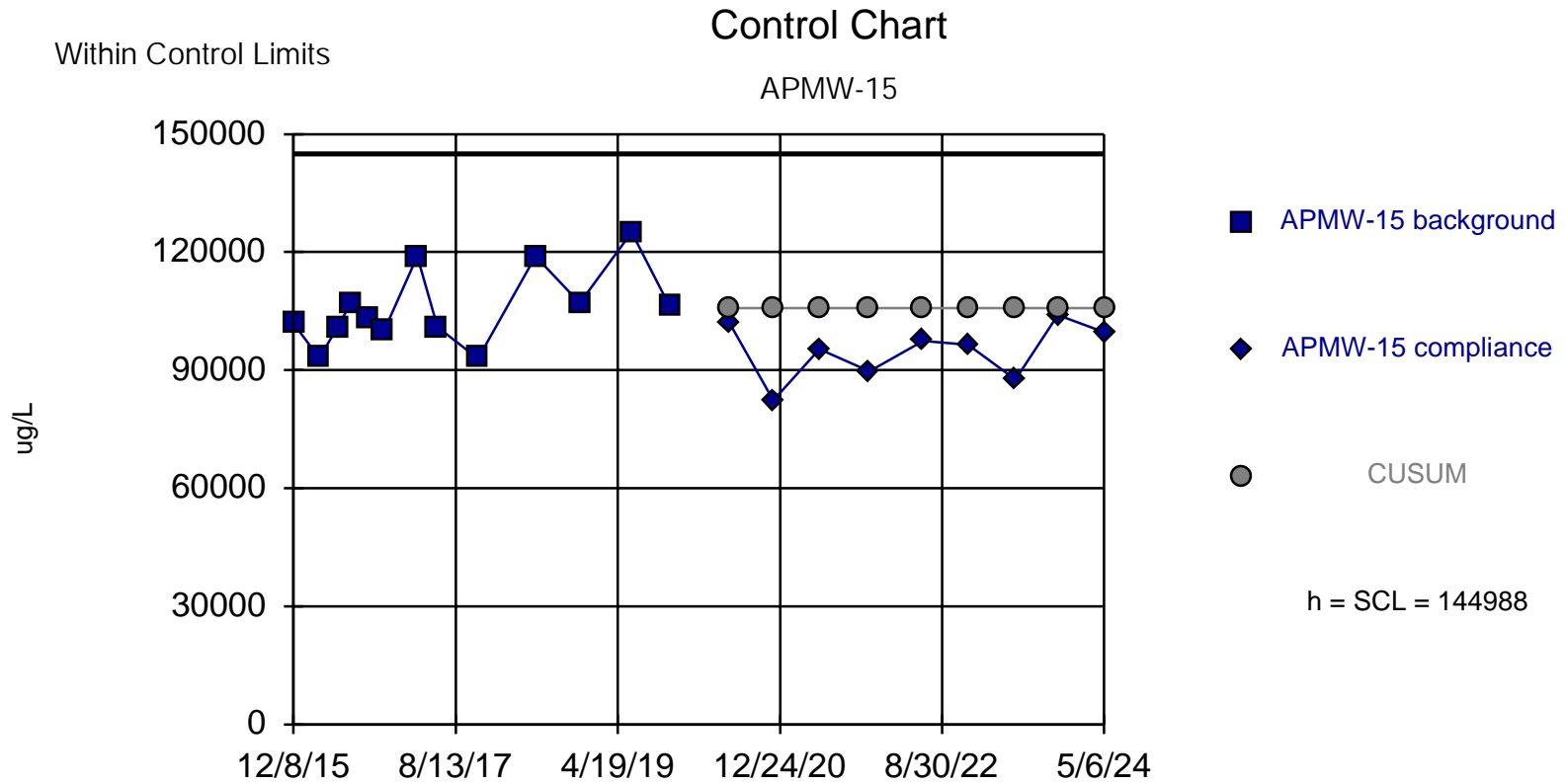
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:11 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

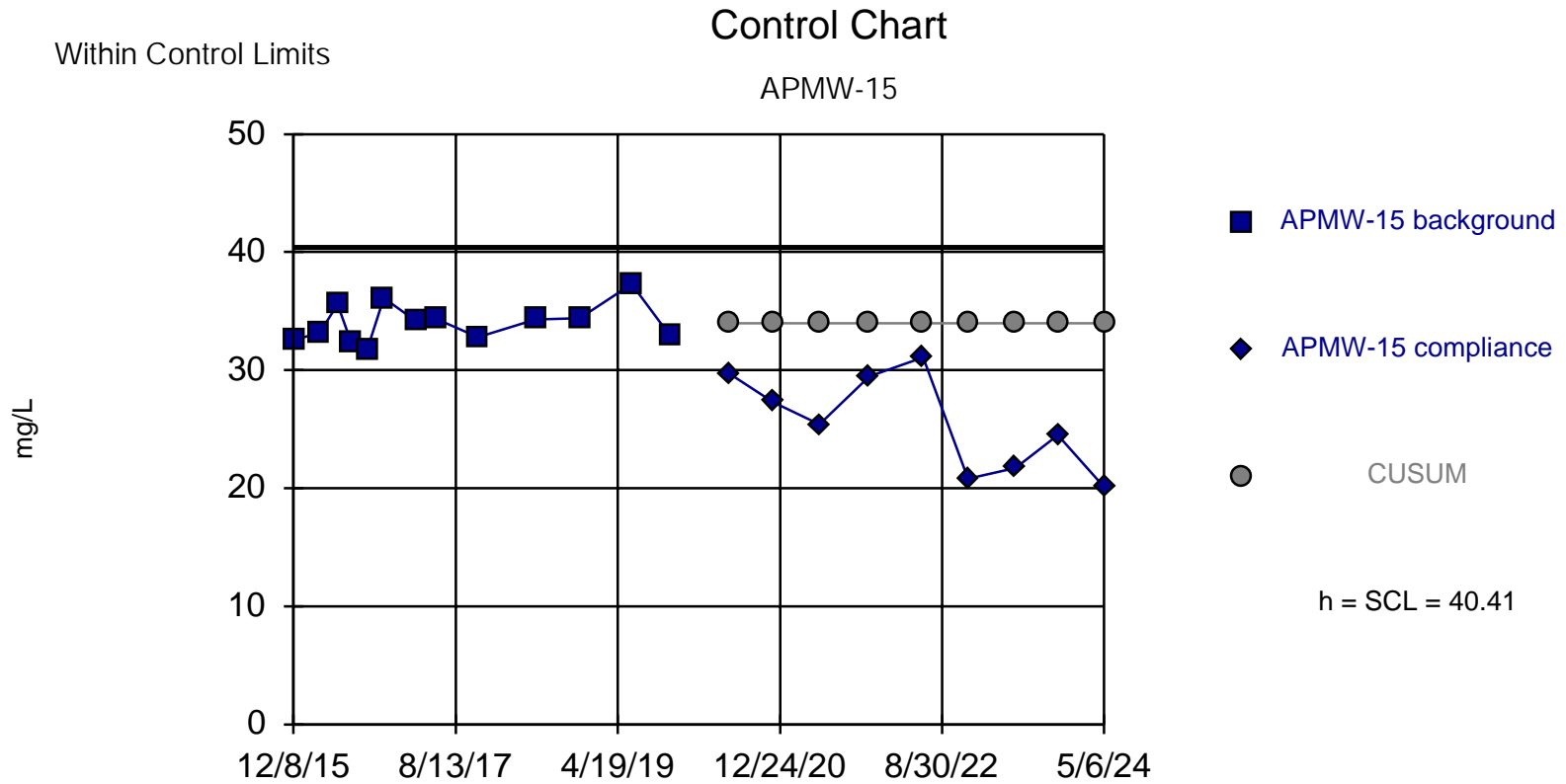


Background Data Summary: Mean=105838, Std. Dev.=9787, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9071, critical = 0.866. Report alpha = 0.005166. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 6/27/2024 1:23 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





Background Data Summary: Mean=33.98, Std. Dev.=1.608, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9375, critical = 0.866. Report alpha = 0.005166. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

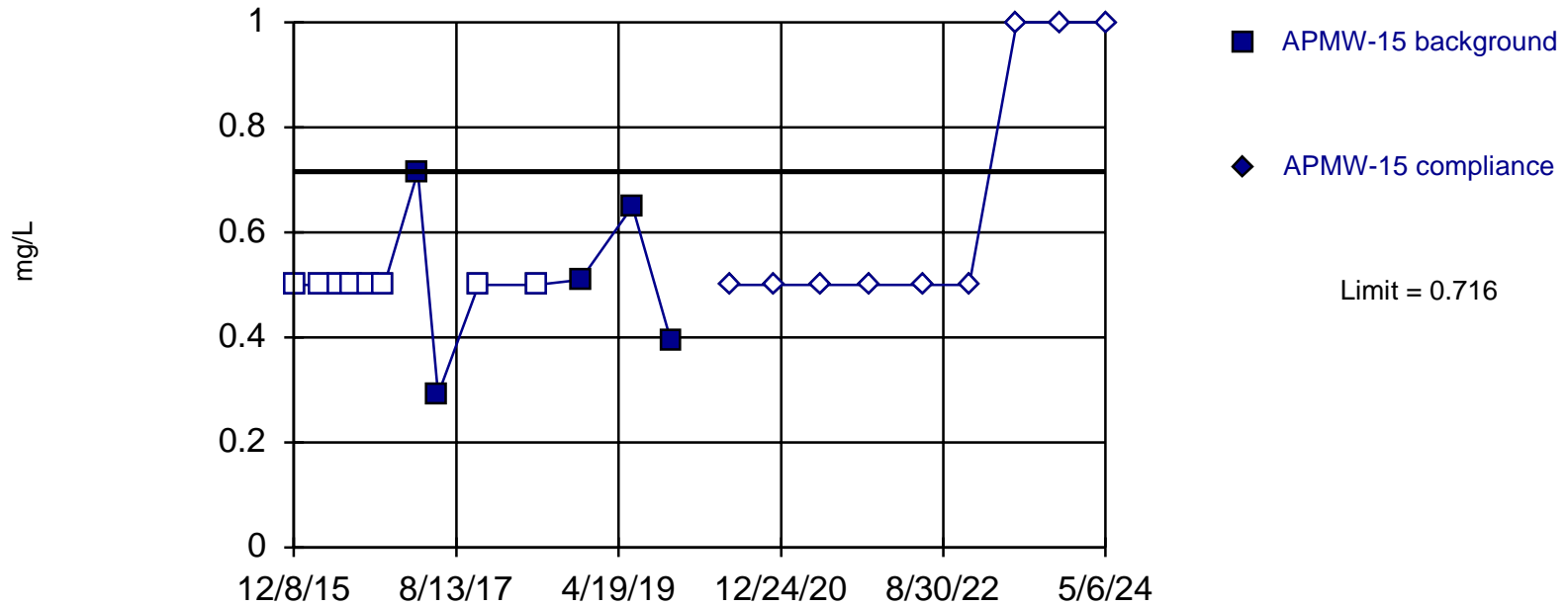
Constituent: Chloride Analysis Run 6/27/2024 1:23 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

### Prediction Limit

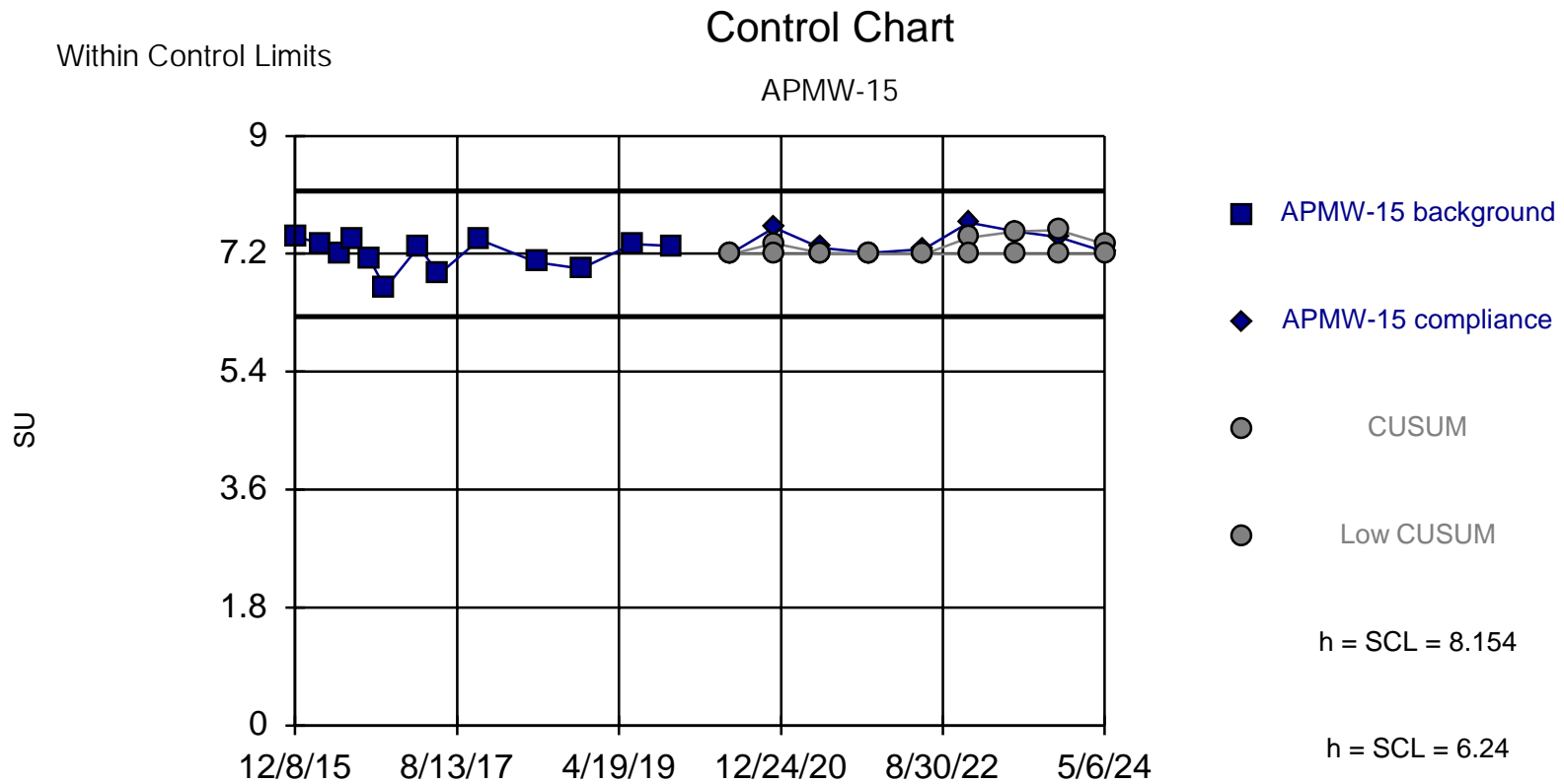
Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 13 background values. 61.54% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Seasonality was not detected with 95% confidence.

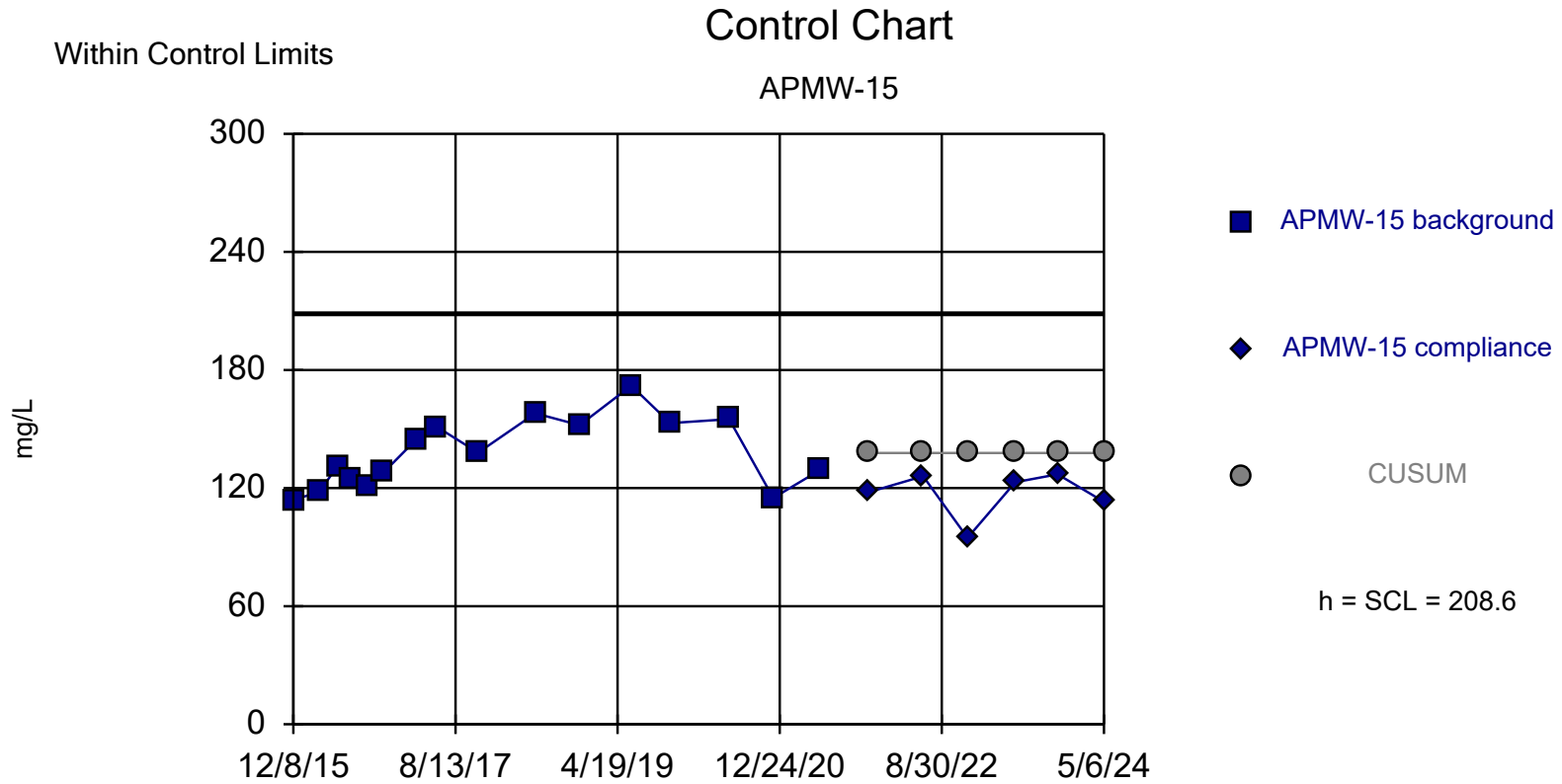
Constituent: Fluoride Analysis Run 6/27/2024 1:34 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.197, Std. Dev.=0.2393, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9057, critical = 0.866. Report alpha = 0.00522. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

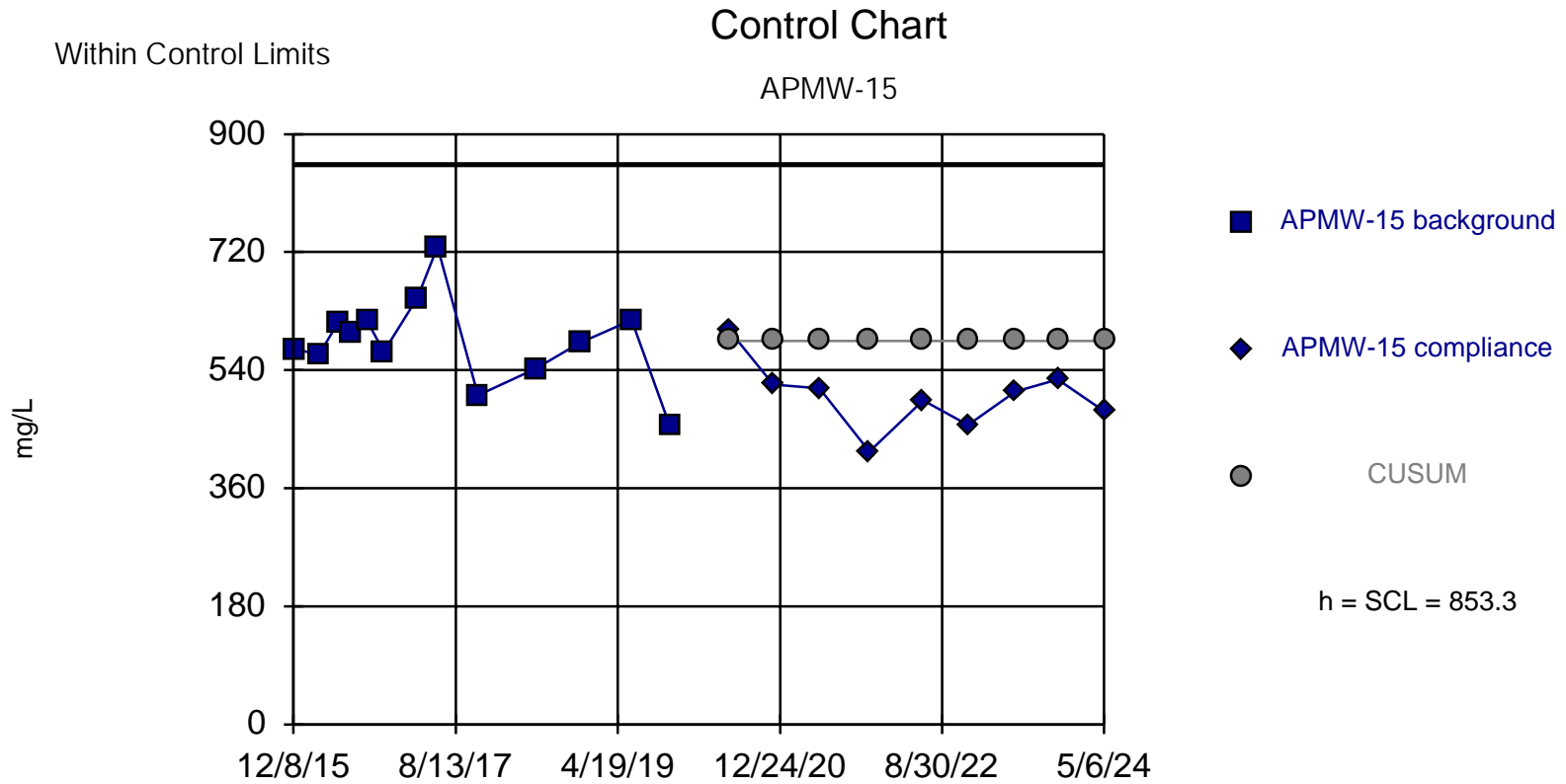
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:19 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=137.8, Std. Dev.=17.71, n=16. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.939, critical = 0.887. Report alpha = 0.008456. Dates ending 5/24/2021 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:10 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



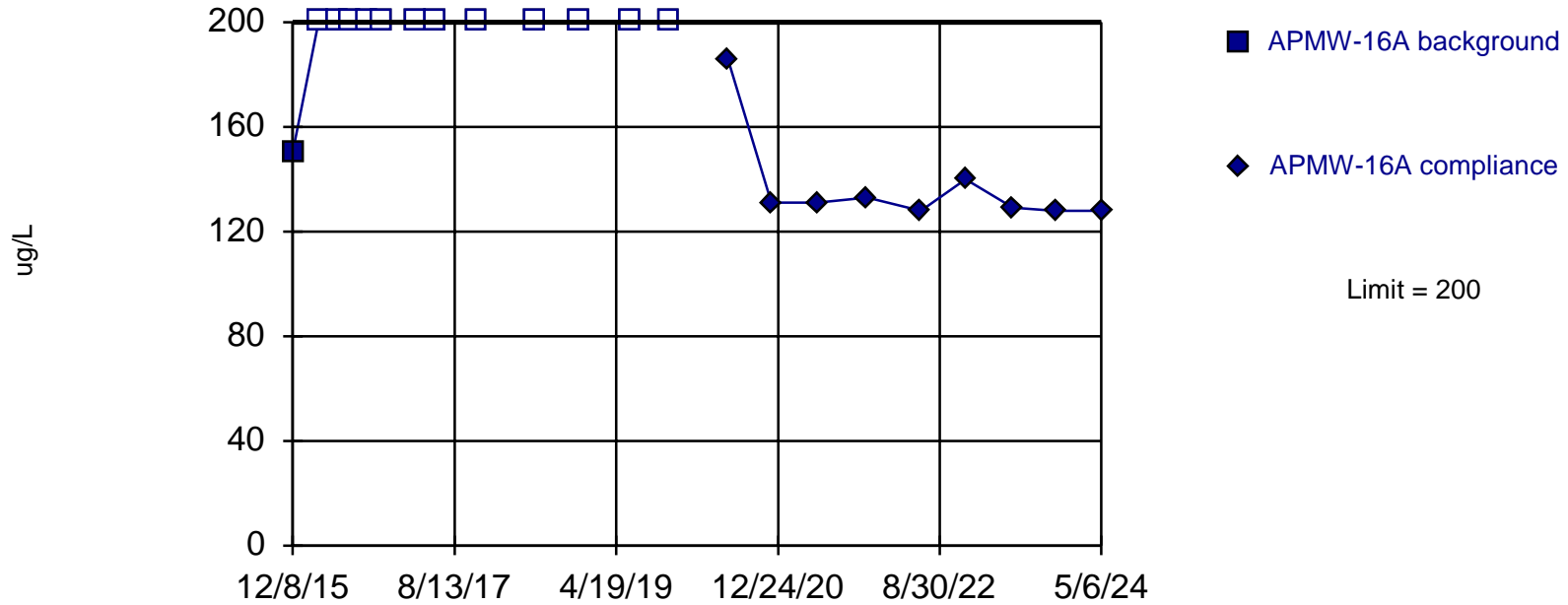
Background Data Summary: Mean=584.6, Std. Dev.=67.16, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9651, critical = 0.866. Report alpha = 0.005244. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 6/27/2024 1:23 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

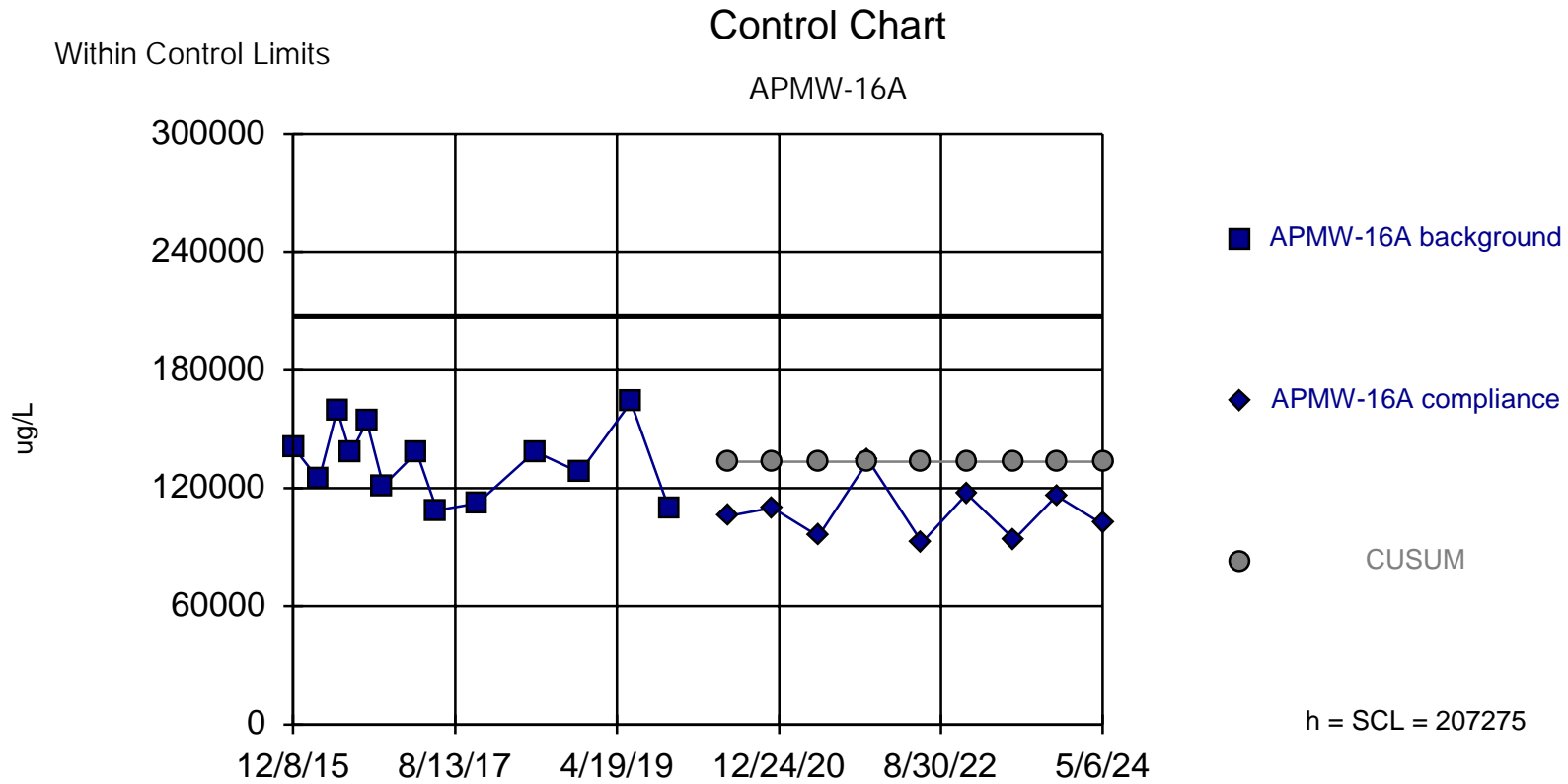
Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 6/27/2024 2:02 PM

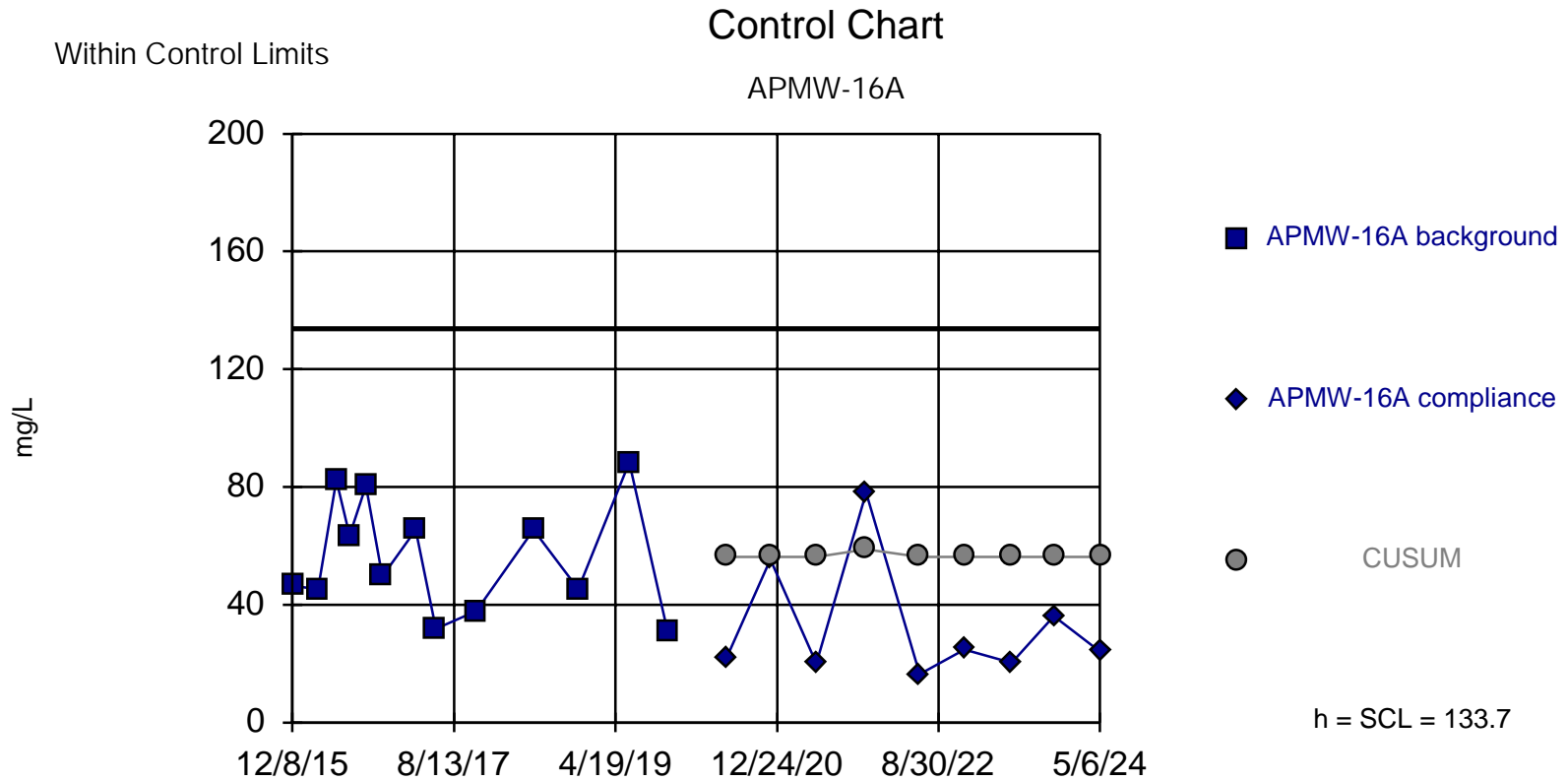
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=133631, Std. Dev.=18411, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9413, critical = 0.866. Report alpha = 0.00516. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 6/27/2024 3:47 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=56.37, Std. Dev.=19.34, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9288, critical = 0.866. Report alpha = 0.00516. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 6/27/2024 3:47 PM

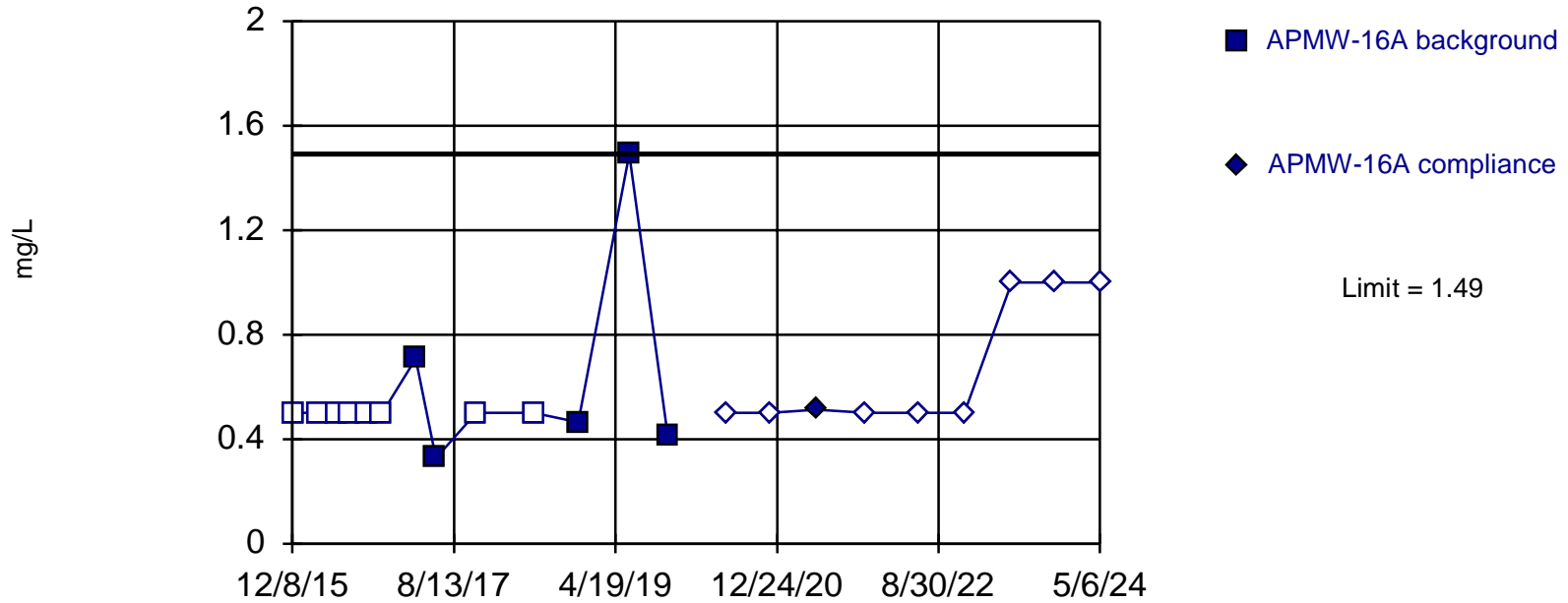
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

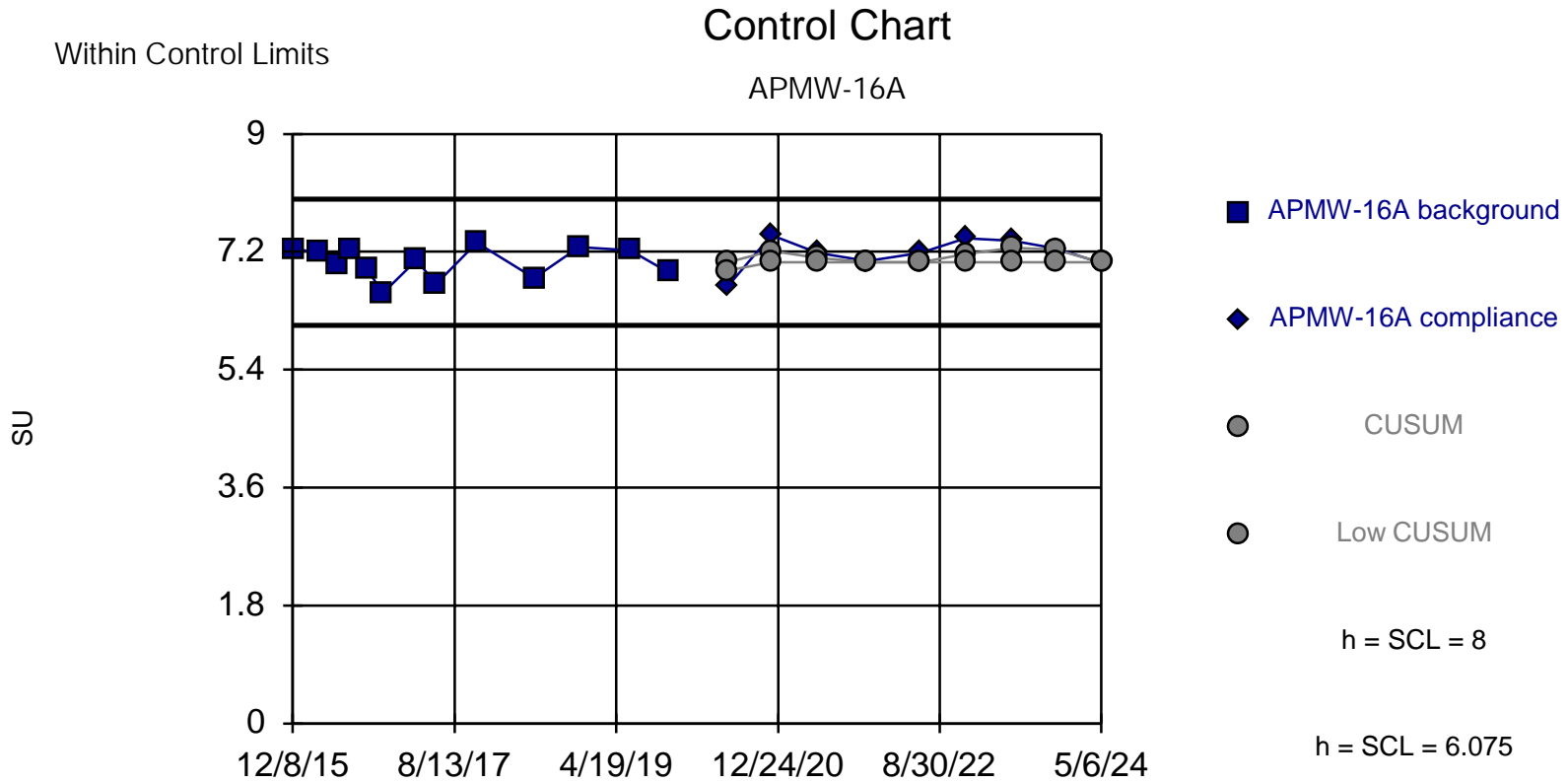


Within Limit

### Prediction Limit

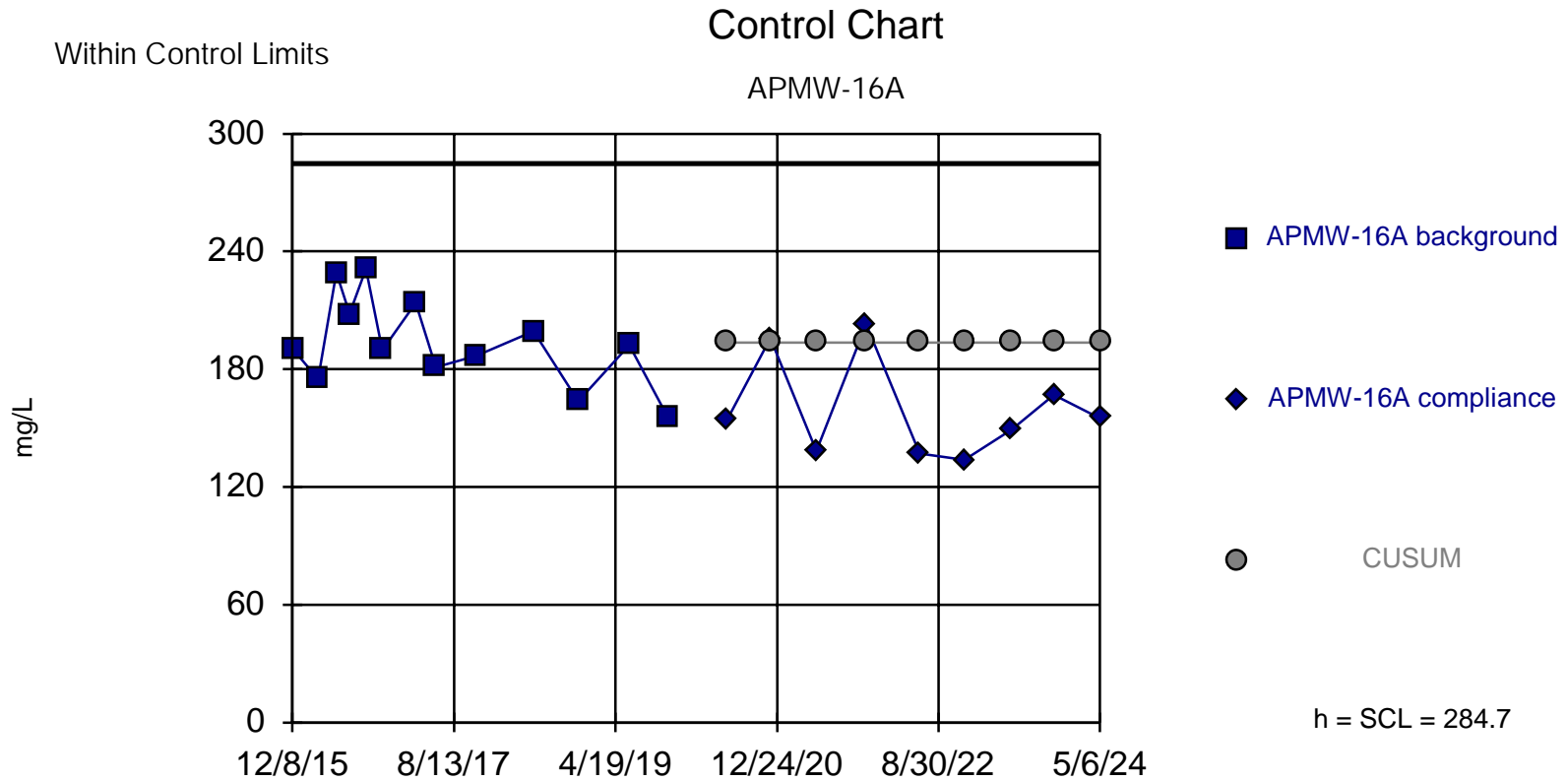
Intrawell Non-parametric





Background Data Summary: Mean=7.038, Std. Dev.=0.2406, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9309, critical = 0.866. Report alpha = 0.00522. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

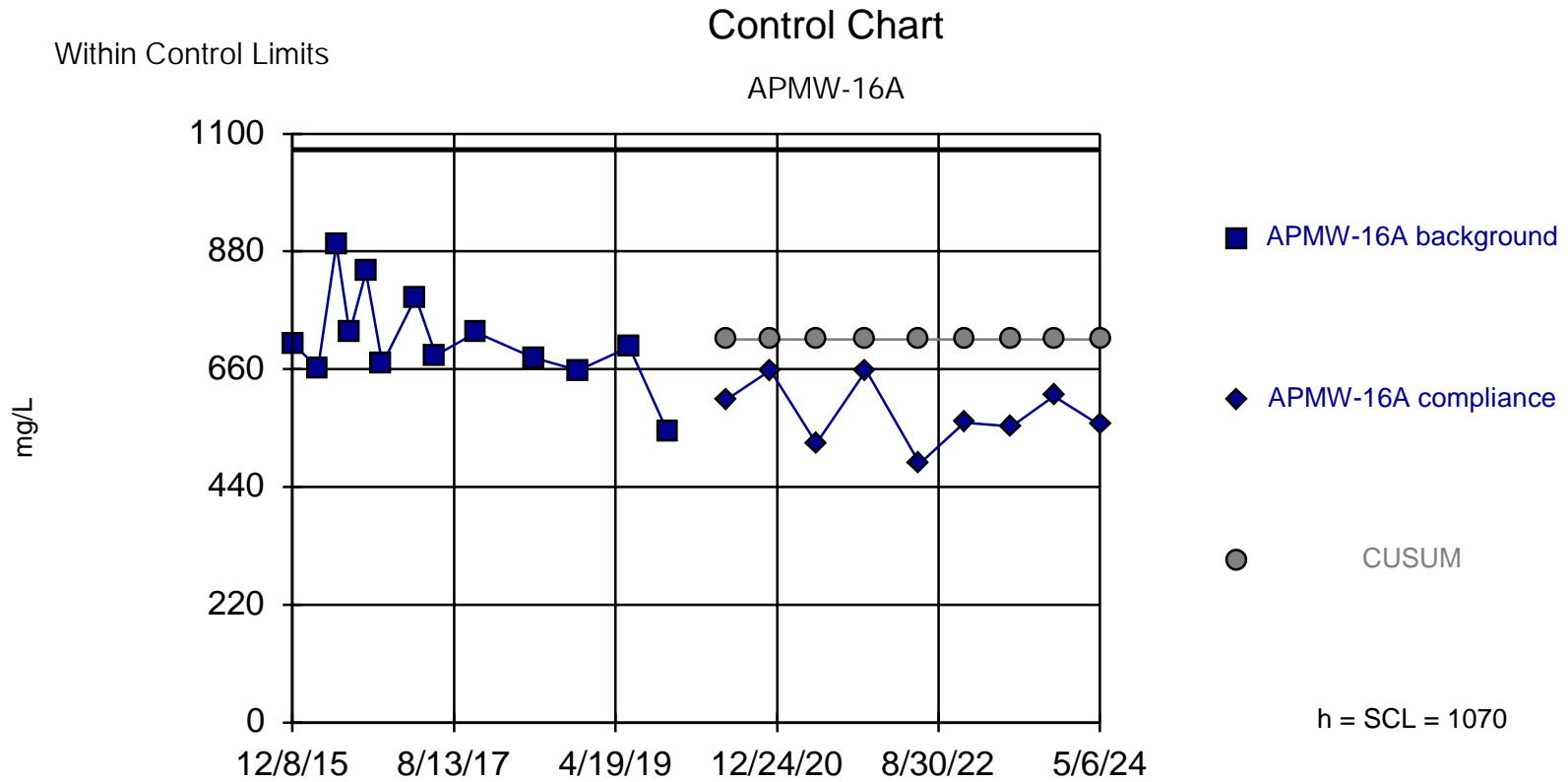
Constituent: pH, Field-Measured Analysis Run 7/2/2024 2:22 PM  
 Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=193.6, Std. Dev.=22.77, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9683, critical = 0.866. Report alpha = 0.00516. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 6/27/2024 3:47 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



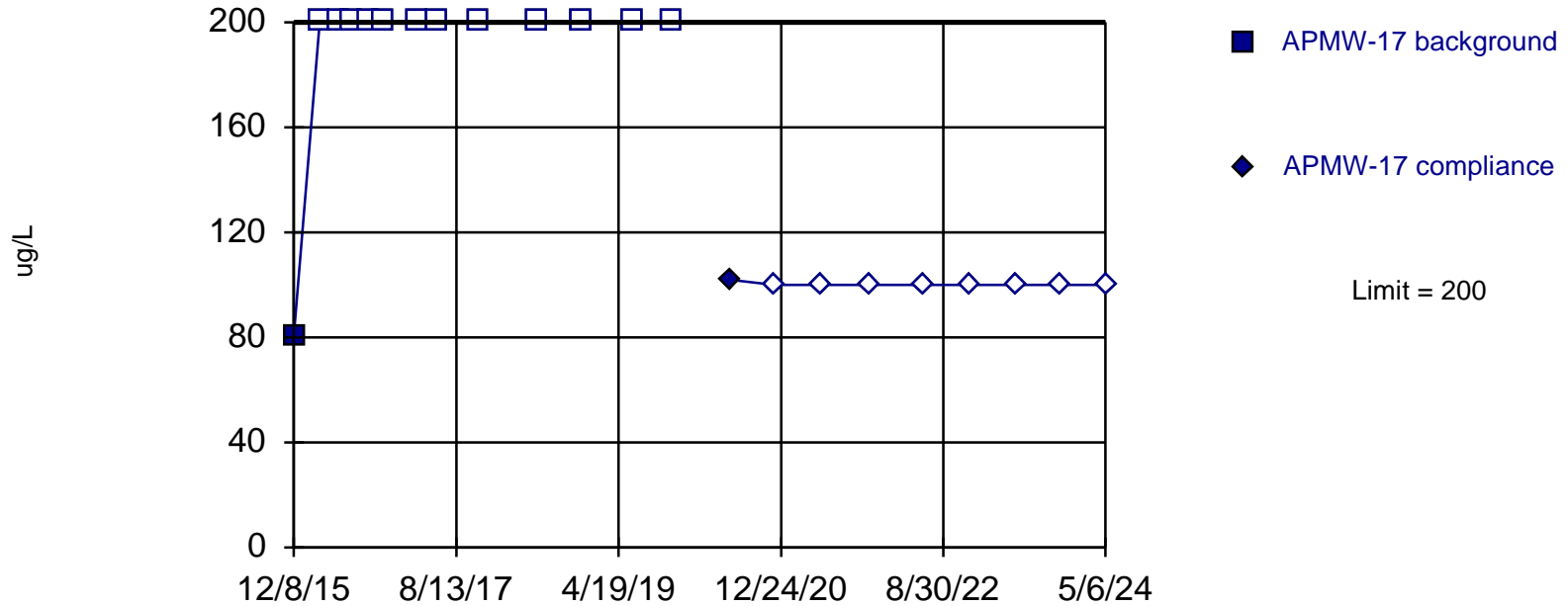
Background Data Summary: Mean=715.1, Std. Dev.=88.81, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9342, critical = 0.866. Report alpha = 0.00516. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 6/27/2024 3:47 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

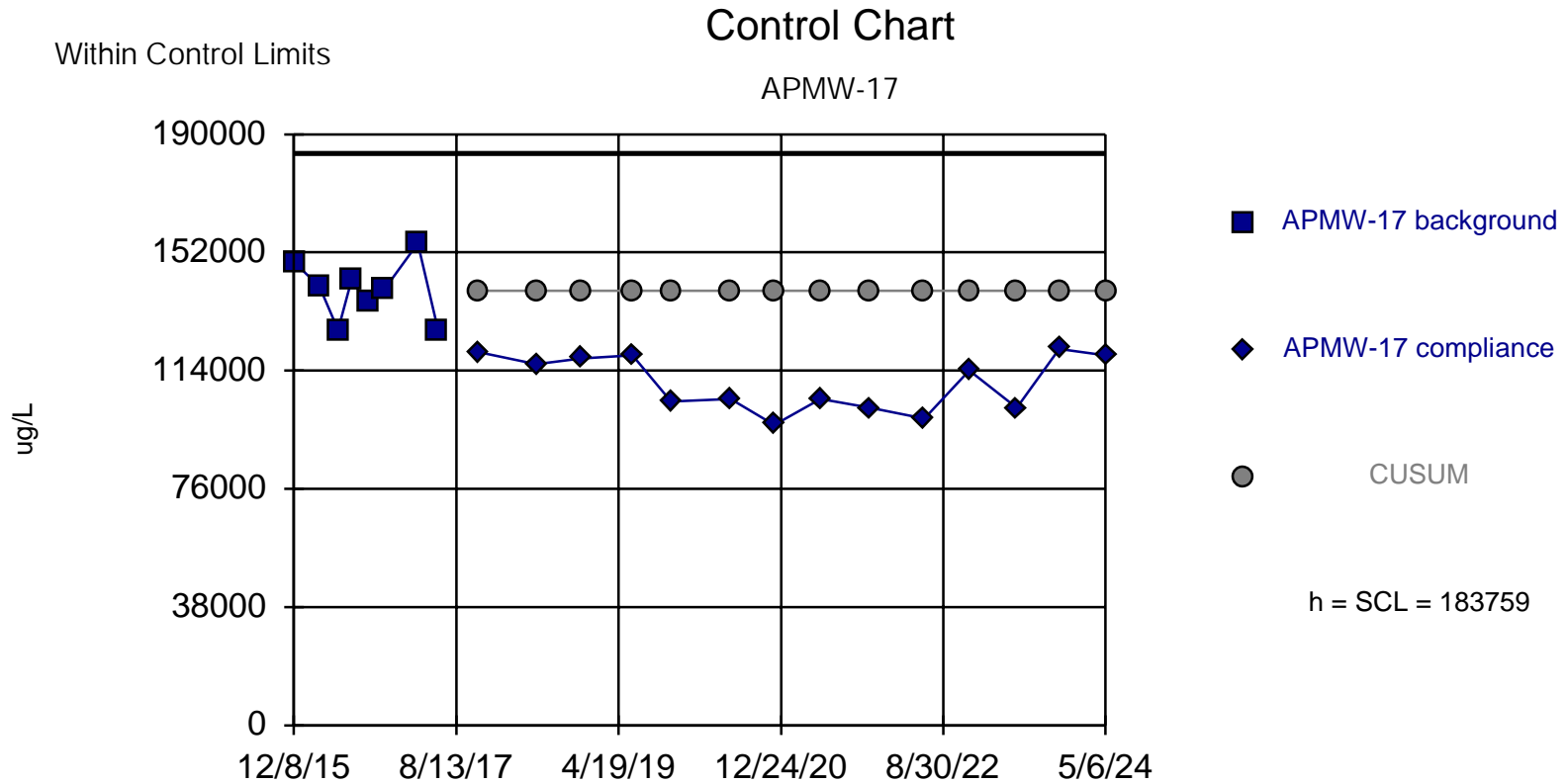
### Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

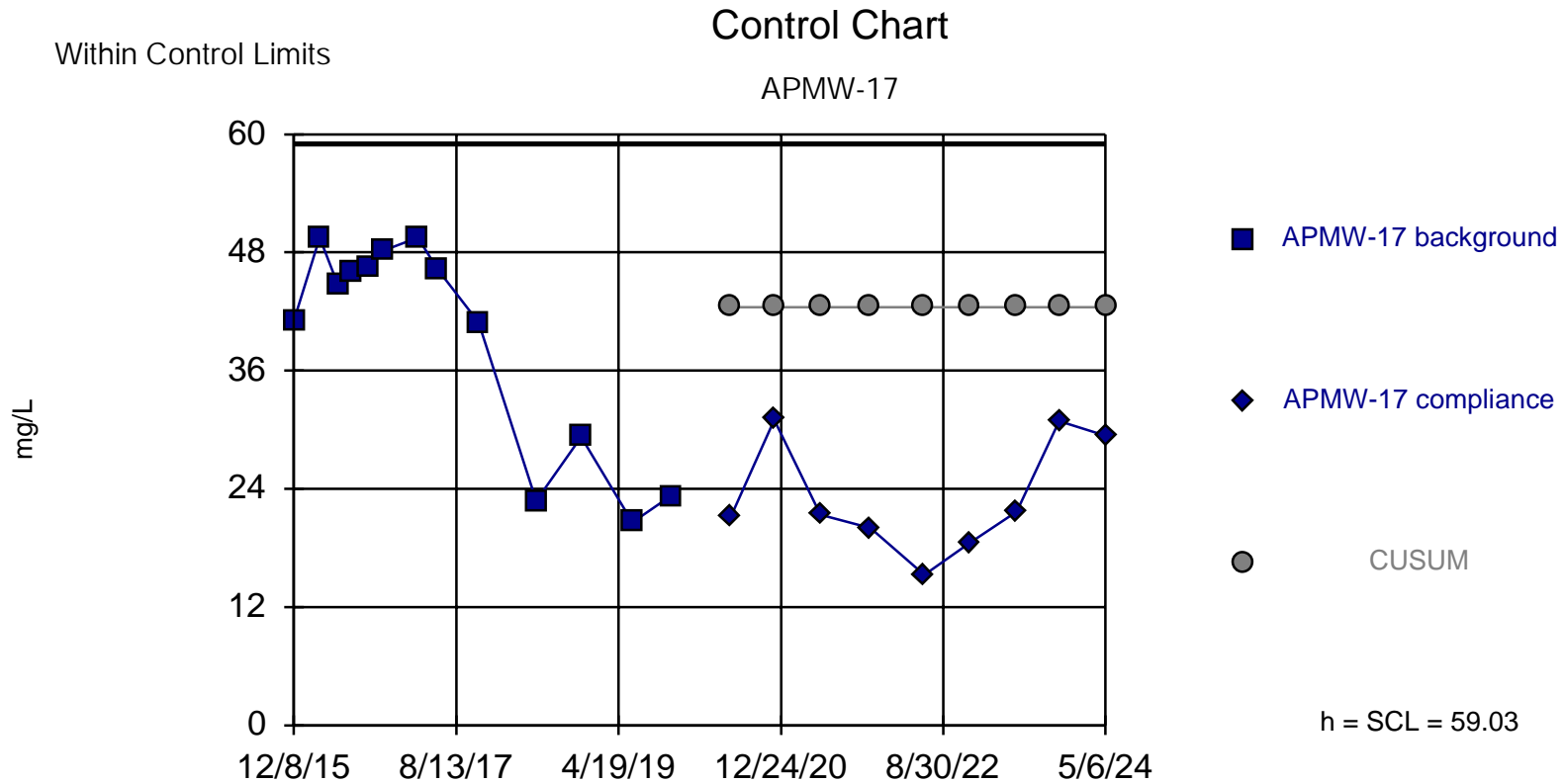
Constituent: Boron Analysis Run 7/1/2024 10:56 AM  
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=139750, Std. Dev.=9780, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9472, critical = 0.818. Report alpha = 0.01473. Dates ending 6/5/2017 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Calcium Analysis Run 7/1/2024 10:51 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (based on  $x^4$  transformation): Mean=3247075, Std. Dev.=2223138, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8771, critical = 0.866. Report alpha = 0.00548. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

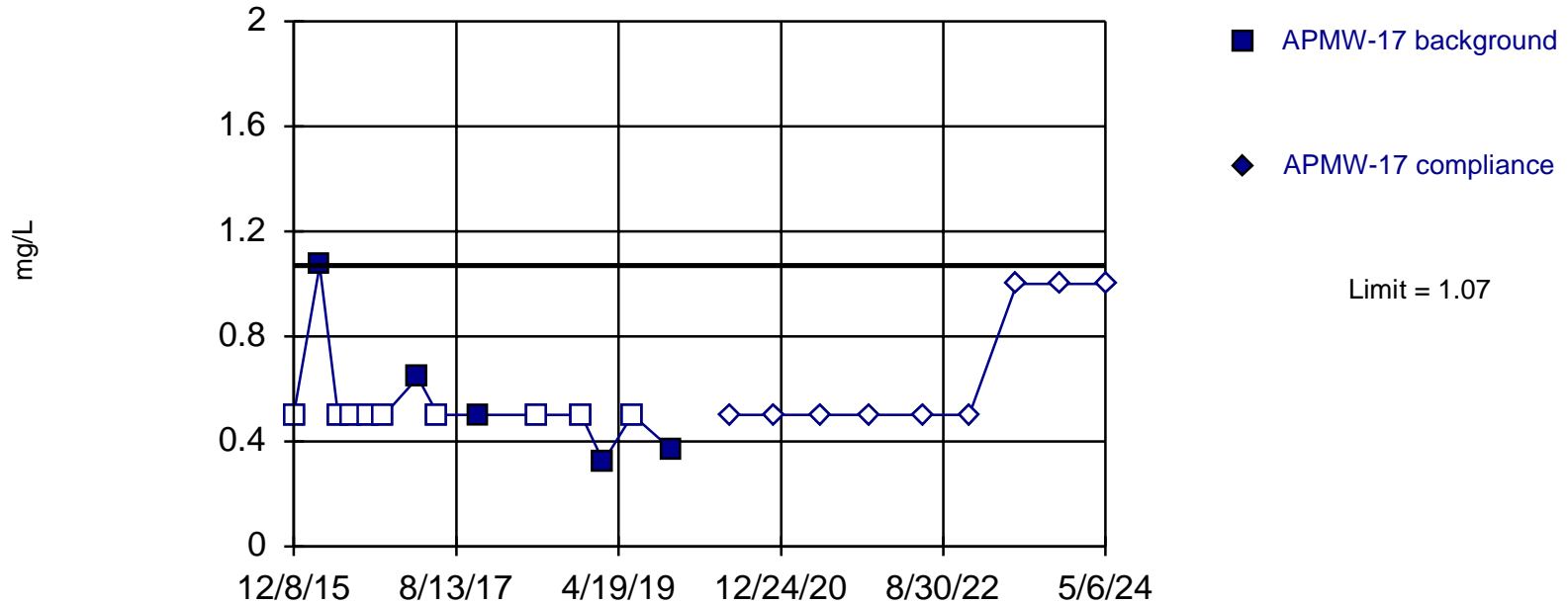
Constituent: Chloride Analysis Run 7/1/2024 10:56 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

# Prediction Limit

Intrawell Non-parametric

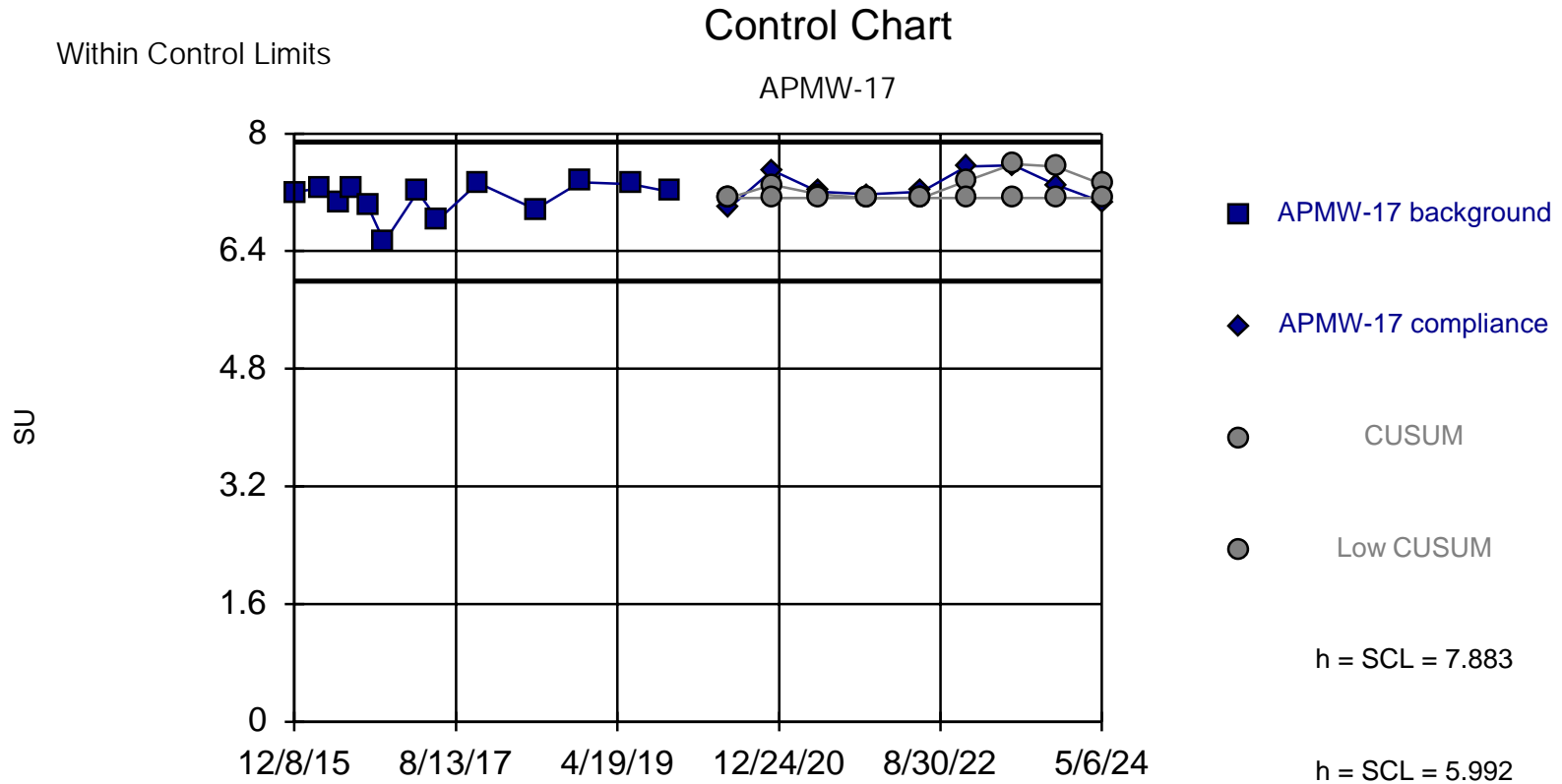


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 14 background values. 64.29% NDs. Well-constituent pair annual alpha = 0.01715. Individual comparison alpha = 0.008612 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 7/1/2024 10:56 AM

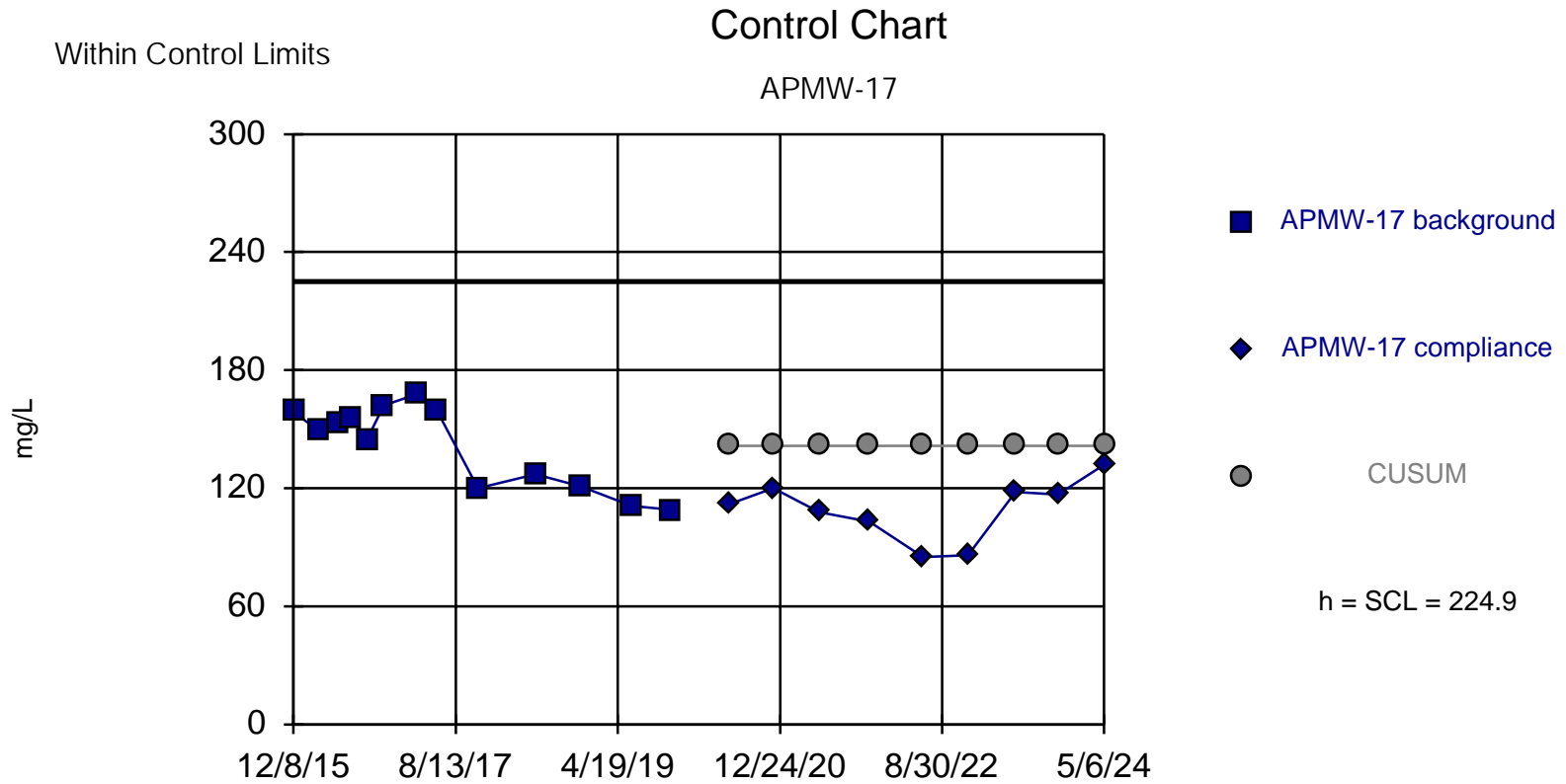
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





Background Data Summary (based on  $x^4$  transformation): Mean=2575, Std. Dev.=321.6, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8721, critical = 0.866. Report alpha = 0.00522. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

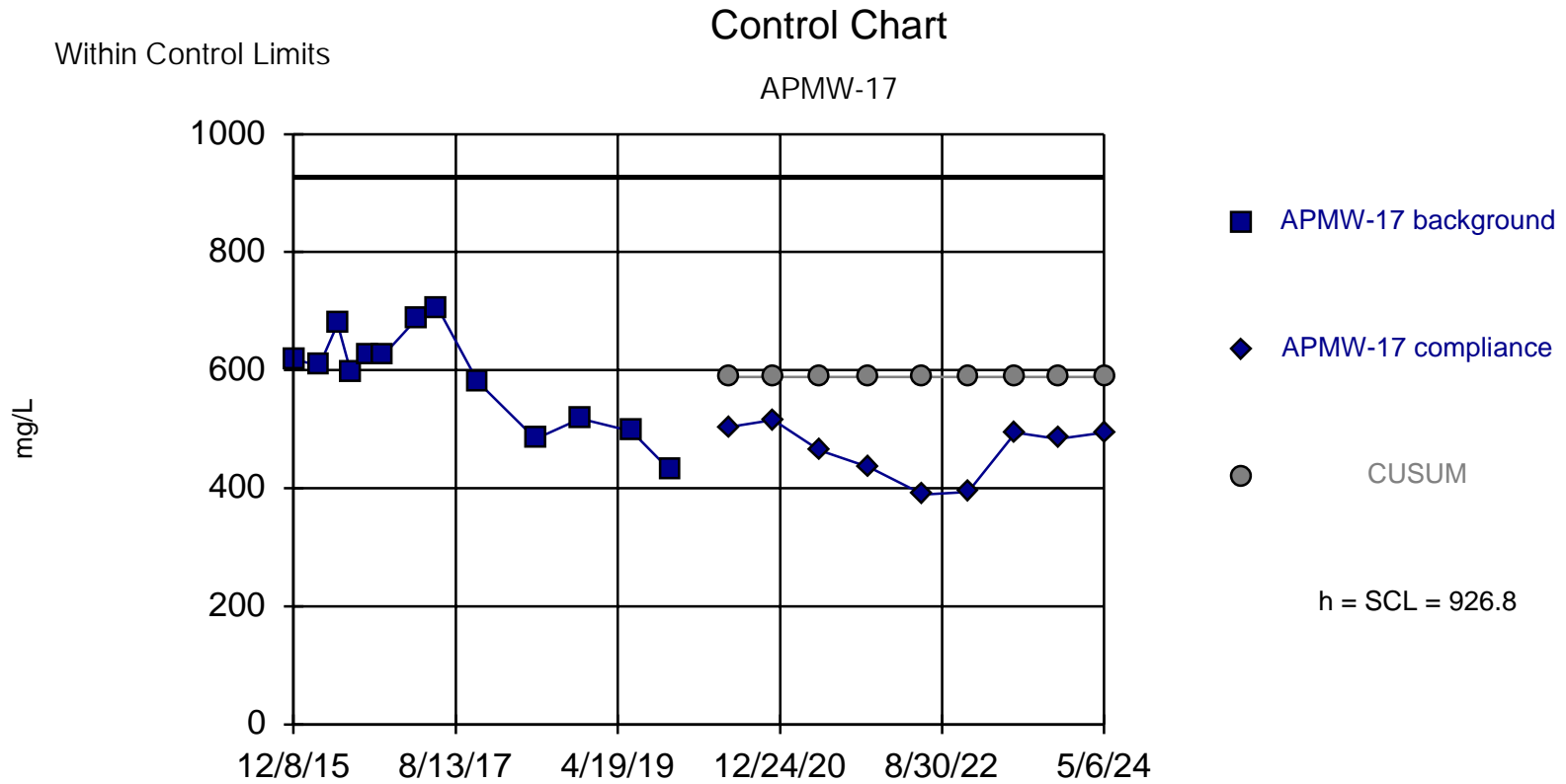
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:26 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=141.5, Std. Dev.=20.87, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8872, critical = 0.866. Report alpha = 0.00548. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 7/1/2024 10:56 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



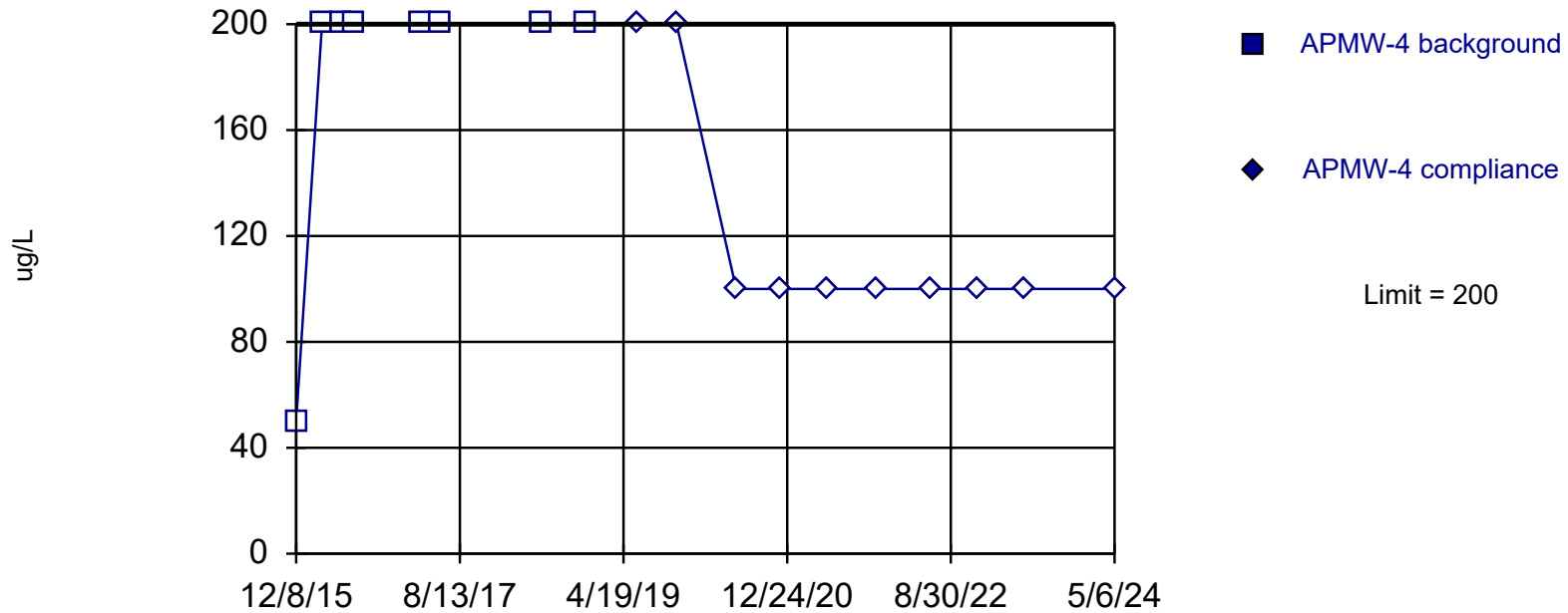
Background Data Summary: Mean=588.9, Std. Dev.=84.47, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9463, critical = 0.866. Report alpha = 0.00548. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 10:56 AM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

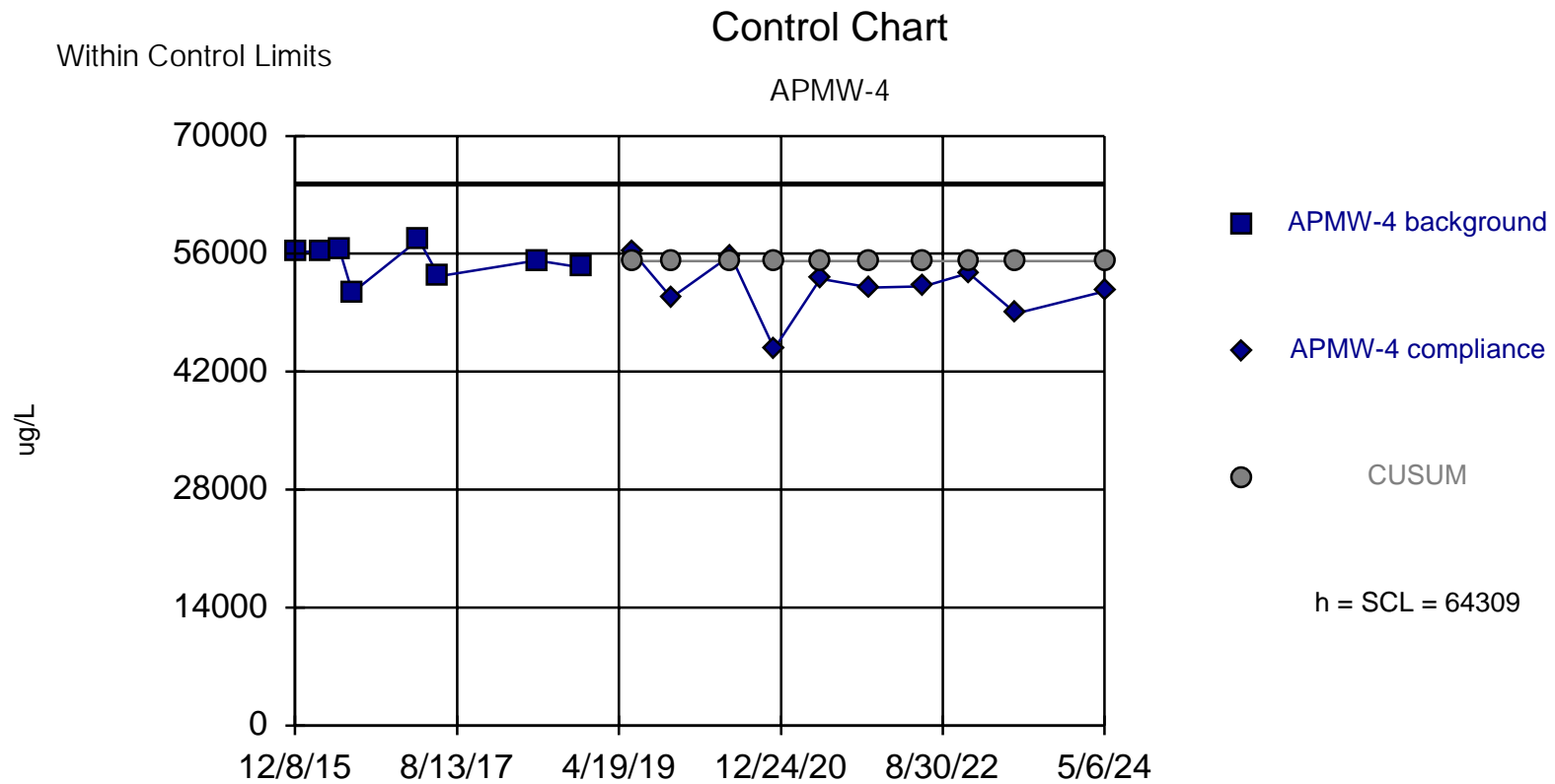
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:16 AM

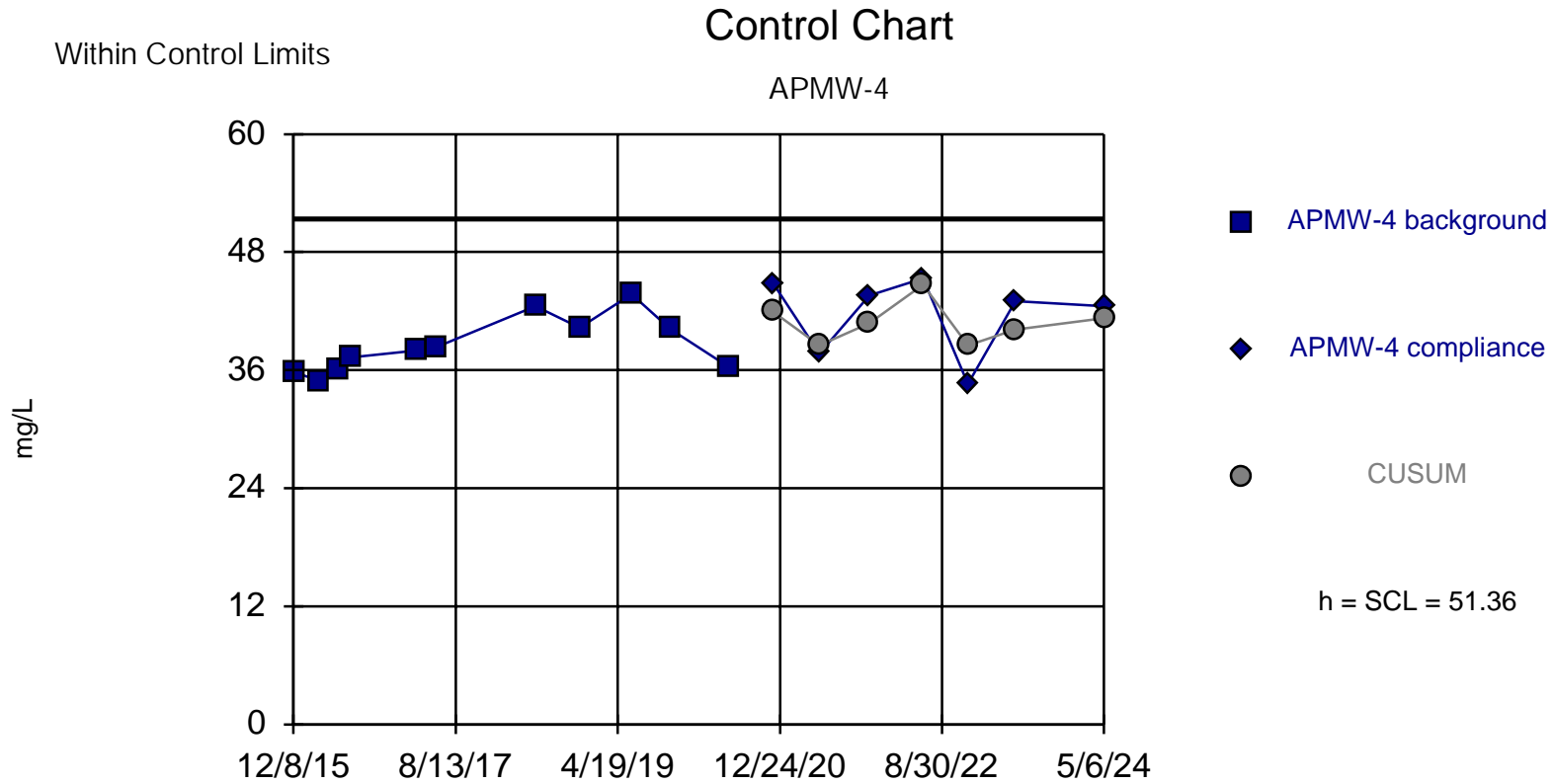
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=55138, Std. Dev.=2038, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9457, critical = 0.818. Report alpha = 0.01144. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Calcium Analysis Run 7/1/2024 11:27 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=38.5, Std. Dev.=2.859, n=11. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9332, critical = 0.85. Report alpha = 0.004268. Dates ending 6/16/2020 used for control stats. Standardized h=4.5, SCL=4.5.

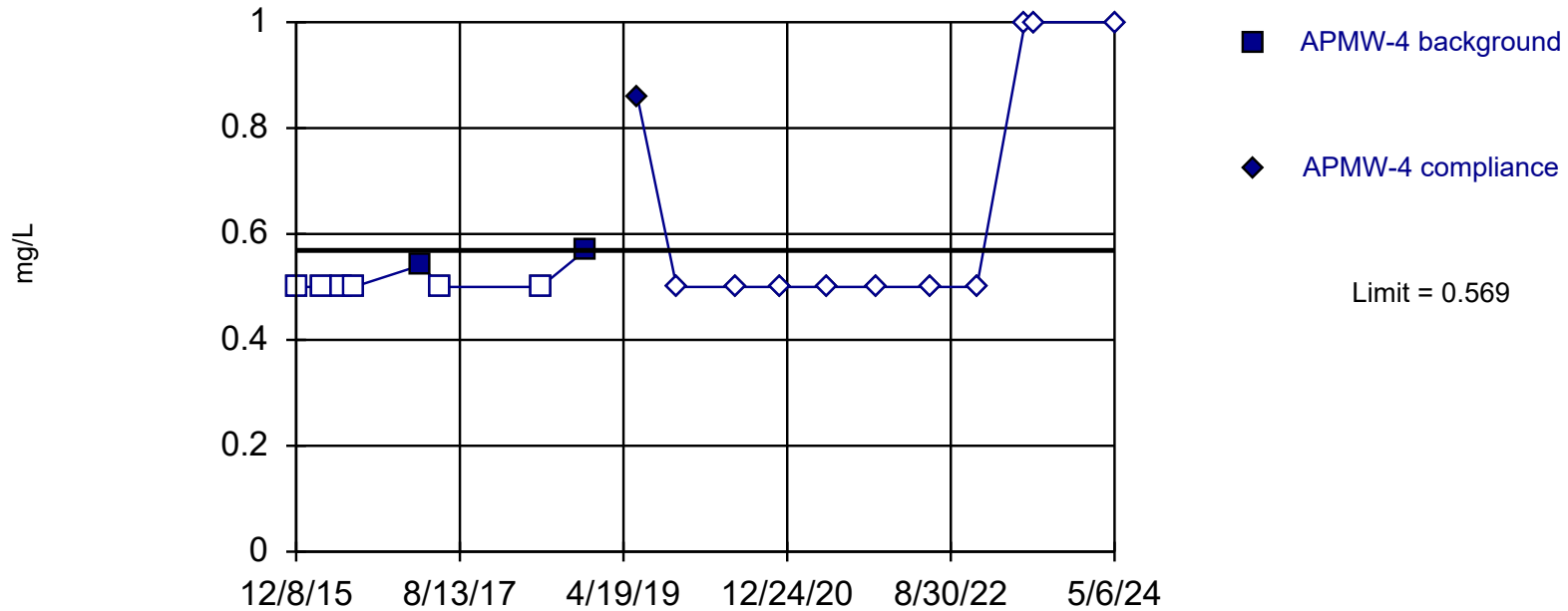
Constituent: Chloride Analysis Run 7/1/2024 11:22 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

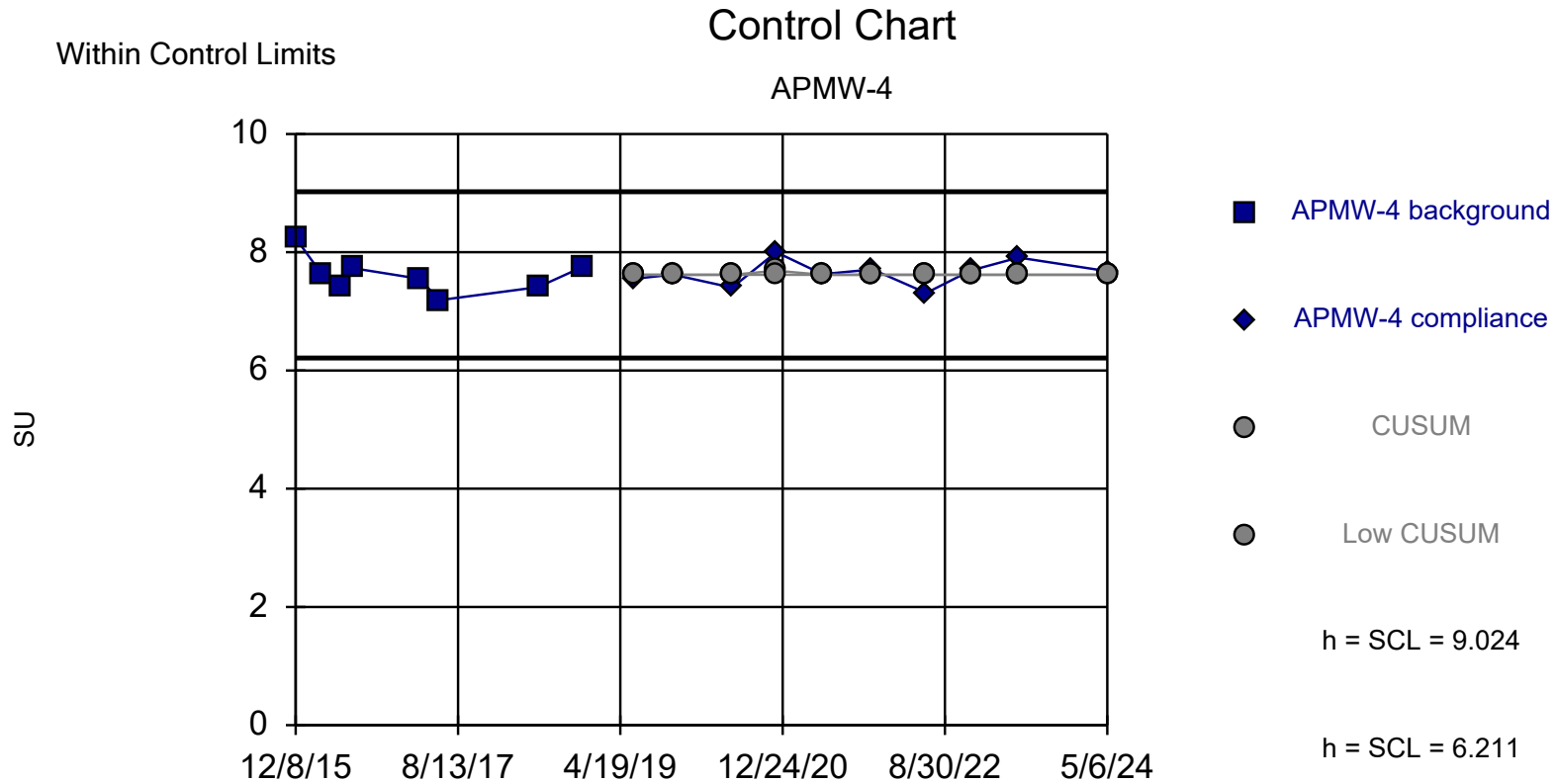
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 8 background values. 75% NDs. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 7/2/2024 5:46 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program

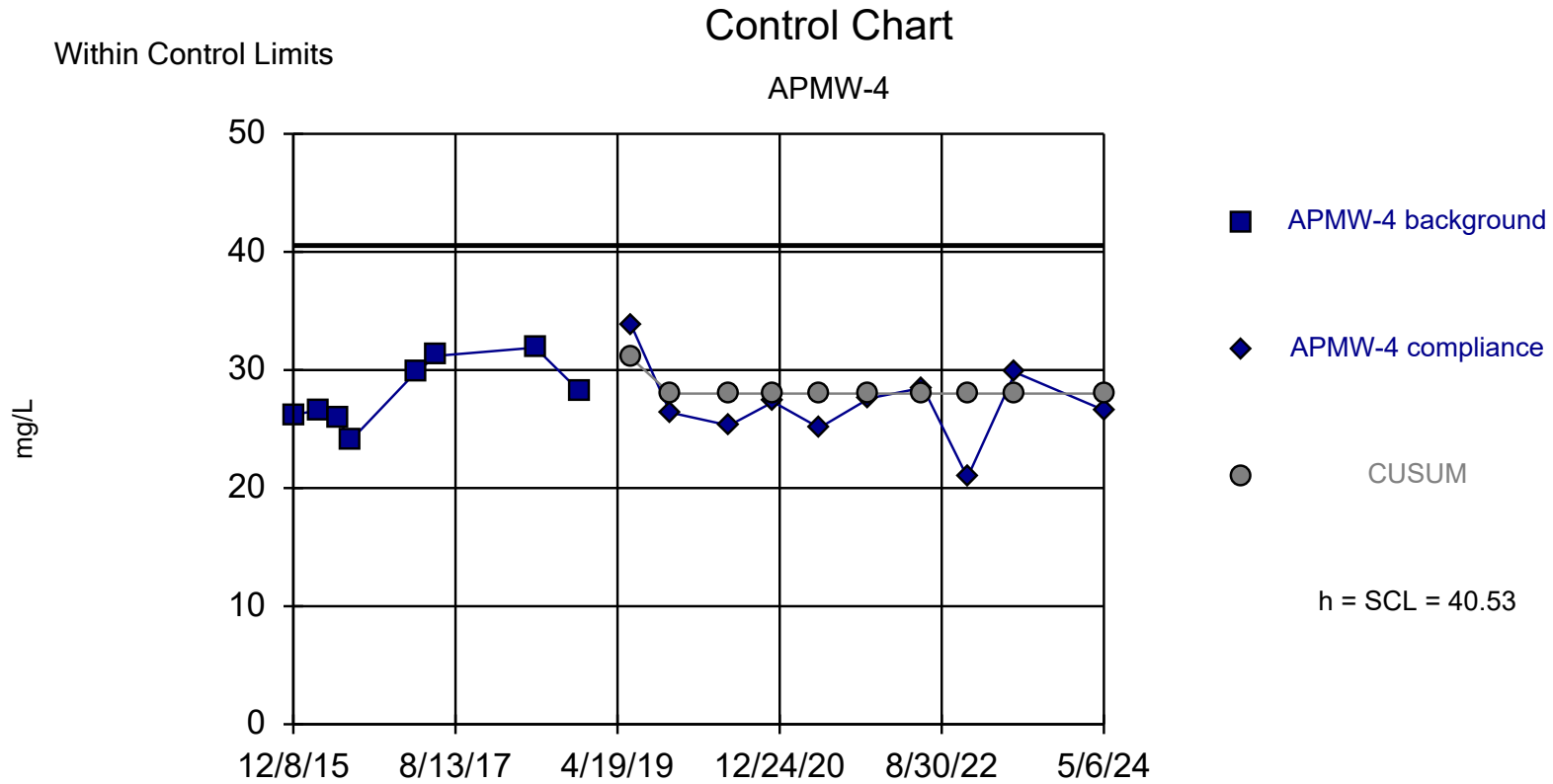


Background Data Summary: Mean=7.618, Std. Dev.=0.3125, n=8. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9369, critical = 0.818. Report alpha = 0.01131. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: pH, Field-Measured Analysis Run 7/2/2024 5:38 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program

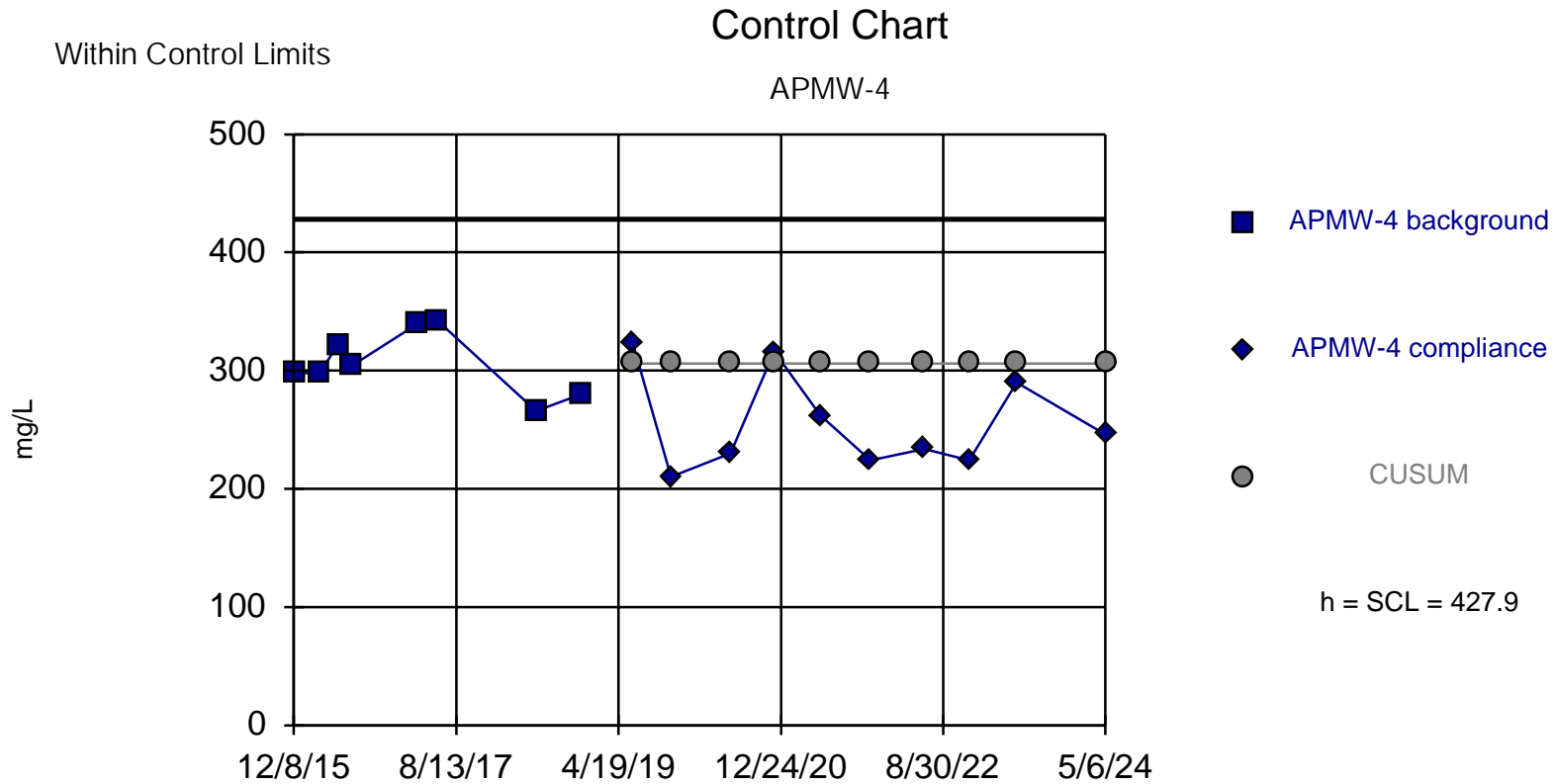




Background Data Summary: Mean=28, Std. Dev.=2.785, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9444, critical = 0.818. Report alpha = 0.03603. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Sulfate Analysis Run 1/25/2025 11:17 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



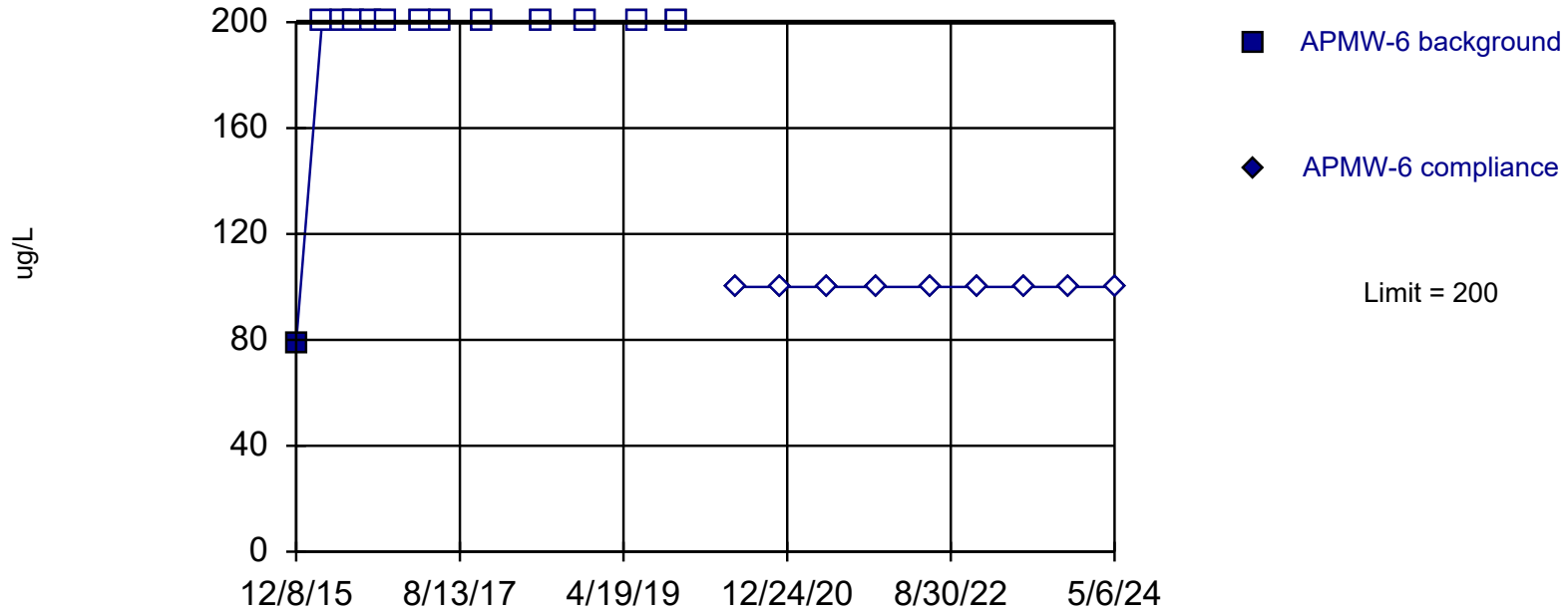
Background Data Summary: Mean=306.3, Std. Dev.=27.03, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9442, critical = 0.818. Report alpha = 0.01144. Dates ending 11/27/2018 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 11:27 AM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

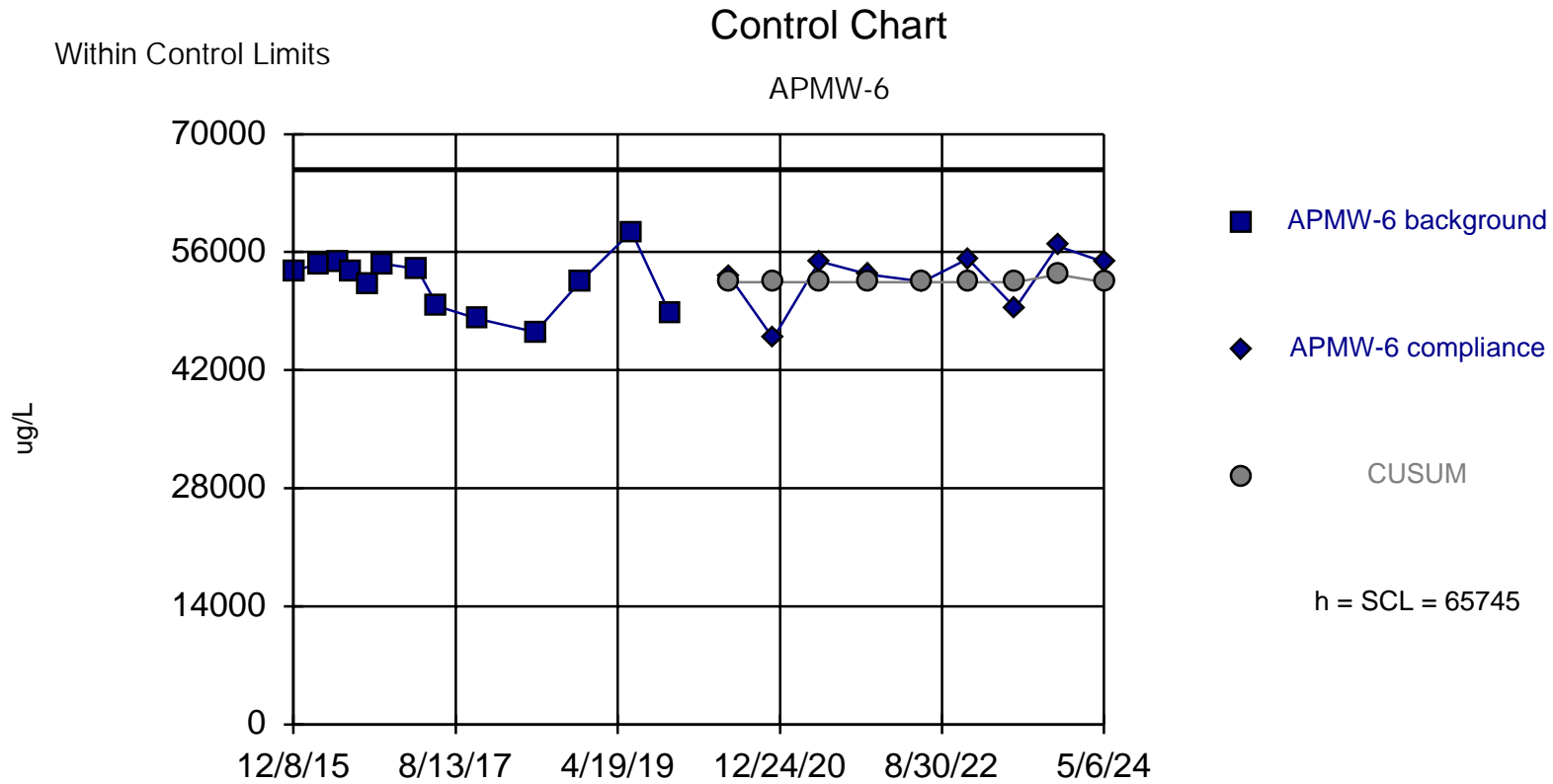
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:20 AM

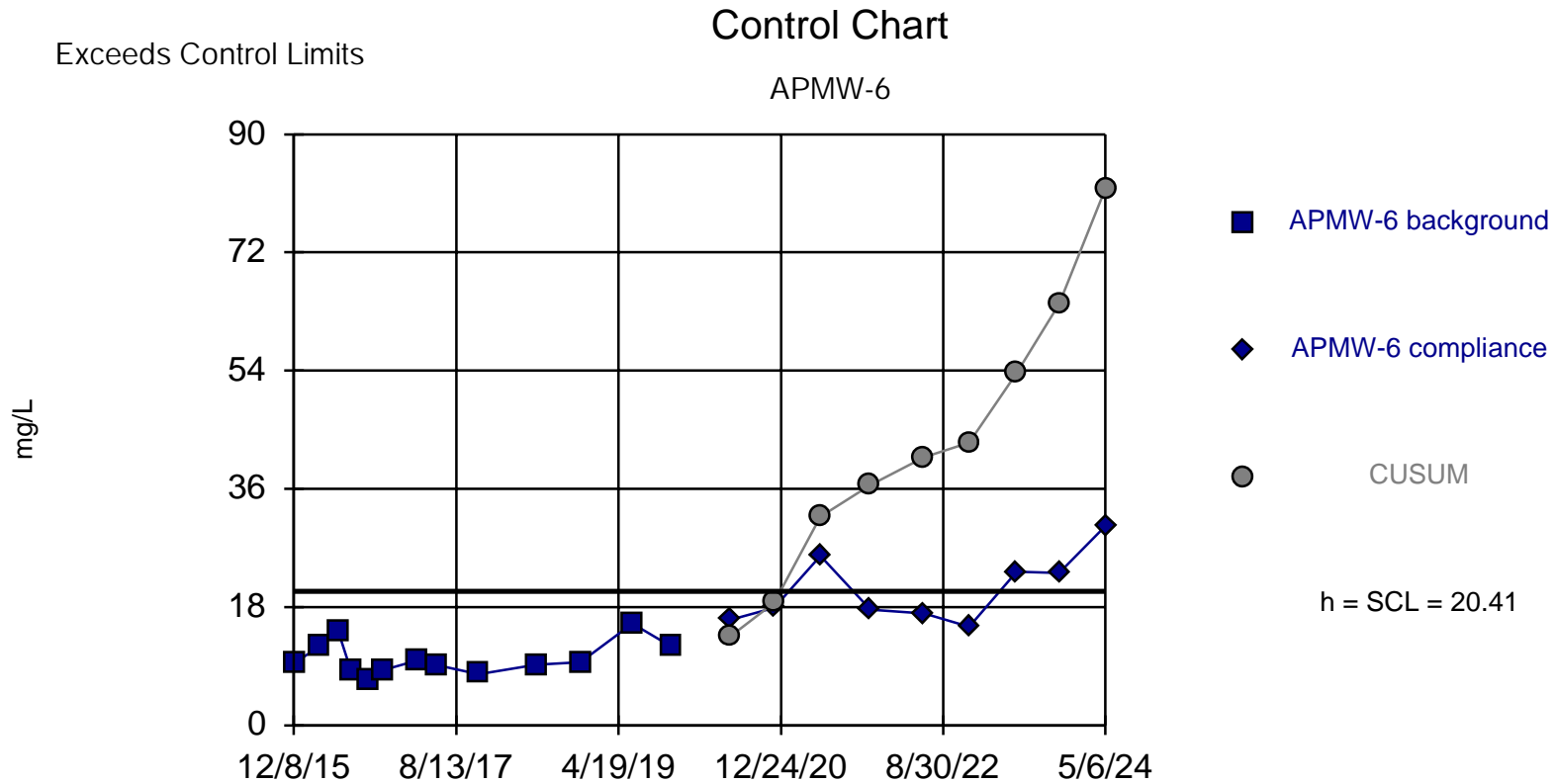
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=52400, Std. Dev.=3336, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9431, critical = 0.866. Report alpha = 0.005464. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/1/2024 11:43 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=10.21, Std. Dev.=2.551, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8941, critical = 0.866. Report alpha = 0.005464. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

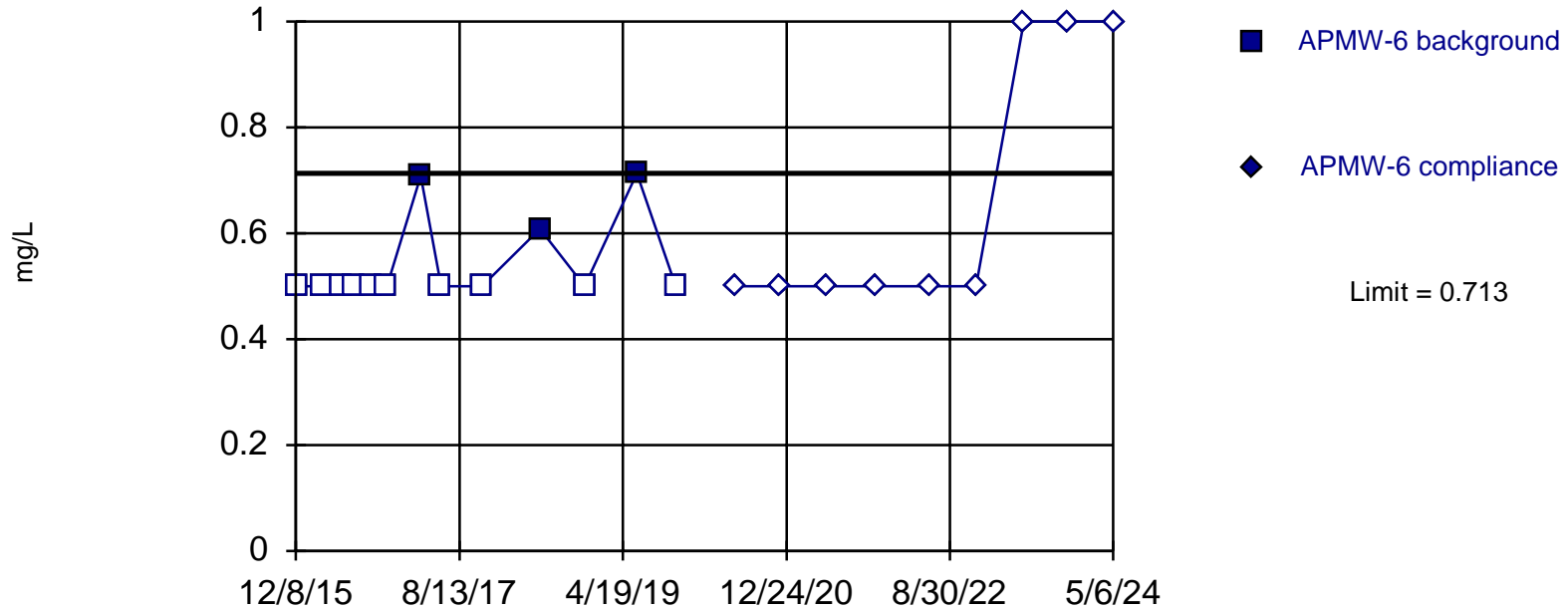
Constituent: Chloride Analysis Run 7/1/2024 11:43 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

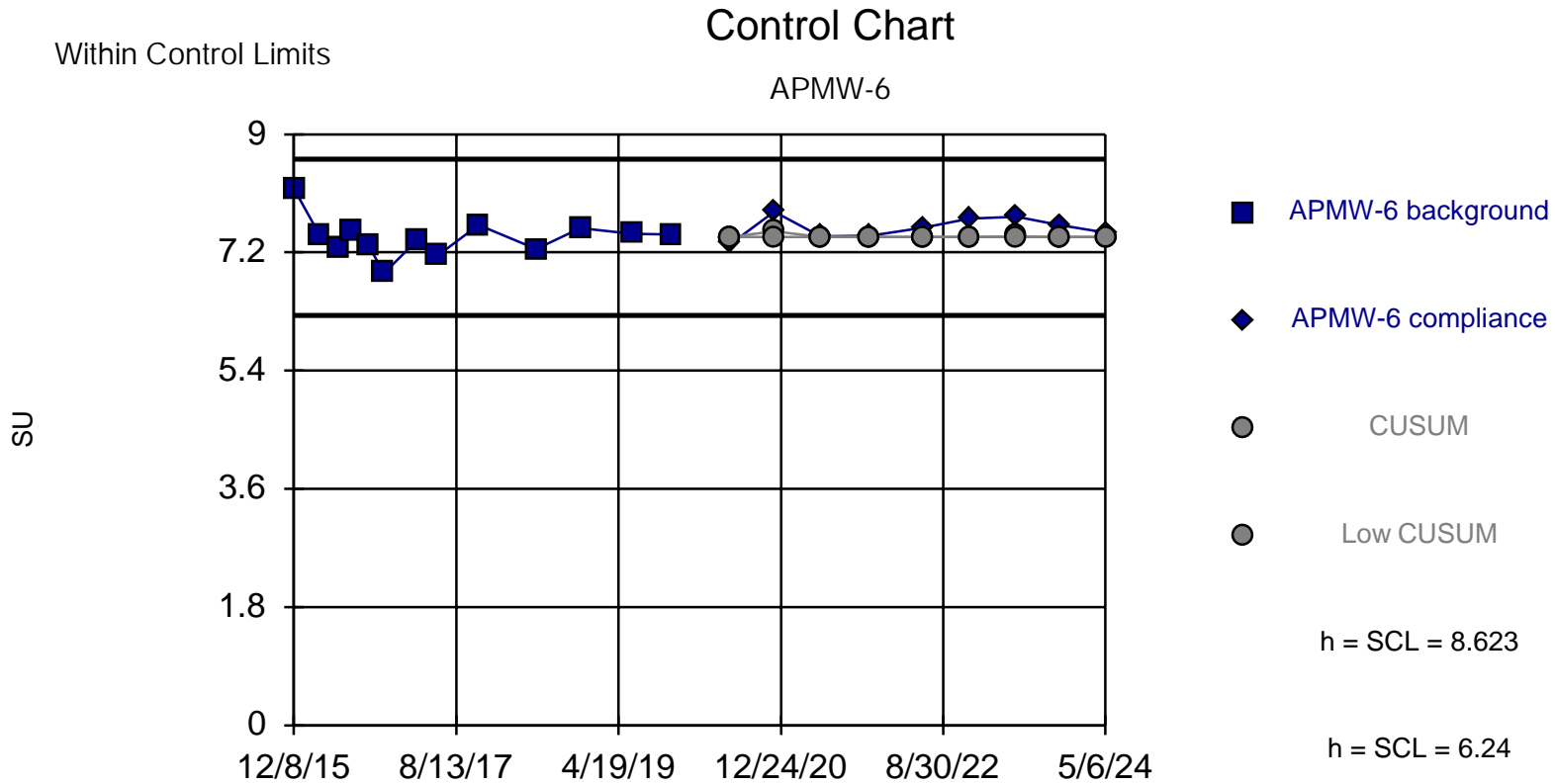
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 76.92% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

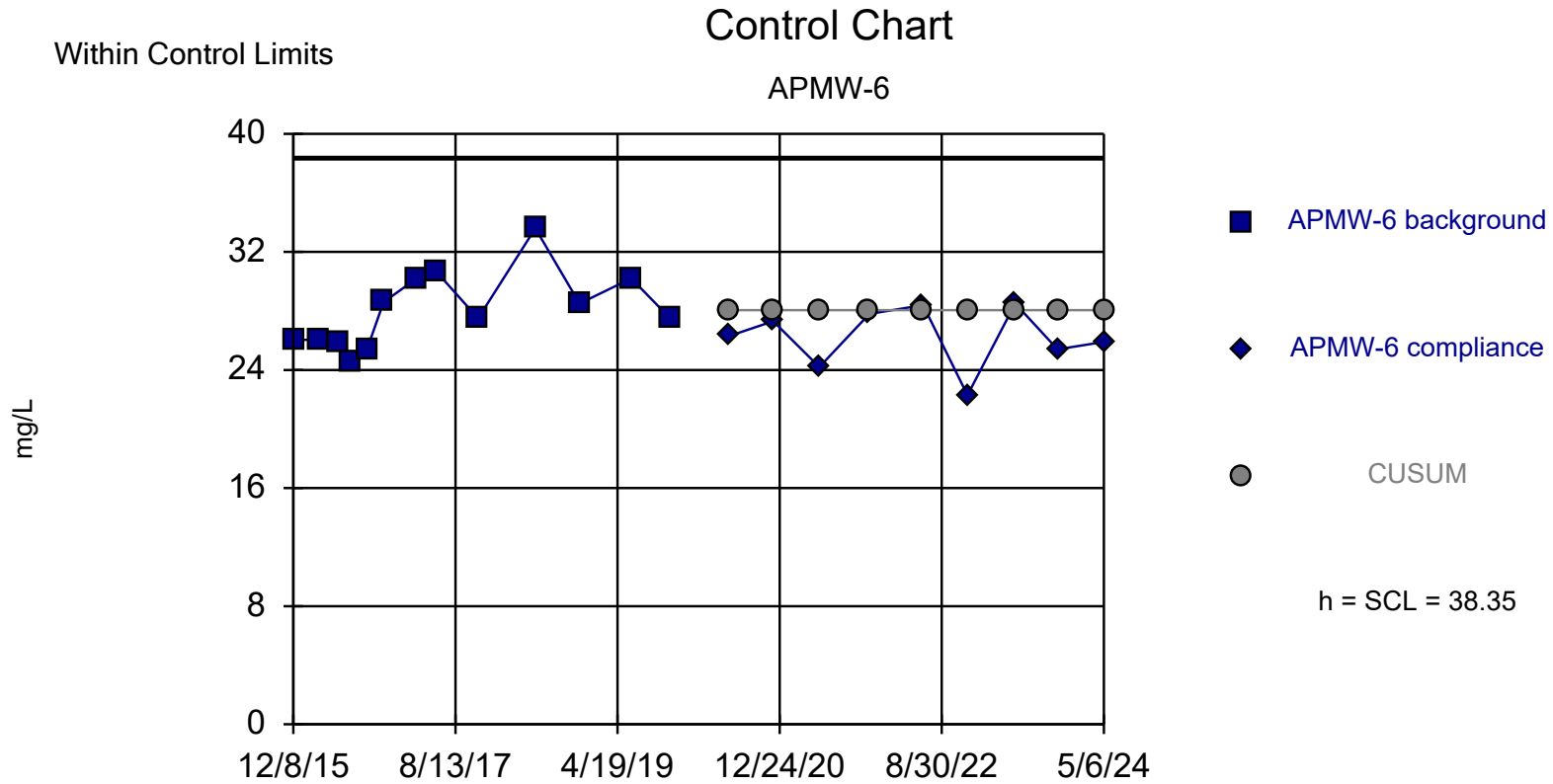
Constituent: Fluoride Analysis Run 7/1/2024 11:43 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.432, Std. Dev.=0.298, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9114, critical = 0.866. Report alpha = 0.005146. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:34 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

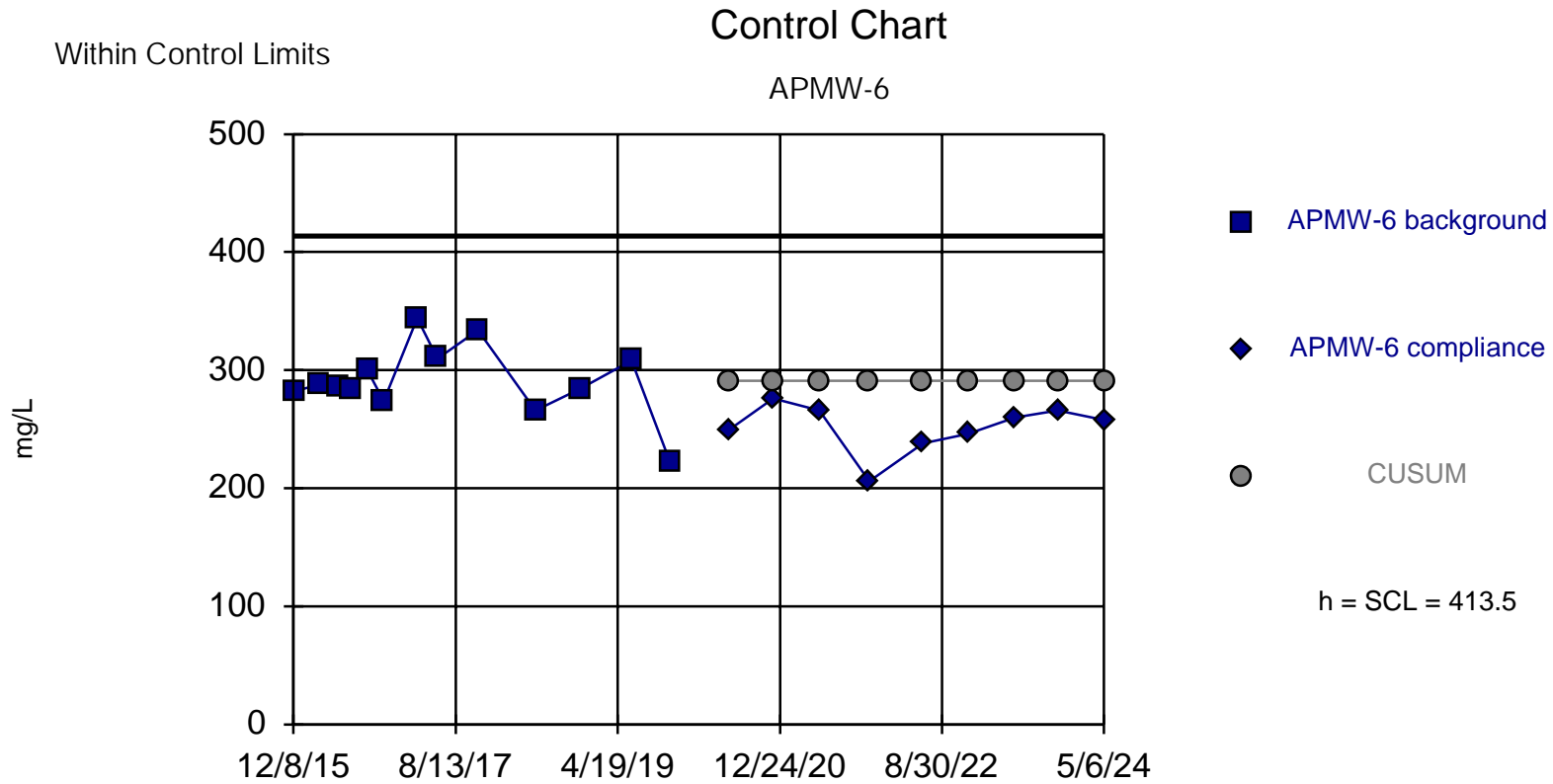


Background Data Summary: Mean=28.05, Std. Dev.=2.576, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9413, critical = 0.866. Report alpha = 0.01989. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:19 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]





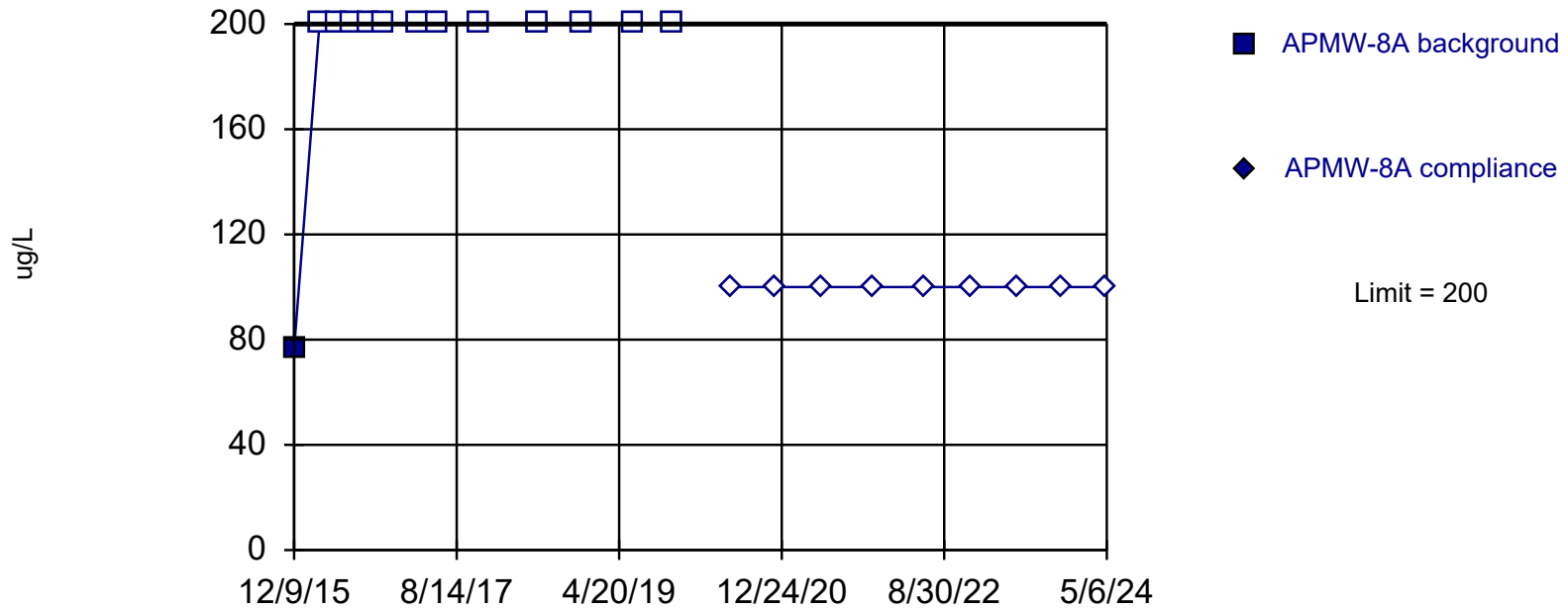
Background Data Summary: Mean=290.9, Std. Dev.=30.66, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9423, critical = 0.866. Report alpha = 0.005464. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 11:43 AM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

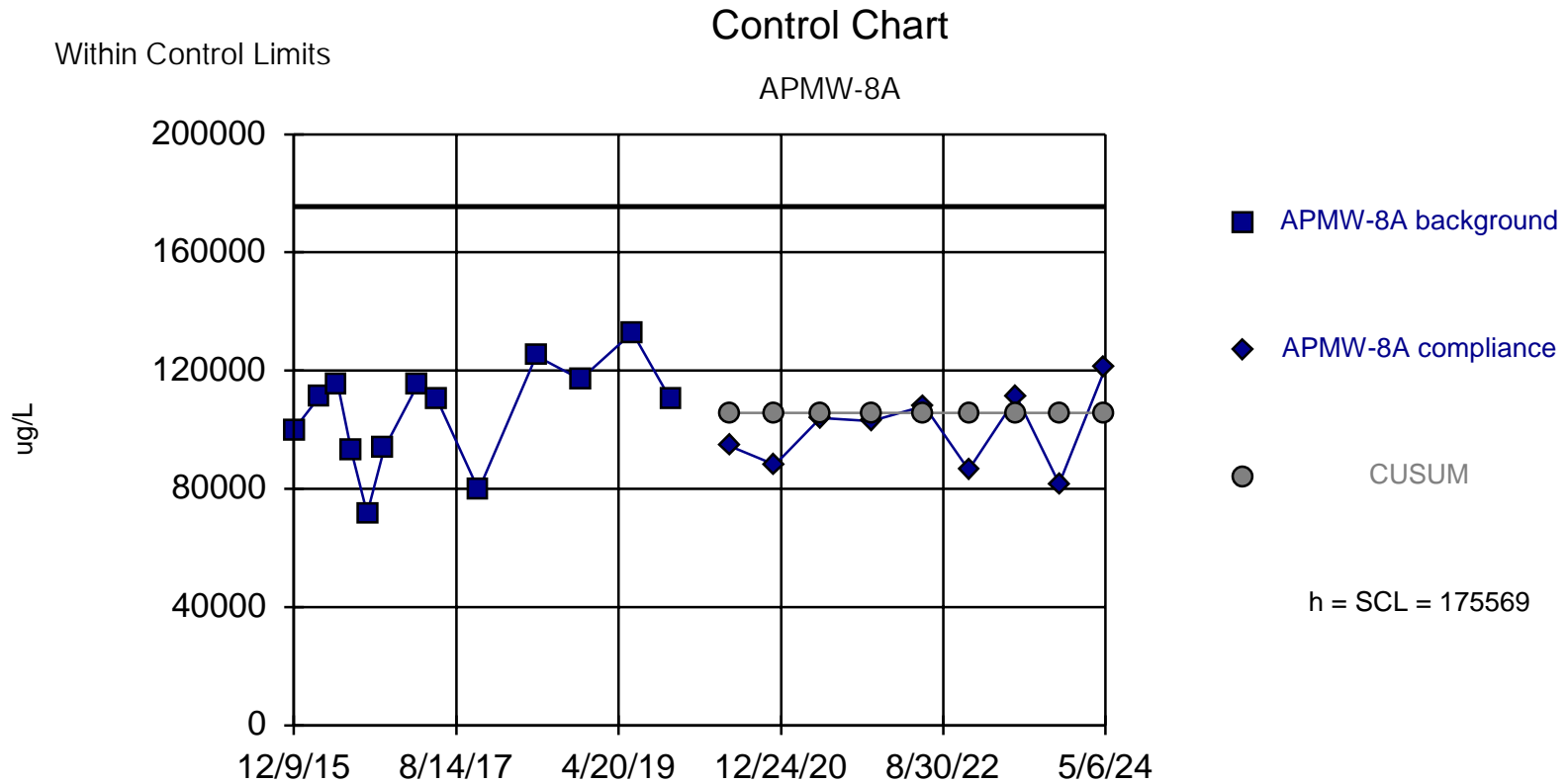
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:24 AM

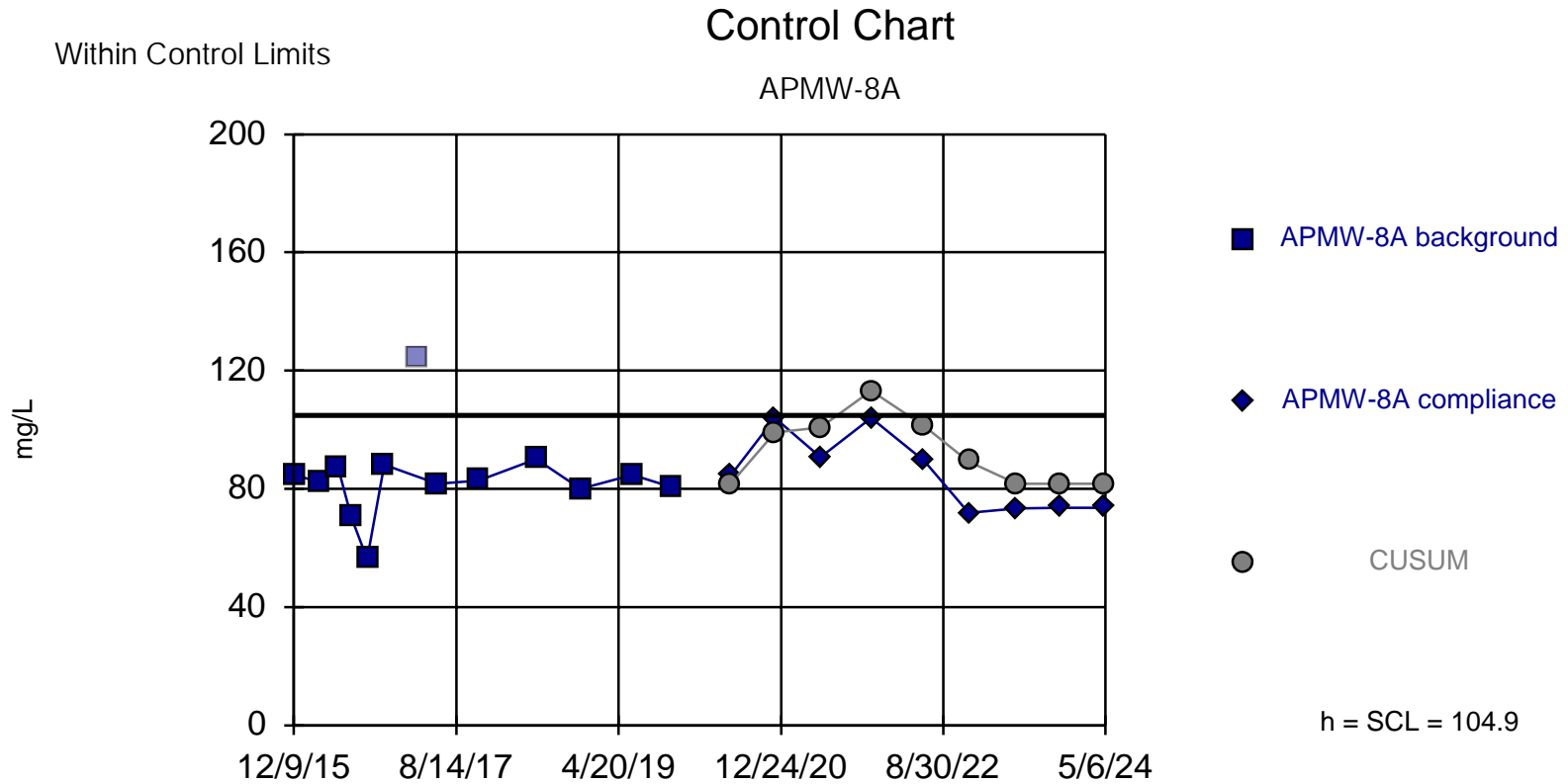
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=105685, Std. Dev.=17471, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9544, critical = 0.866. Report alpha = 0.005184. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/1/2024 11:58 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (based on cube transformation): Mean=545530, Std. Dev.=151922, n=12. Exceedance nullified by following point per option settings. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8793, critical = 0.859. Report alpha = 0.006026. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

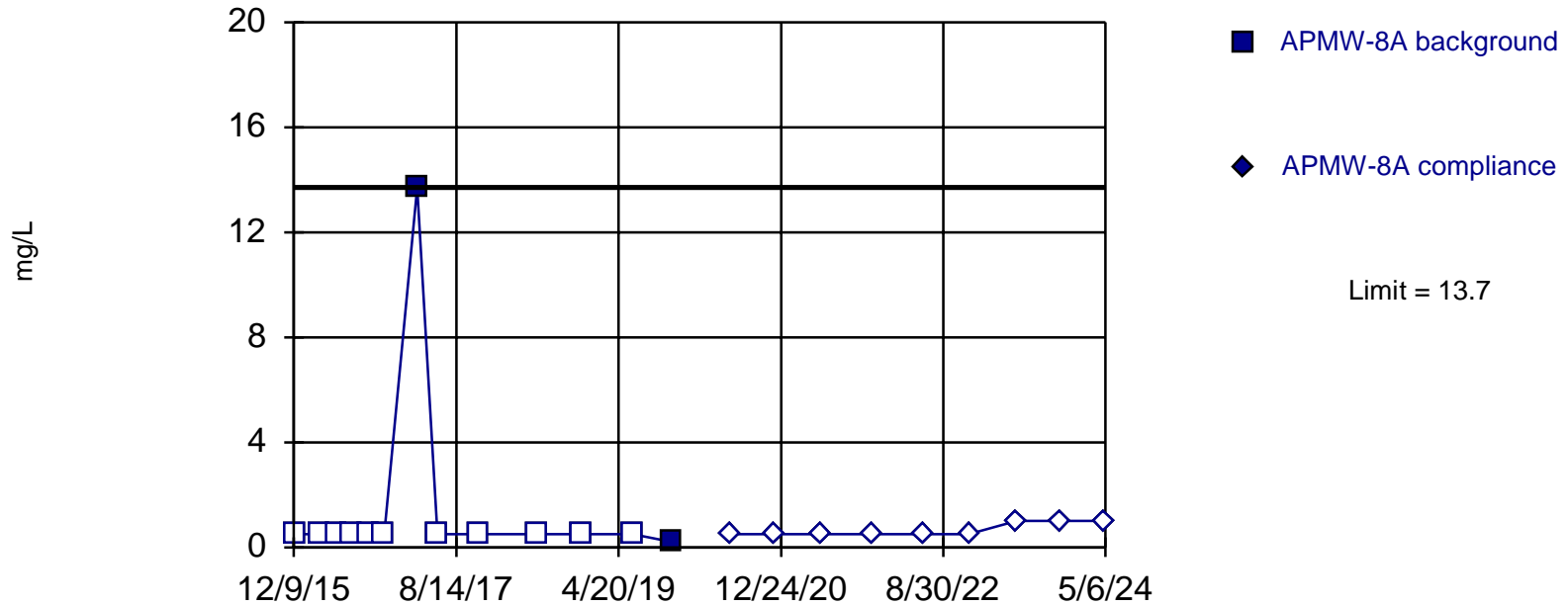
Constituent: Chloride Analysis Run 7/1/2024 3:10 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

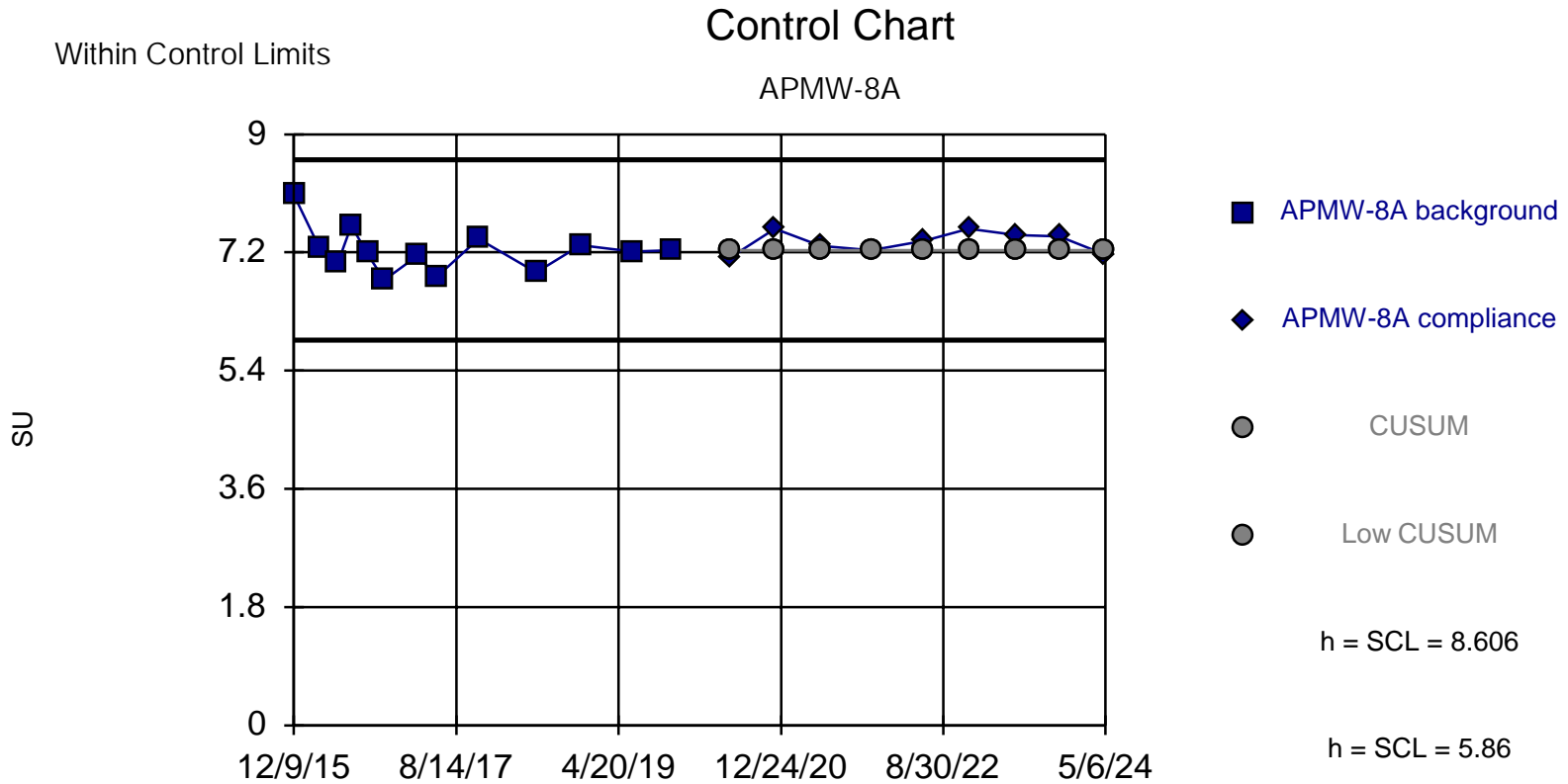
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 84.62% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

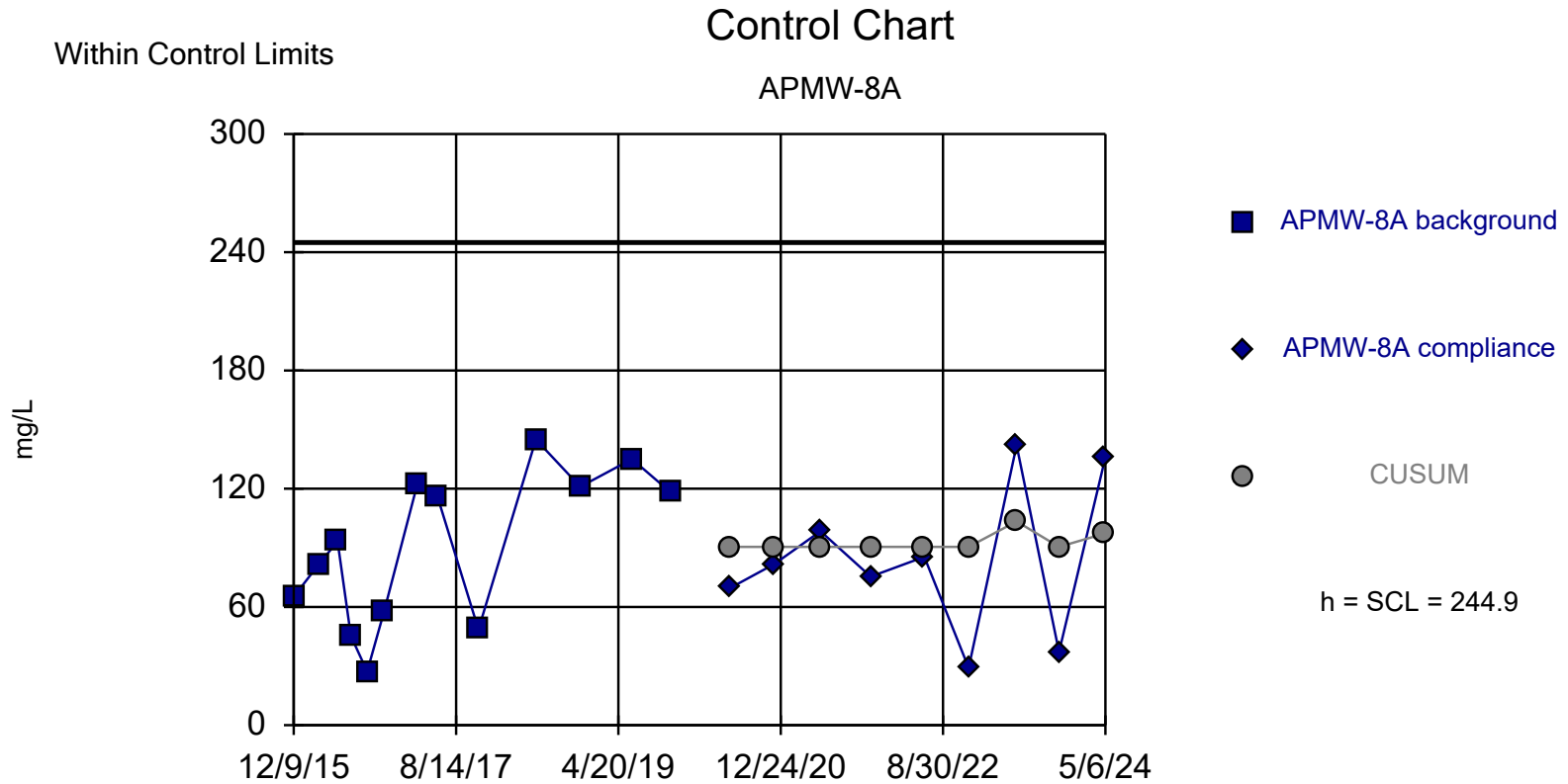
Constituent: Fluoride Analysis Run 7/1/2024 11:58 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.233, Std. Dev.=0.3432, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9148, critical = 0.866. Report alpha = 0.005146. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

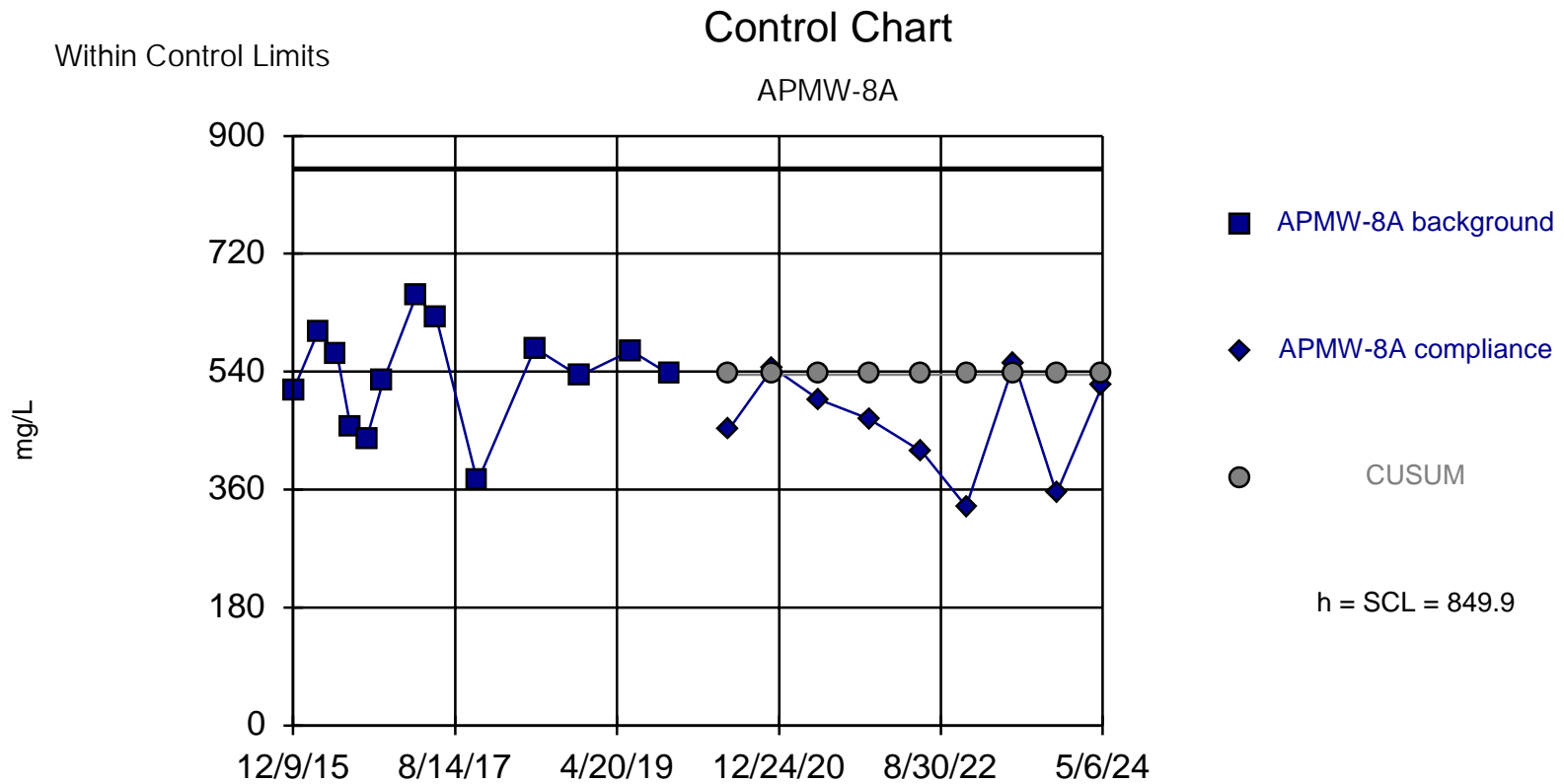
Constituent: pH, Field-Measured Analysis Run 7/2/2024 2:36 PM  
 Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=90.45, Std. Dev.=38.62, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9319, critical = 0.866. Report alpha = 0.01989. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:24 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=535.7, Std. Dev.=78.54, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9652, critical = 0.866. Report alpha = 0.00515. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

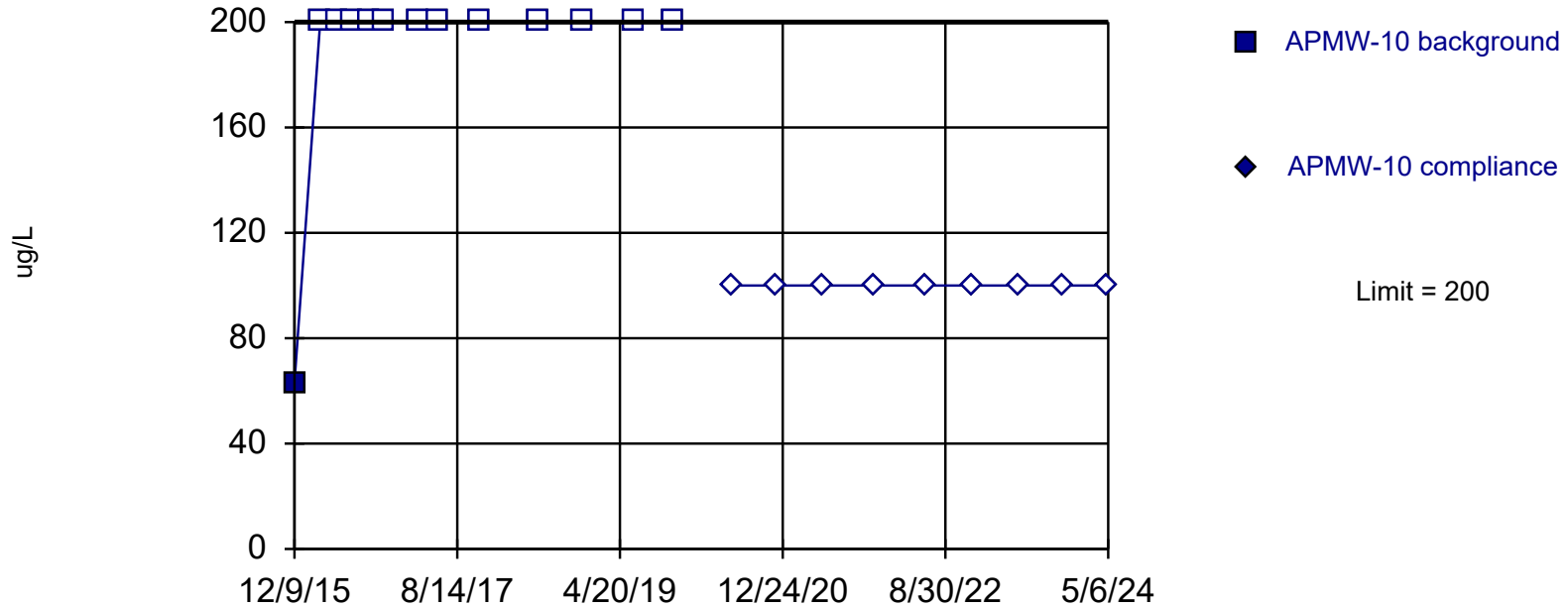
Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 3:12 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Within Limit

## Prediction Limit

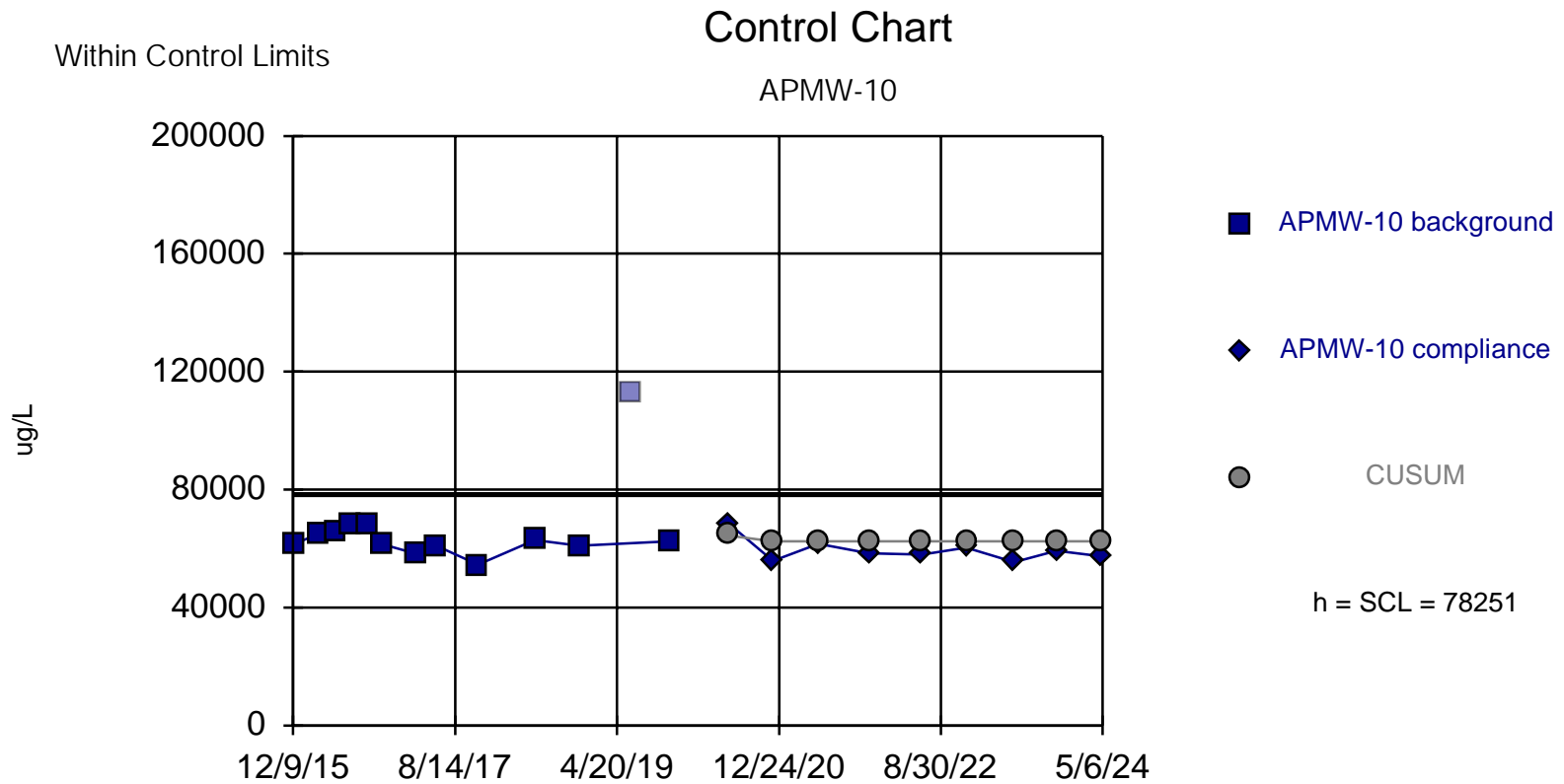
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:28 AM

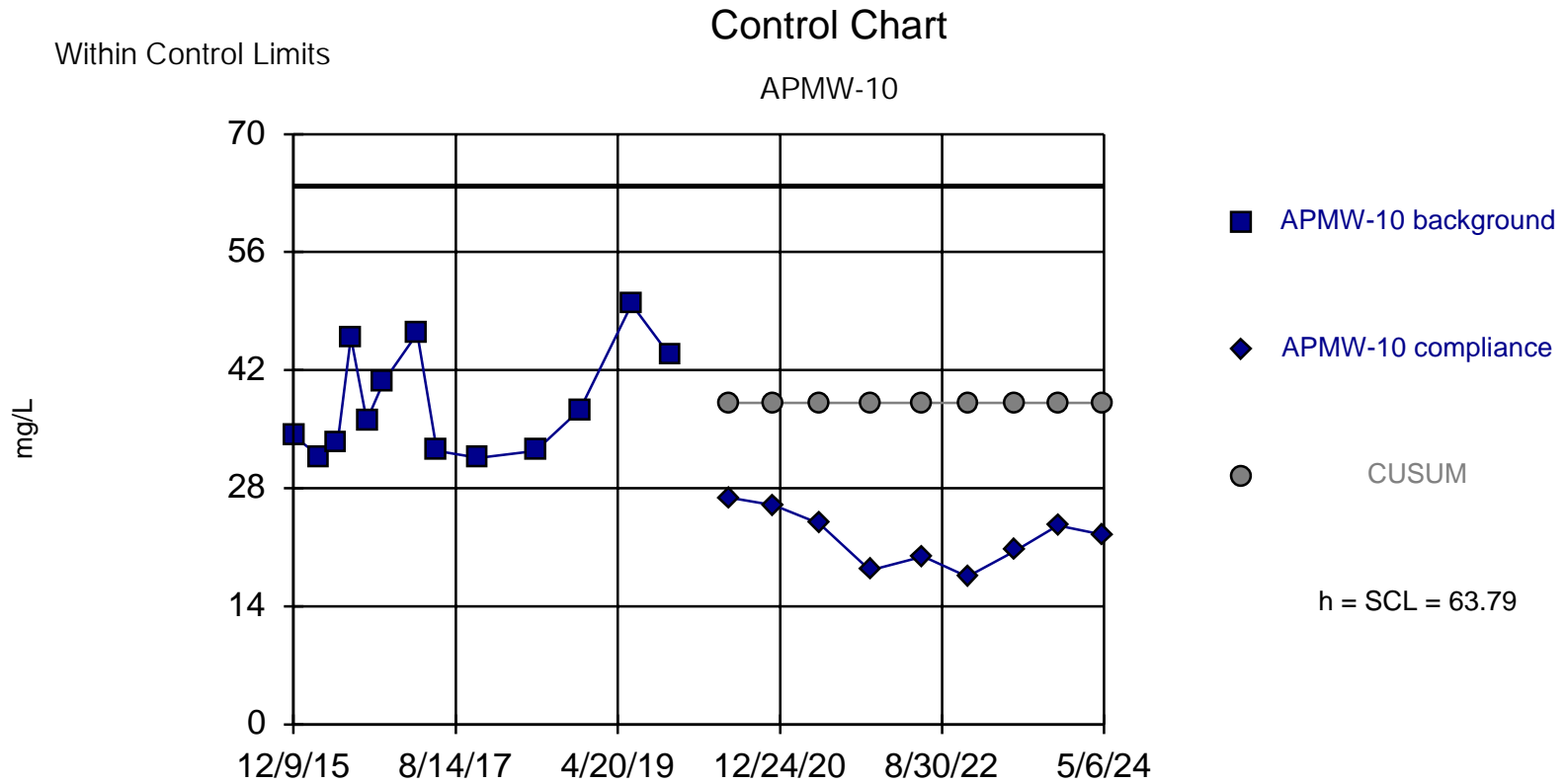
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=62525, Std. Dev.=3931, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.956, critical = 0.859. Report alpha = 0.00624. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/1/2024 3:18 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=38.12, Std. Dev.=6.416, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8726, critical = 0.866. Report alpha = 0.005204. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

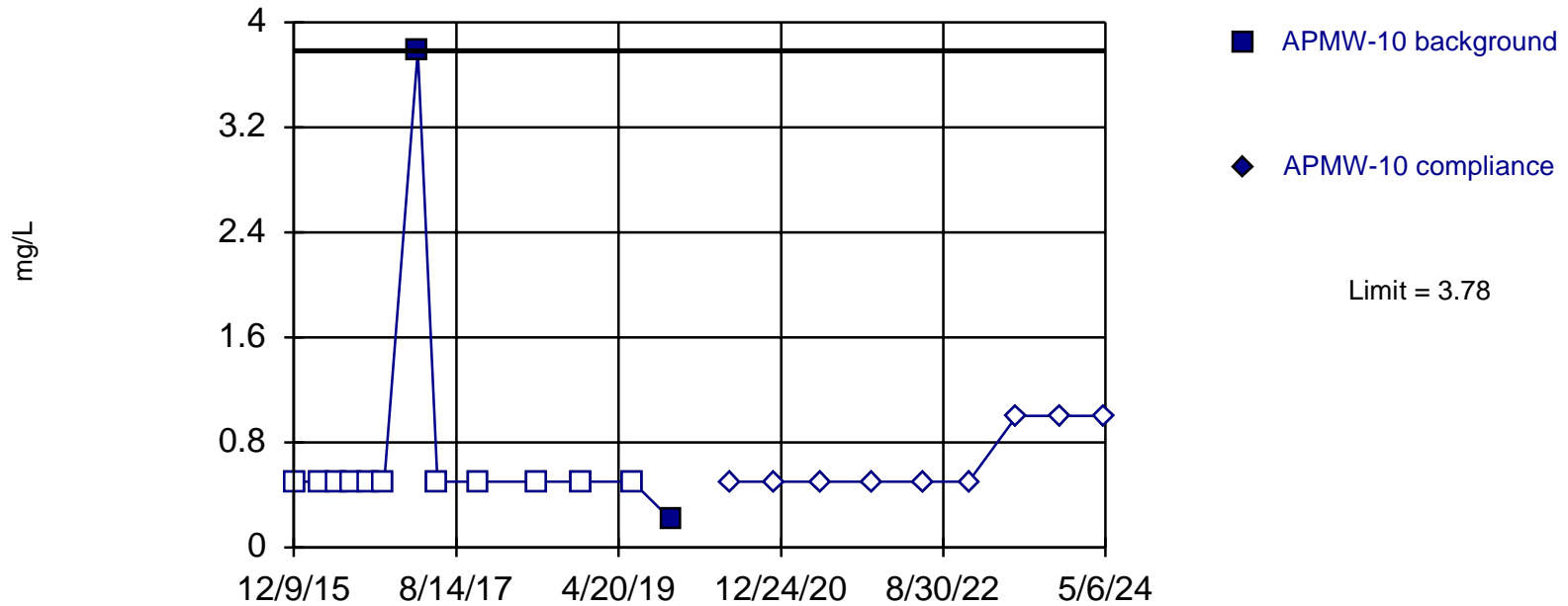
Constituent: Chloride Analysis Run 7/1/2024 3:20 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

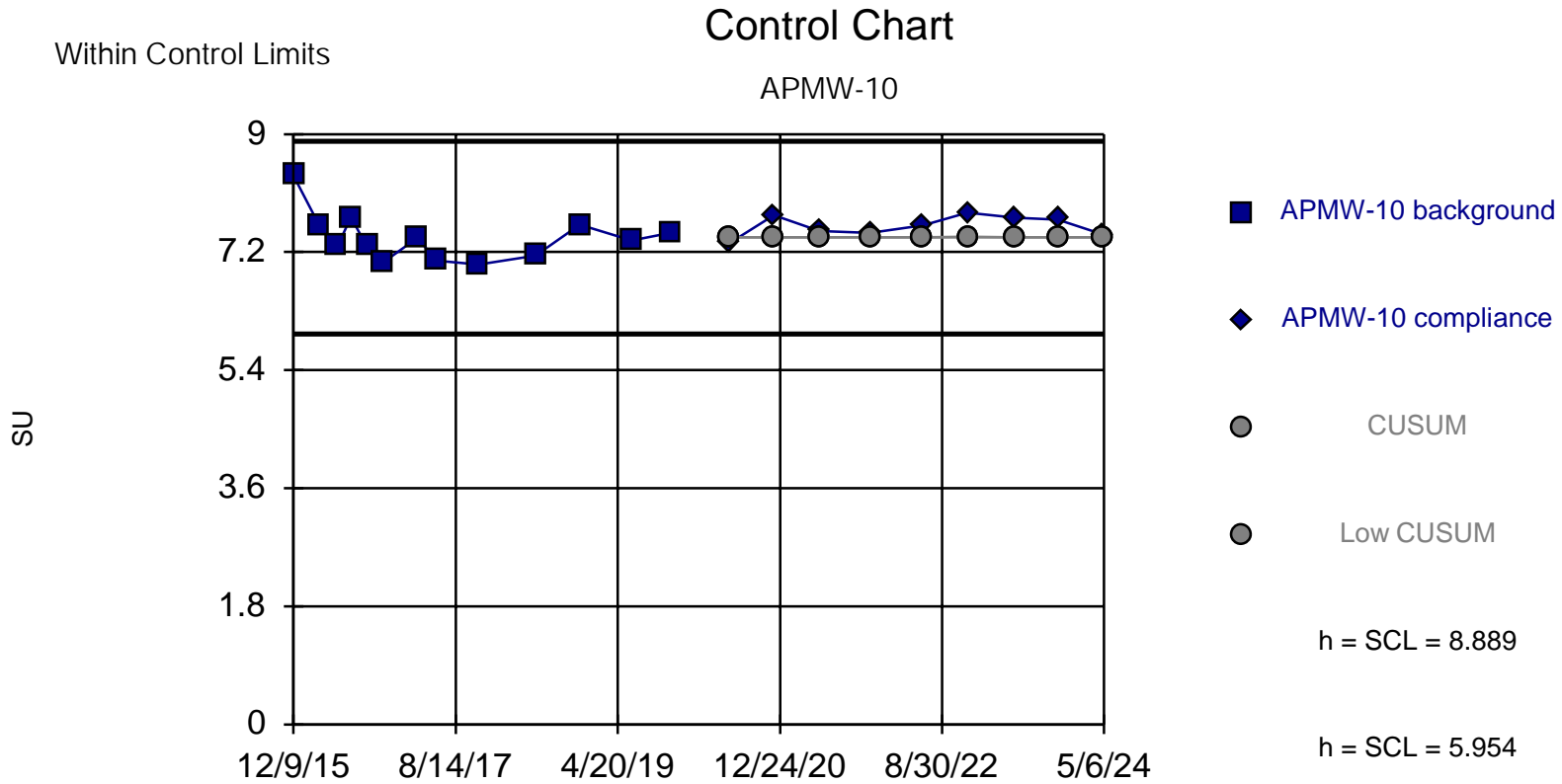
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 84.62% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

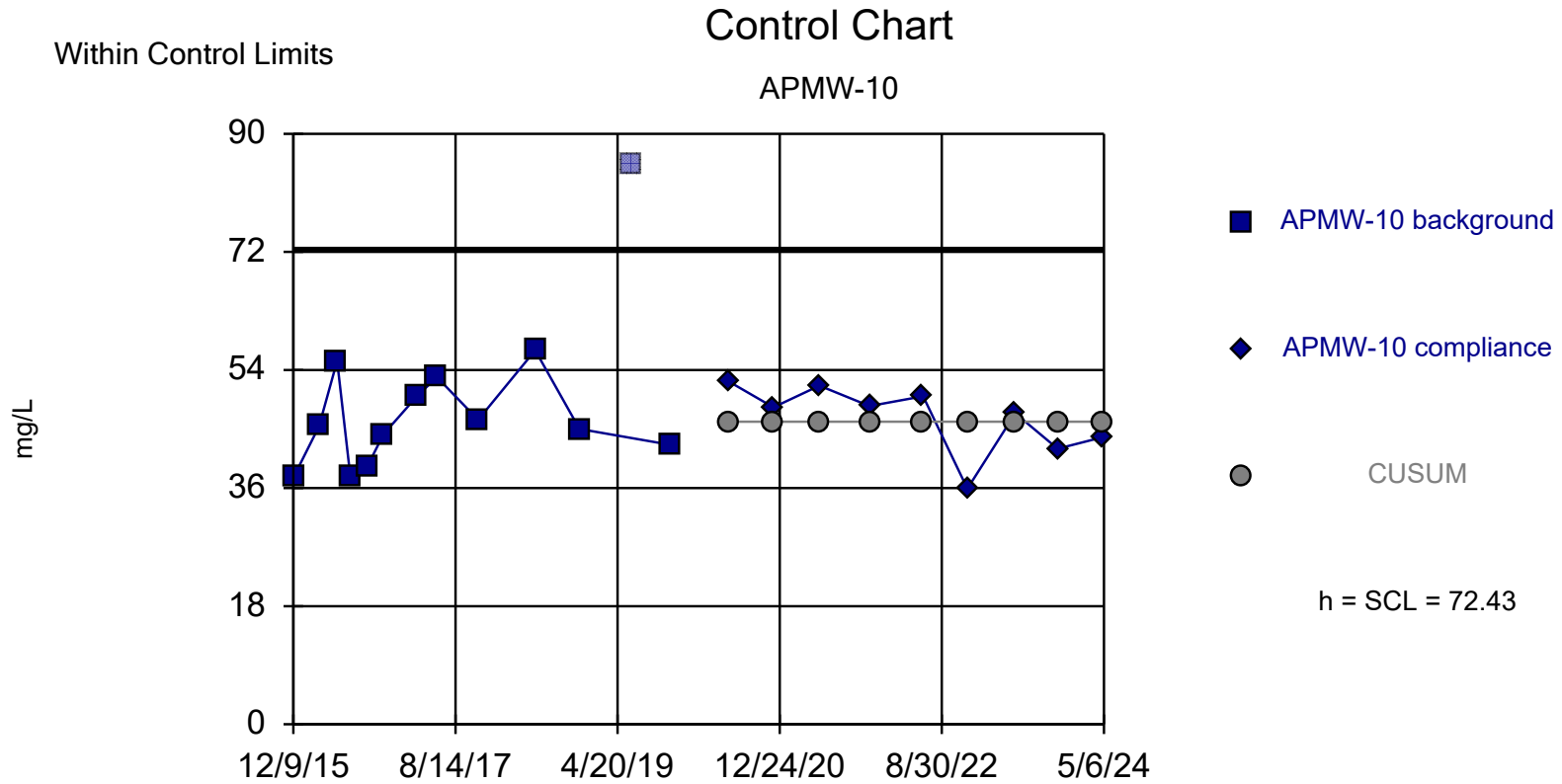
Constituent: Fluoride Analysis Run 7/1/2024 3:20 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.422, Std. Dev.=0.3669, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8842, critical = 0.866. Report alpha = 0.005146. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

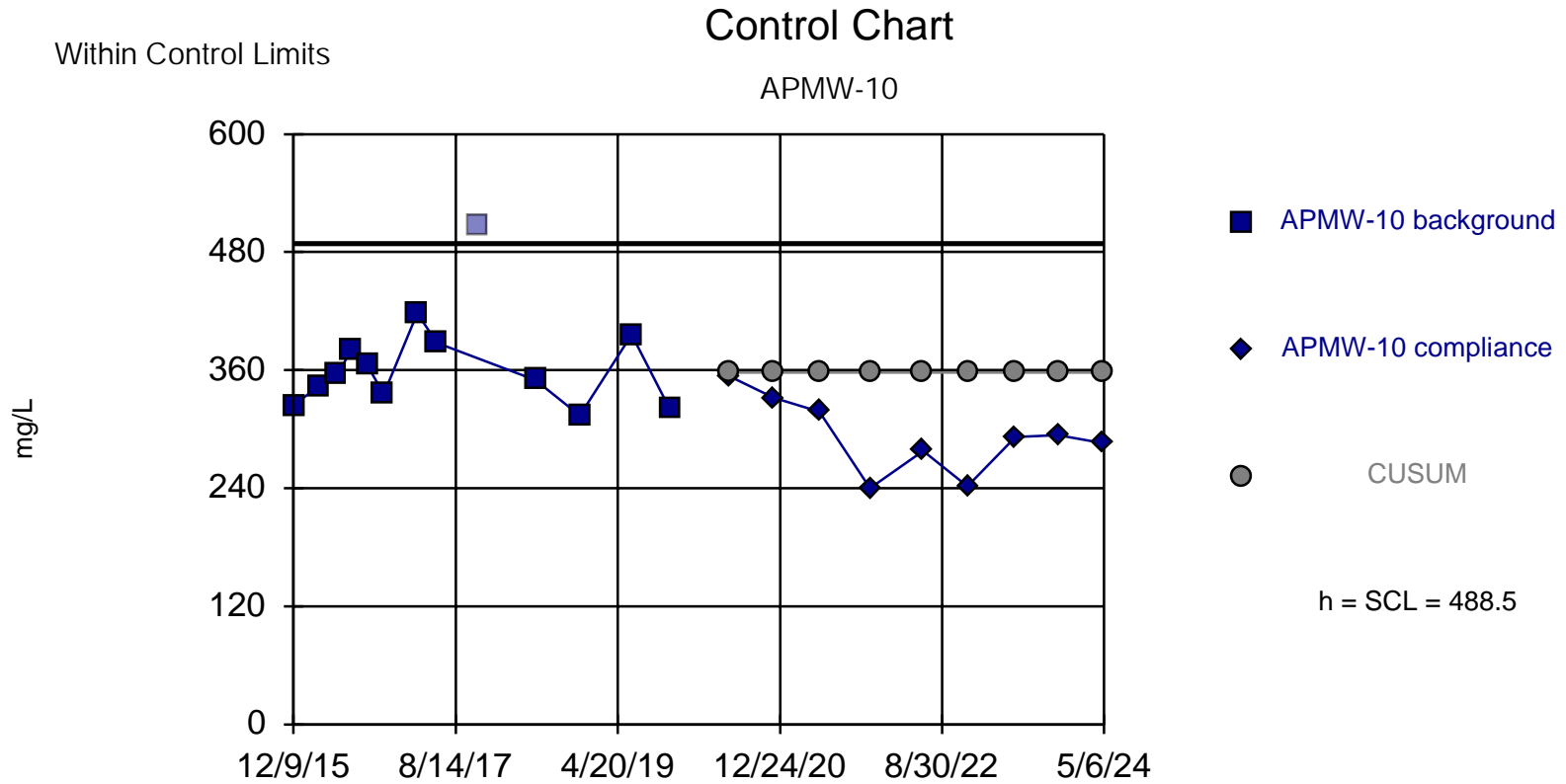
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:39 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=46.11, Std. Dev.=6.58, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9379, critical = 0.859. Report alpha = 0.02258. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:27 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=357.7, Std. Dev.=32.72, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9618, critical = 0.859. Report alpha = 0.006188. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

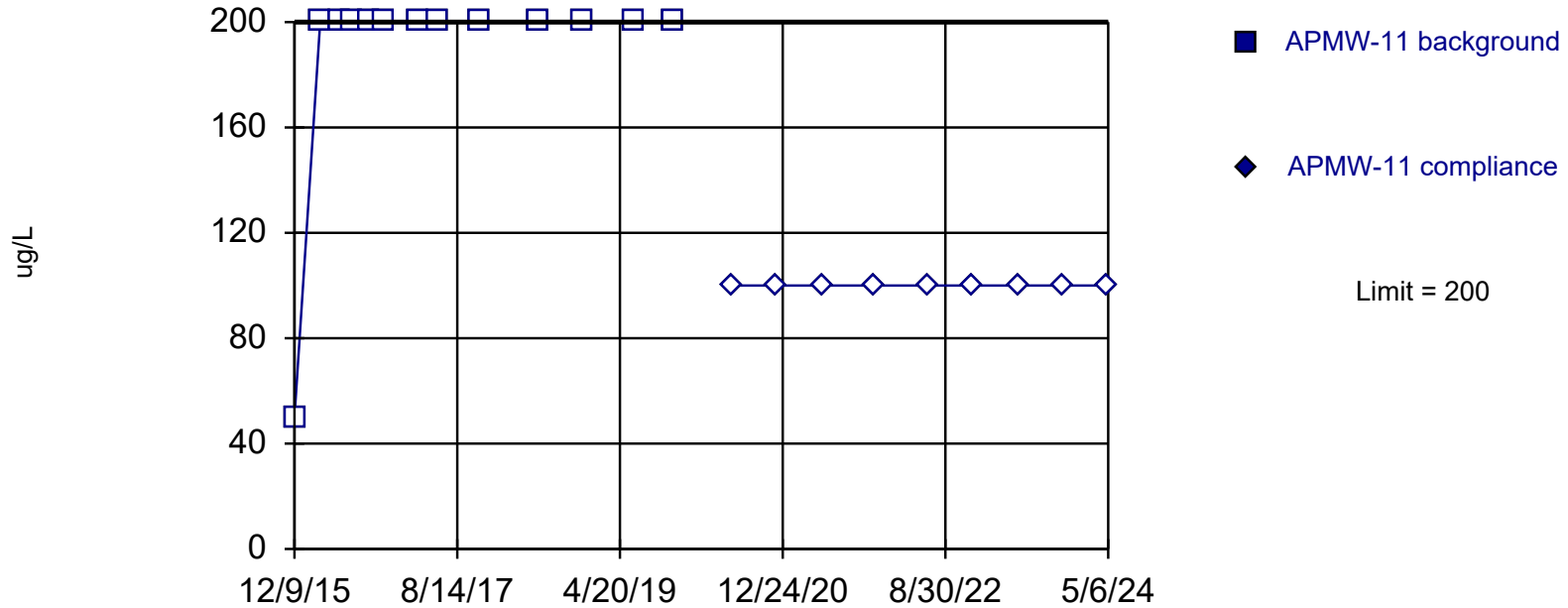
Constituent: Total Dissolved Solids Analysis Run 7/1/2024 3:26 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

Intrawell Non-parametric

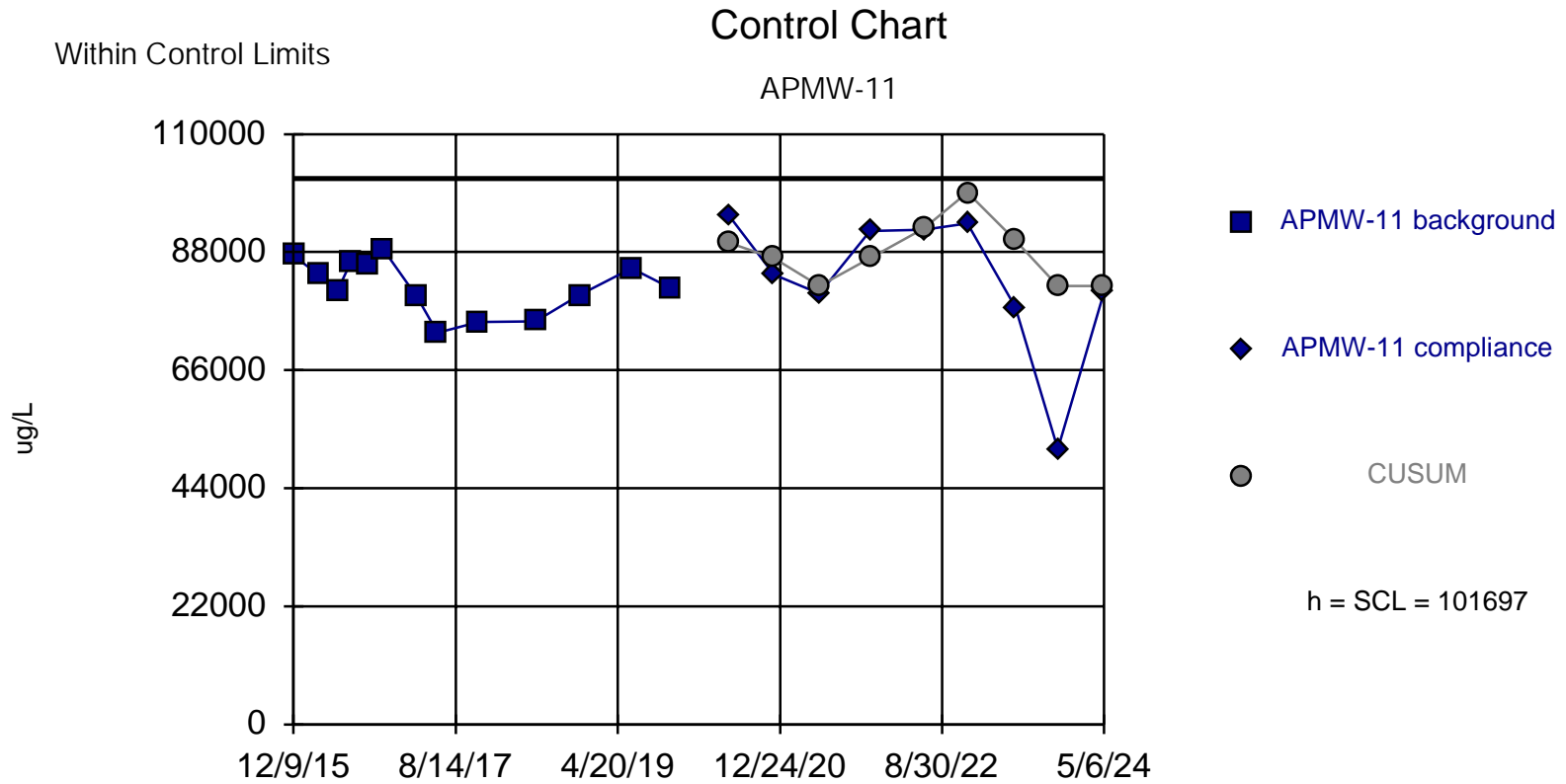


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. All background values (n = 13) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:30 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

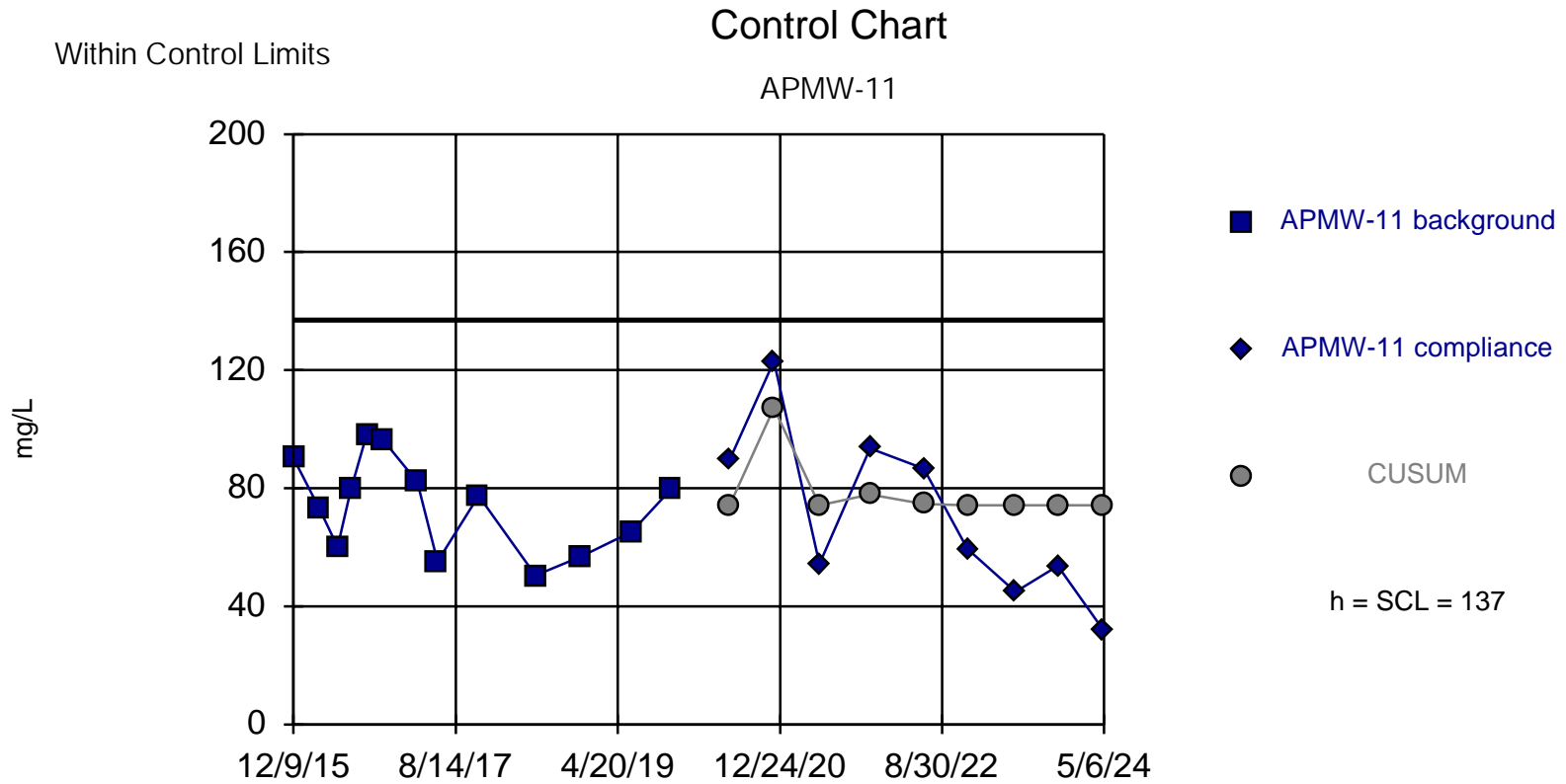




Background Data Summary: Mean=81646, Std. Dev.=5013, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9374, critical = 0.866. Report alpha = 0.005388. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/1/2024 3:42 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=74.16, Std. Dev.=15.7, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9499, critical = 0.866. Report alpha = 0.005388. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

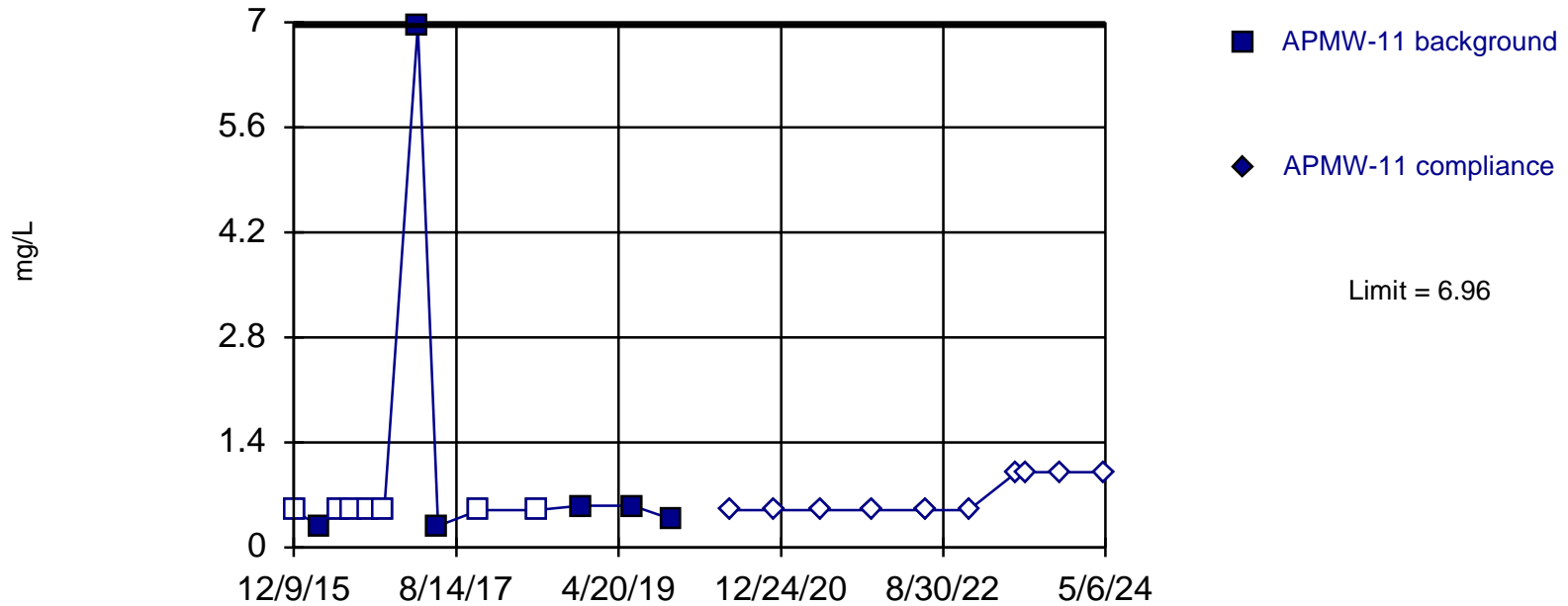
Constituent: Chloride Analysis Run 7/1/2024 3:42 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

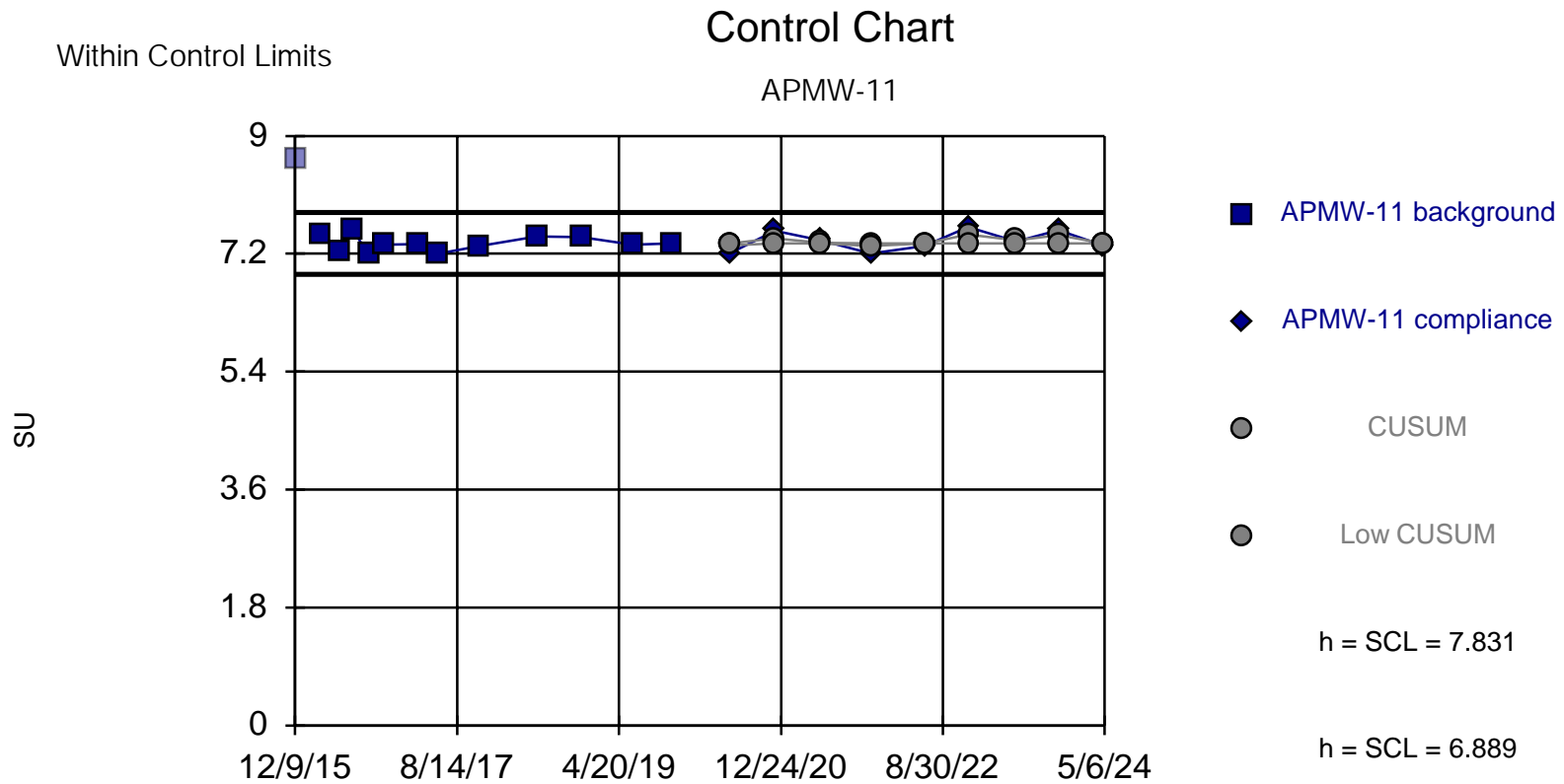
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 53.85% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

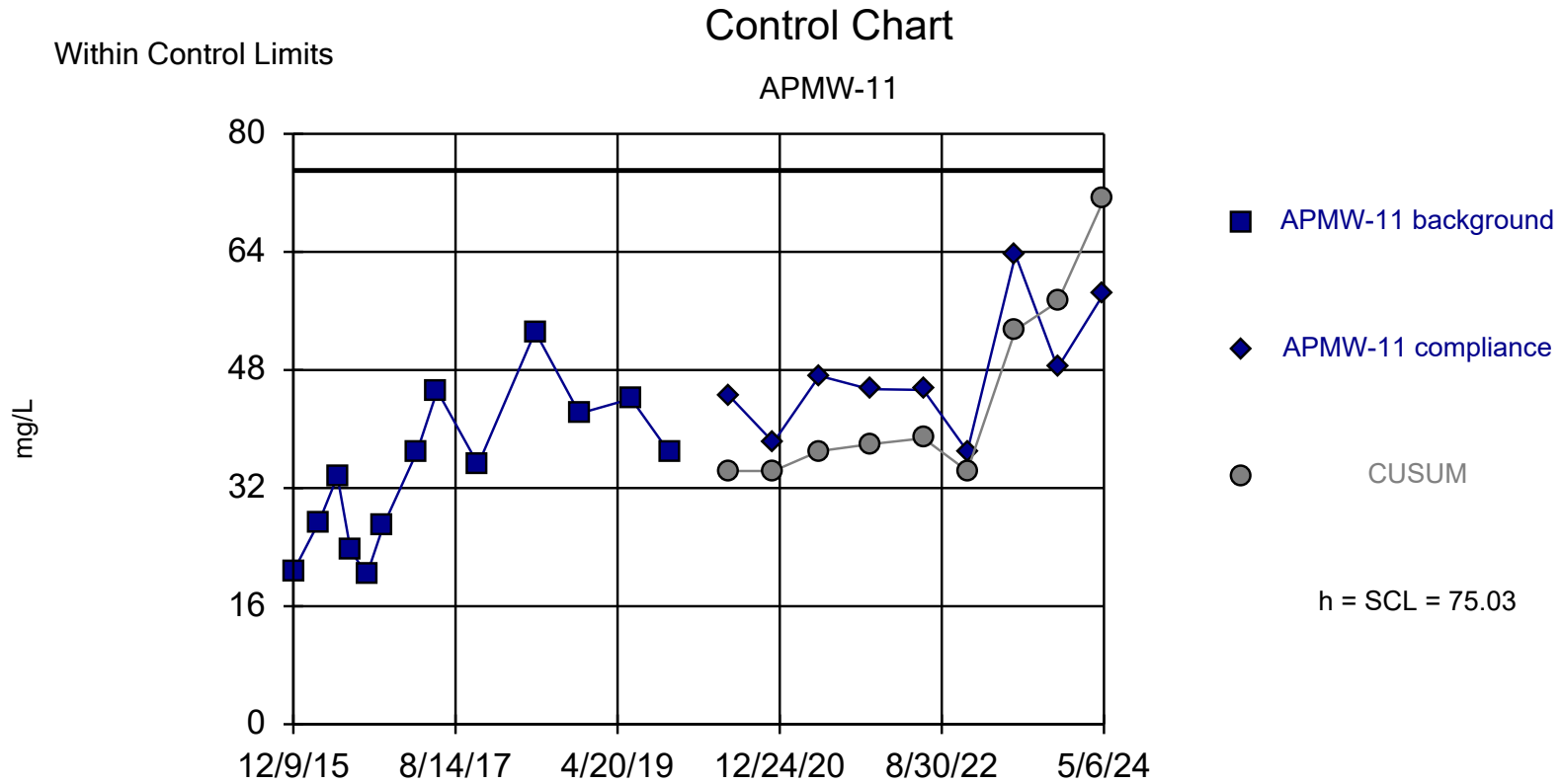
Constituent: Fluoride Analysis Run 7/1/2024 3:42 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.36, Std. Dev.=0.1177, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9429, critical = 0.859. Report alpha = 0.005986. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

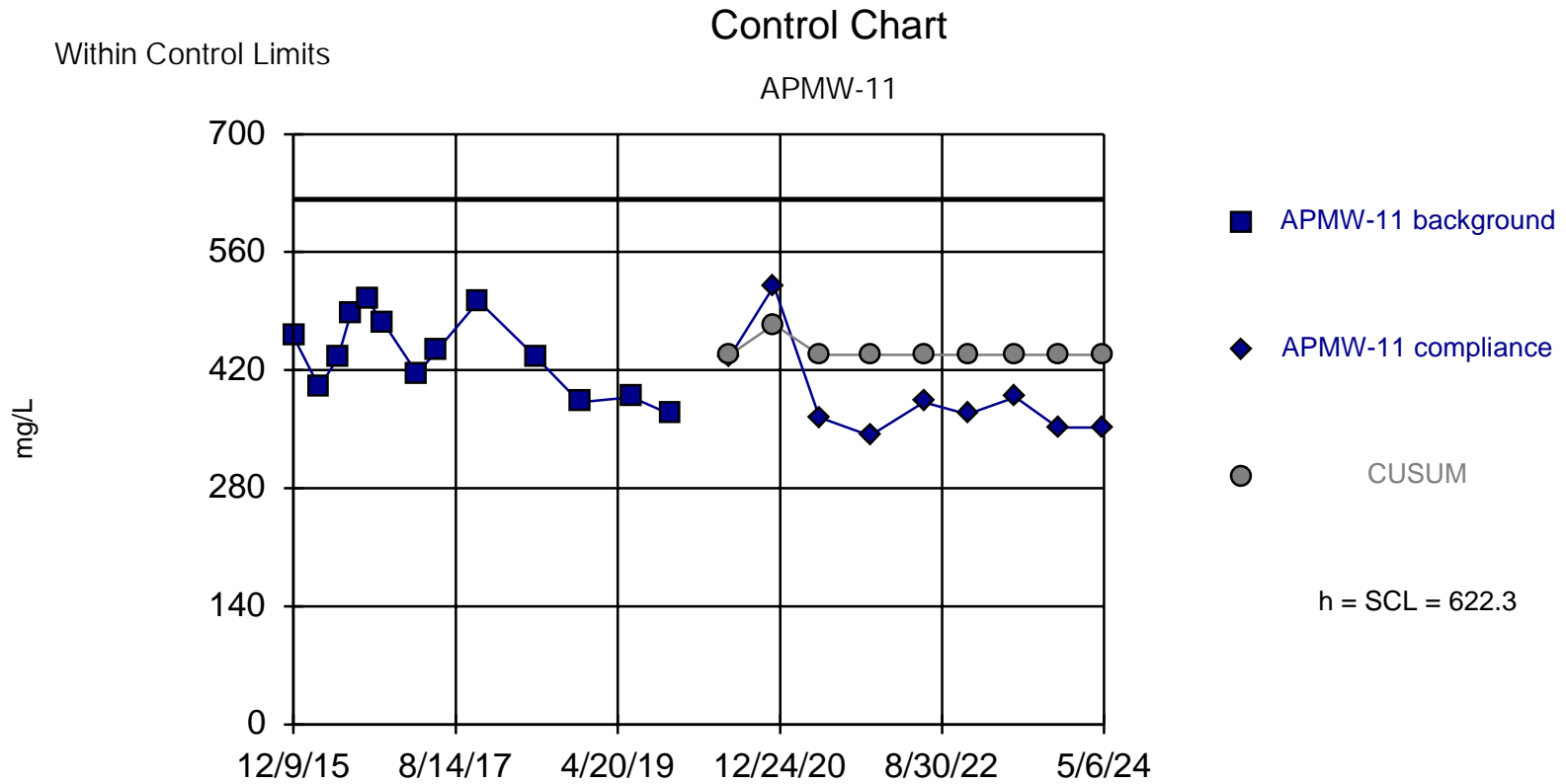
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:41 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=34.31, Std. Dev.=10.18, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9592, critical = 0.866. Report alpha = 0.02015. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

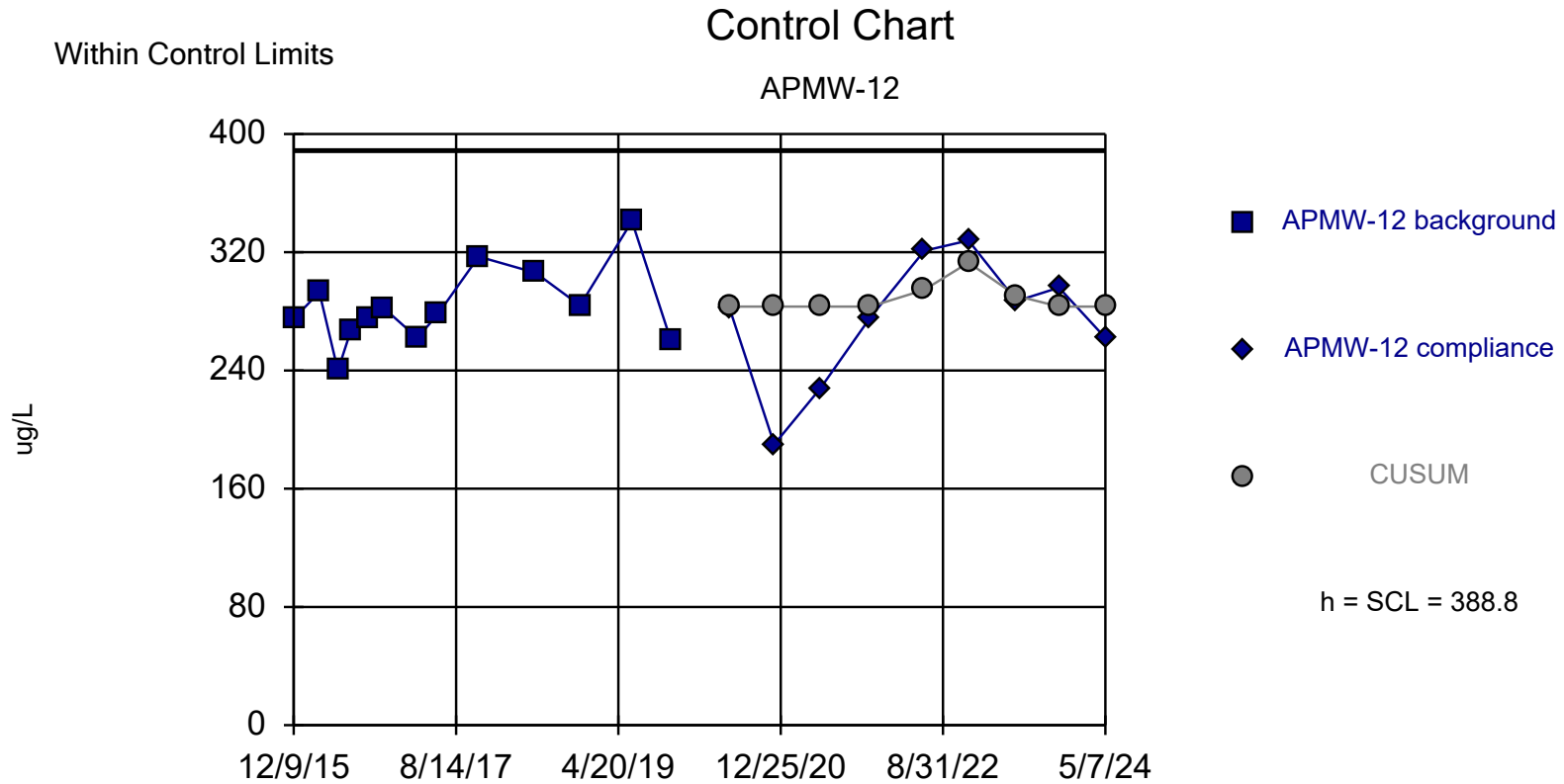
Constituent: Sulfate Analysis Run 1/25/2025 11:31 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=438.3, Std. Dev.=46.01, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.949, critical = 0.866. Report alpha = 0.005388. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

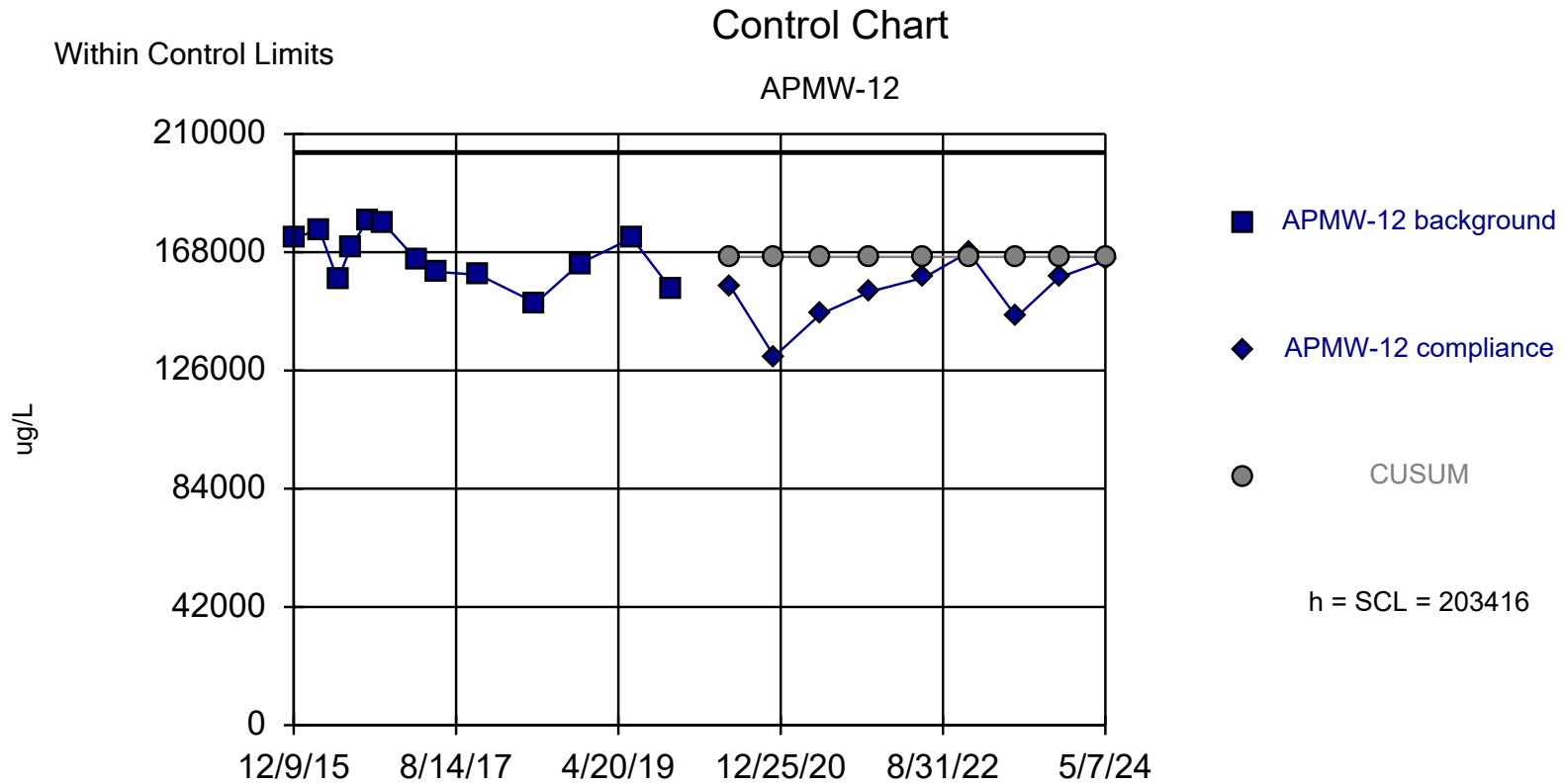
Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 3:42 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=283.2, Std. Dev.=26.4, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9565, critical = 0.866. Report alpha = 0.01962. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Boron Analysis Run 1/25/2025 11:36 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

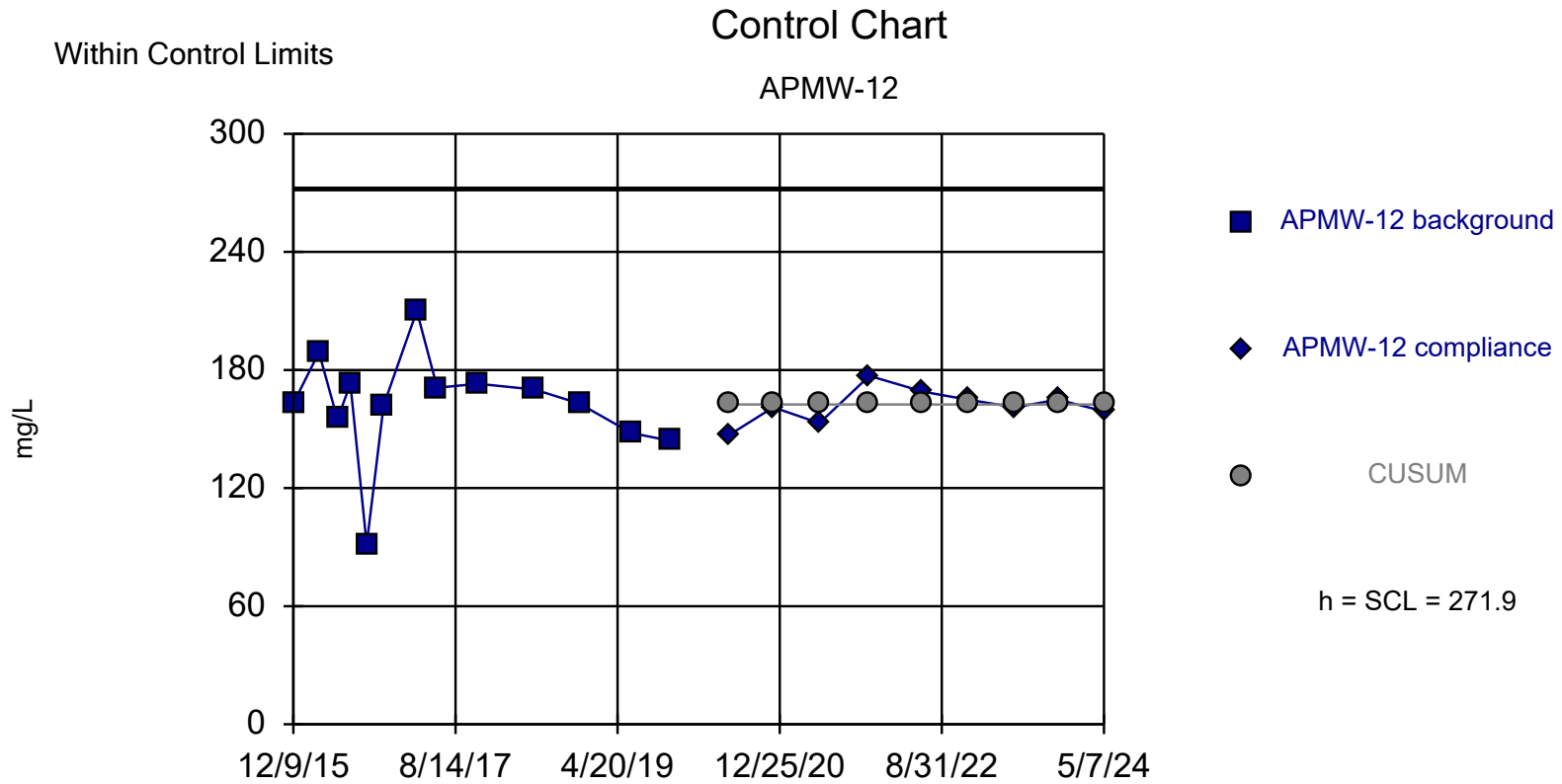


Background Data Summary: Mean=166308, Std. Dev.=9277, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9542, critical = 0.866. Report alpha = 0.005402. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/2/2024 6:08 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



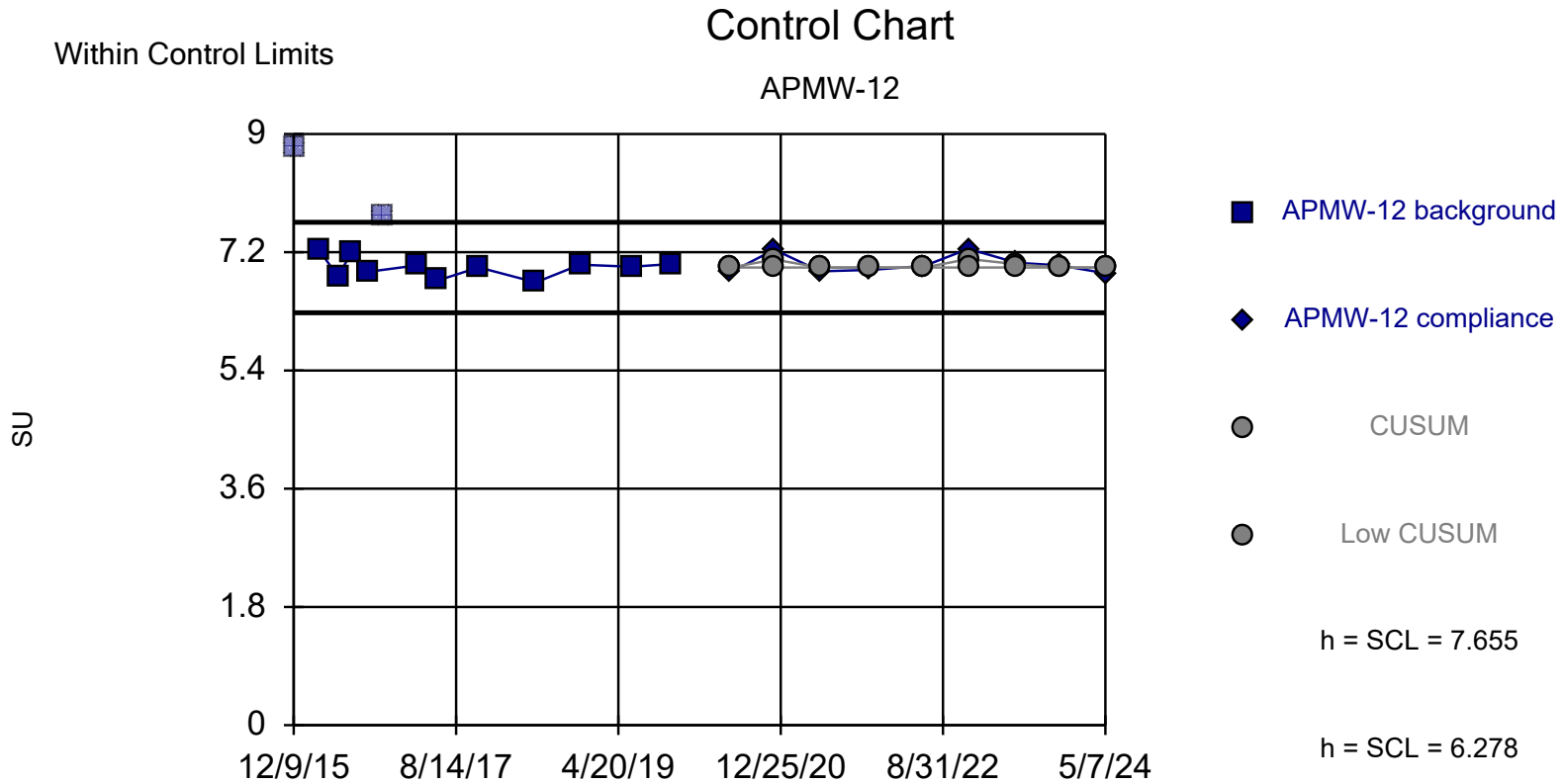


Background Data Summary: Mean=162.5, Std. Dev.=27.37, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8823, critical = 0.866. Report alpha = 0.005402. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 7/2/2024 6:08 PM

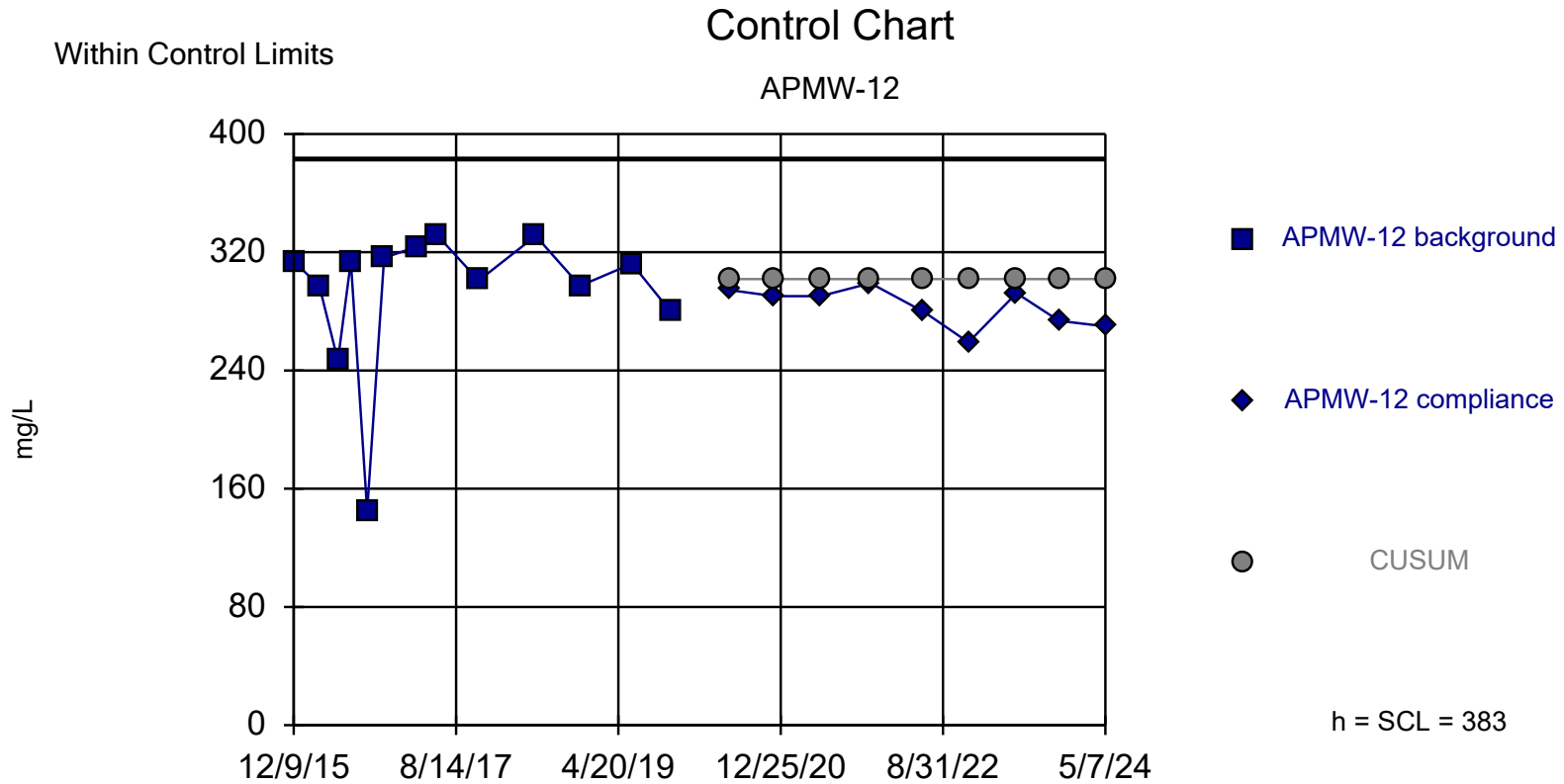
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program





Background Data Summary: Mean=6.966, Std. Dev.=0.153, n=11. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9483, critical = 0.85. Report alpha = 0.005244. Dates ending 11/6/2019 used for control stats. Standardized h=4.5, SCL=4.5.

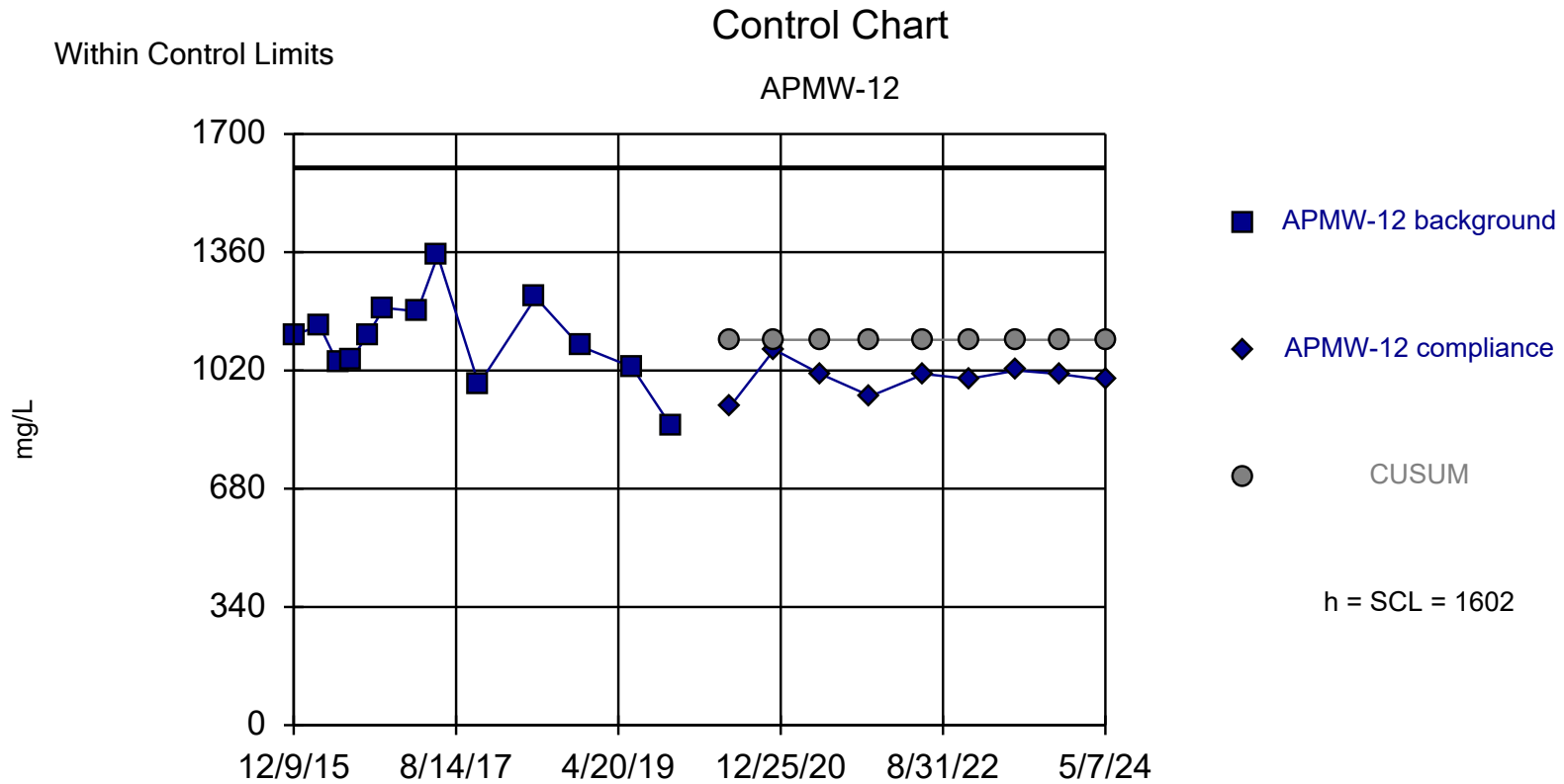
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 6:11 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary (based on  $x^4$  transformation): Mean= $8.3e9$ , Std. Dev.= $3.3e9$ ,  $n=13$ . Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @ $\alpha = 0.05$ , calculated = 0.9018, critical = 0.866. Report  $\alpha = 0.01985$ . Dates ending 11/6/2019 used for control stats. Standardized  $h=4$ ,  $SCL=4$ .

Constituent: Sulfate Analysis Run 1/25/2025 11:39 AM

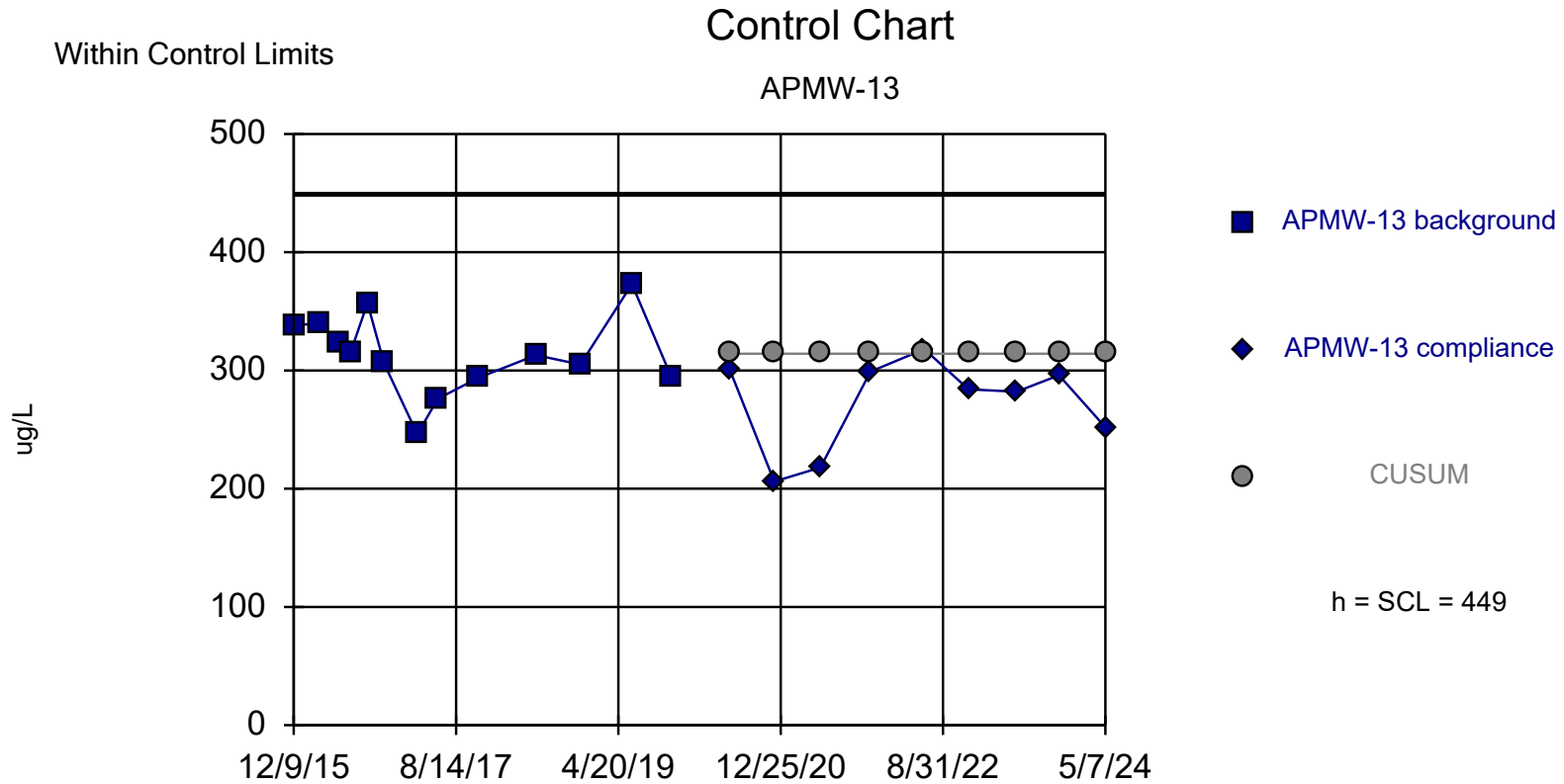
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=1108, Std. Dev.=123.5, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9869, critical = 0.866. Report alpha = 0.005402. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids Analysis Run 7/2/2024 6:08 PM

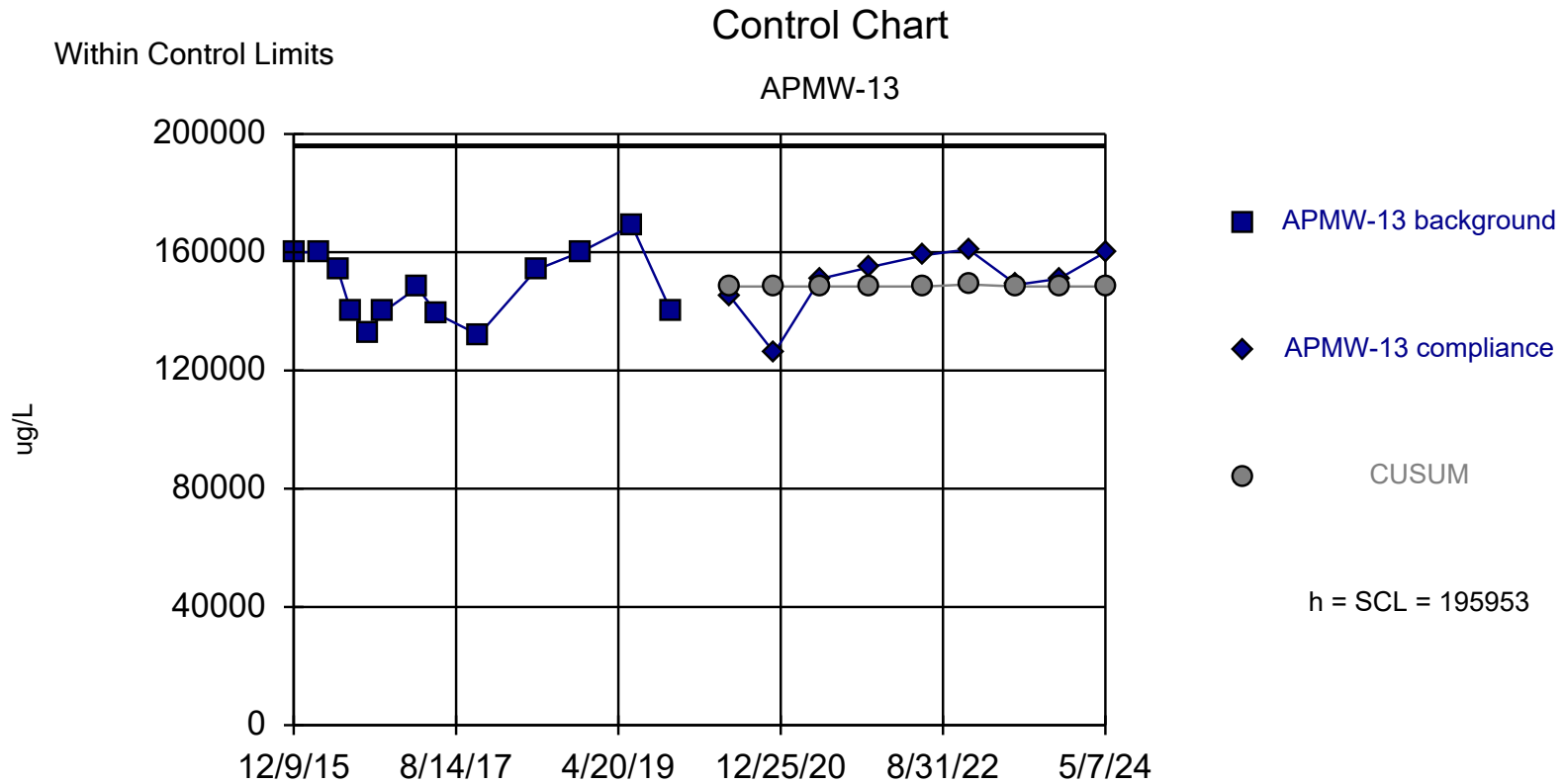
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary: Mean=314.1, Std. Dev.=33.74, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9859, critical = 0.866. Report alpha = 0.01981. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Boron Analysis Run 1/25/2025 11:58 AM

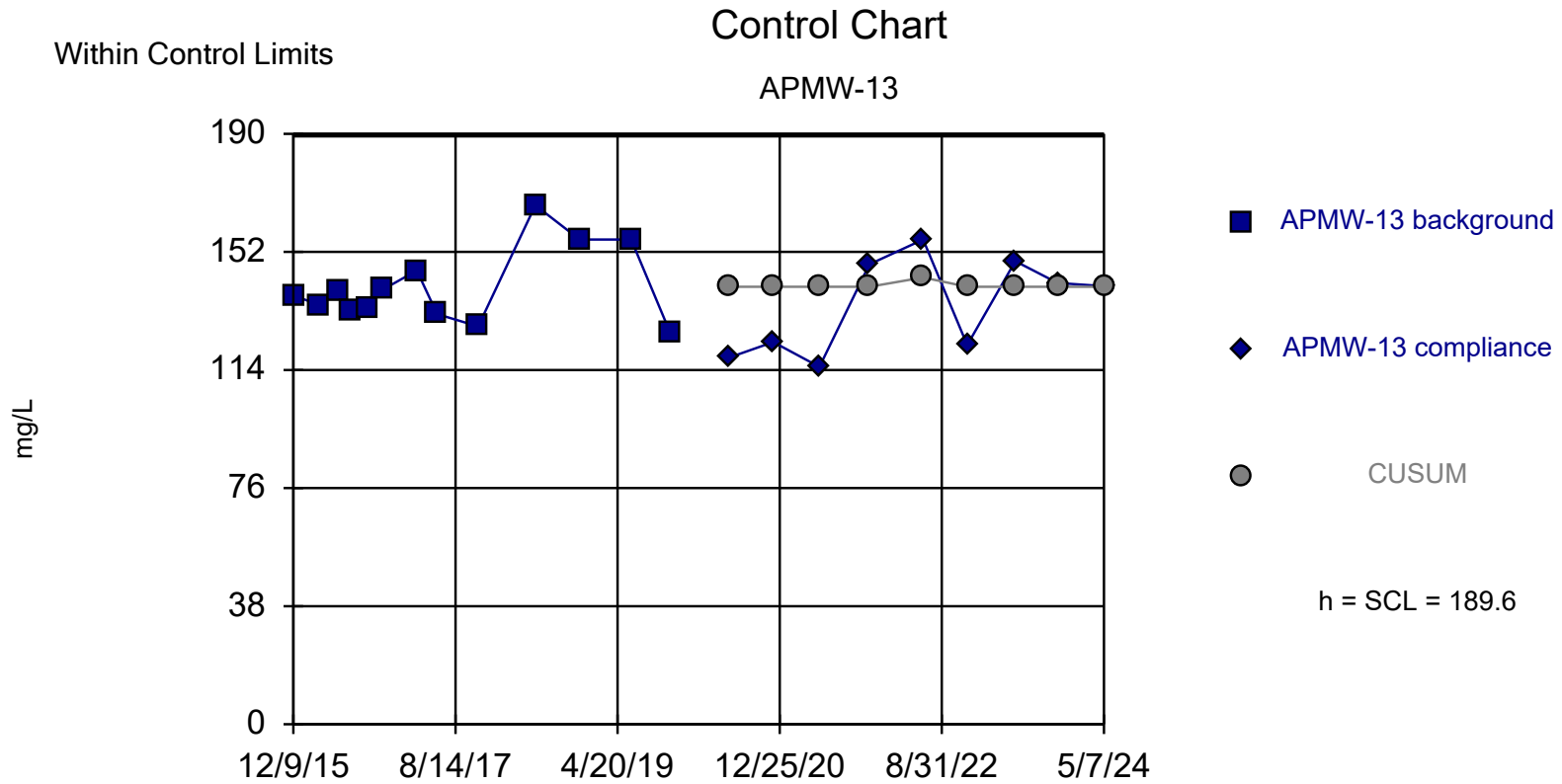
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=148385, Std. Dev.=11892, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.923, critical = 0.866. Report alpha = 0.005312. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/2/2024 6:17 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary: Mean=140.8, Std. Dev.=12.21, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9021, critical = 0.866. Report alpha = 0.005312. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 7/2/2024 6:17 PM

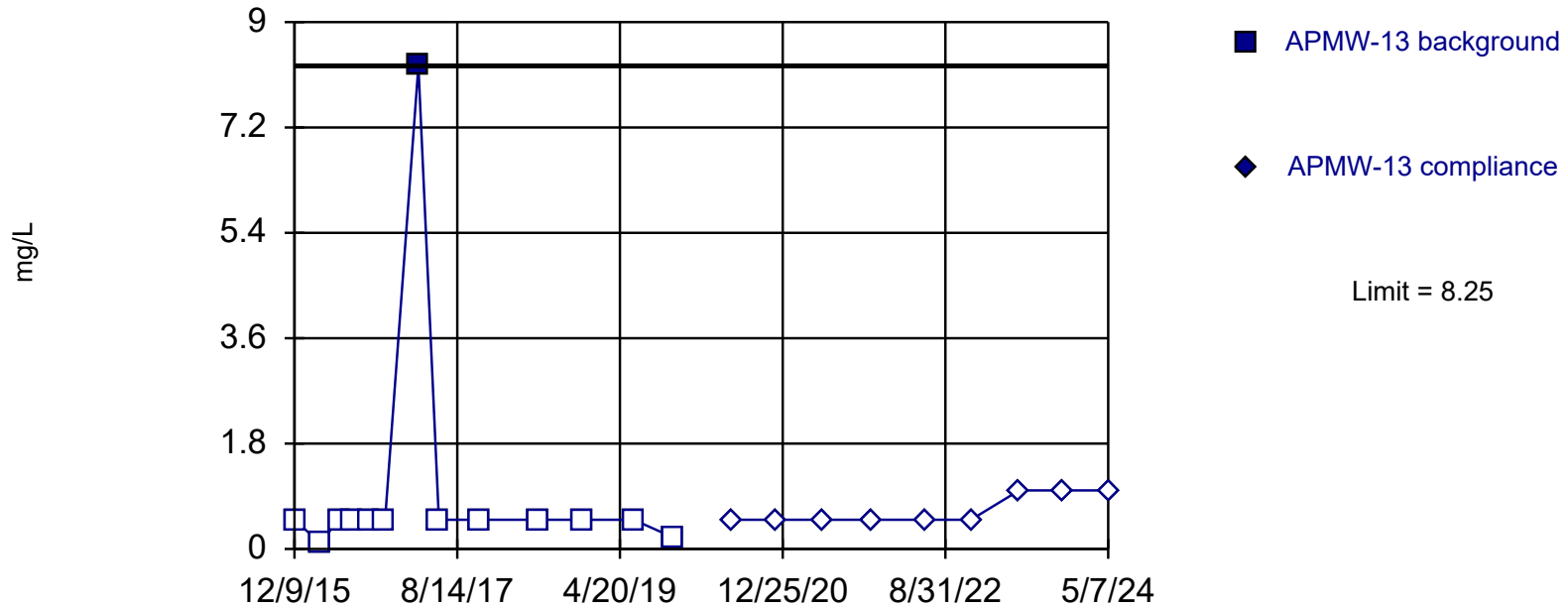
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Within Limit

## Prediction Limit

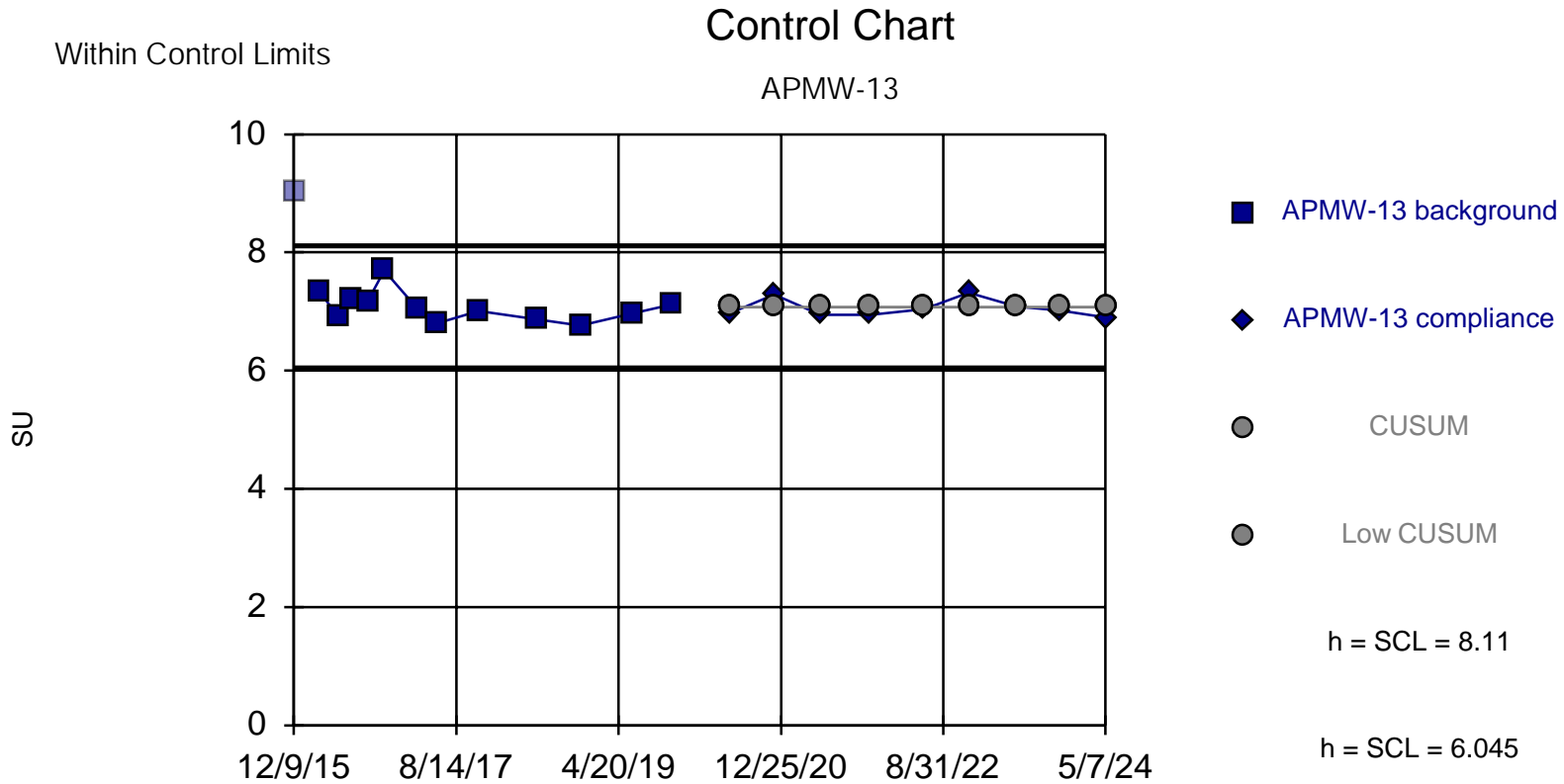
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

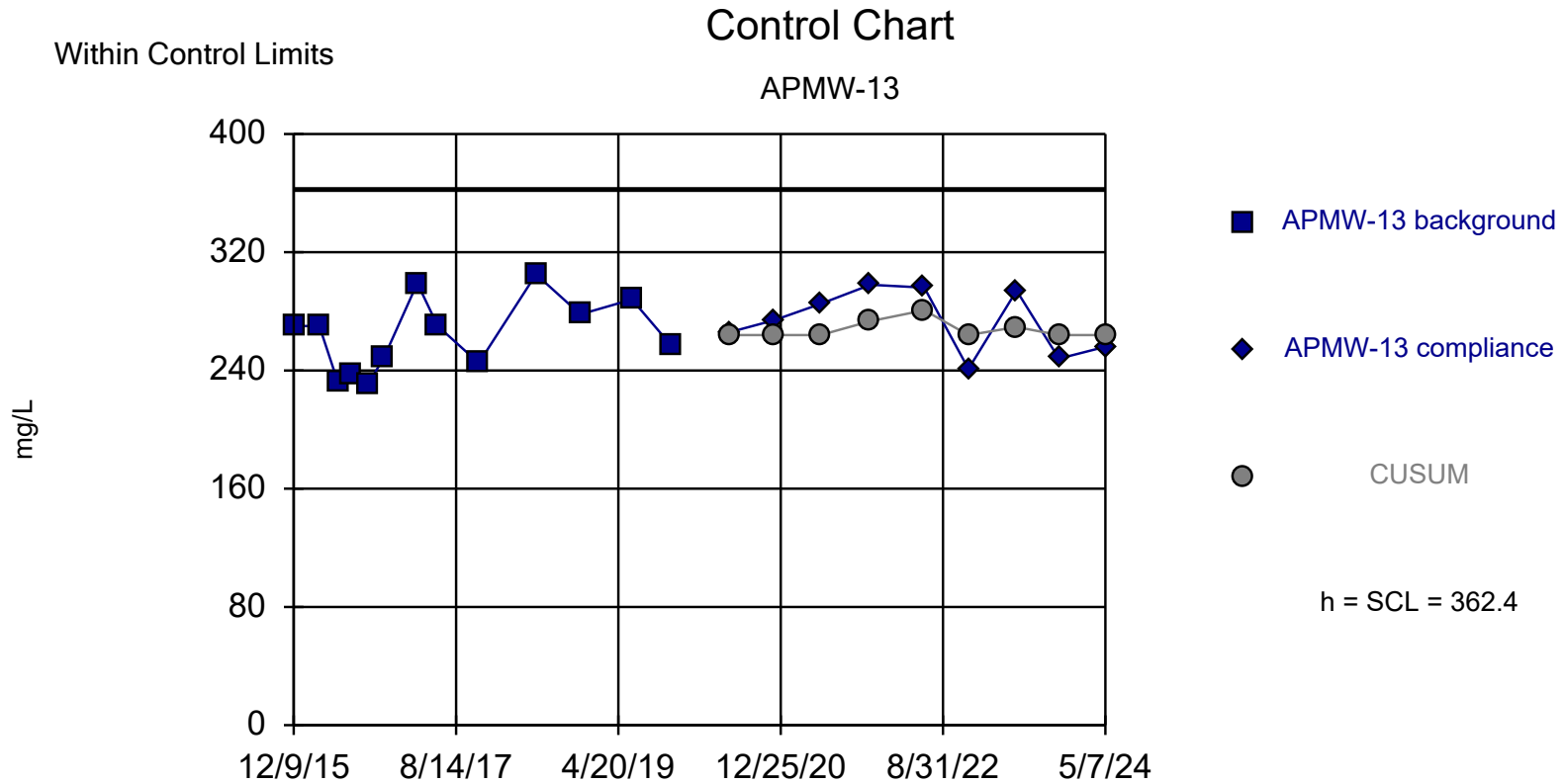
Constituent: Fluoride Analysis Run 7/2/2024 6:17 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary: Mean=7.078, Std. Dev.=0.258, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.924, critical = 0.859. Report alpha = 0.006122. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

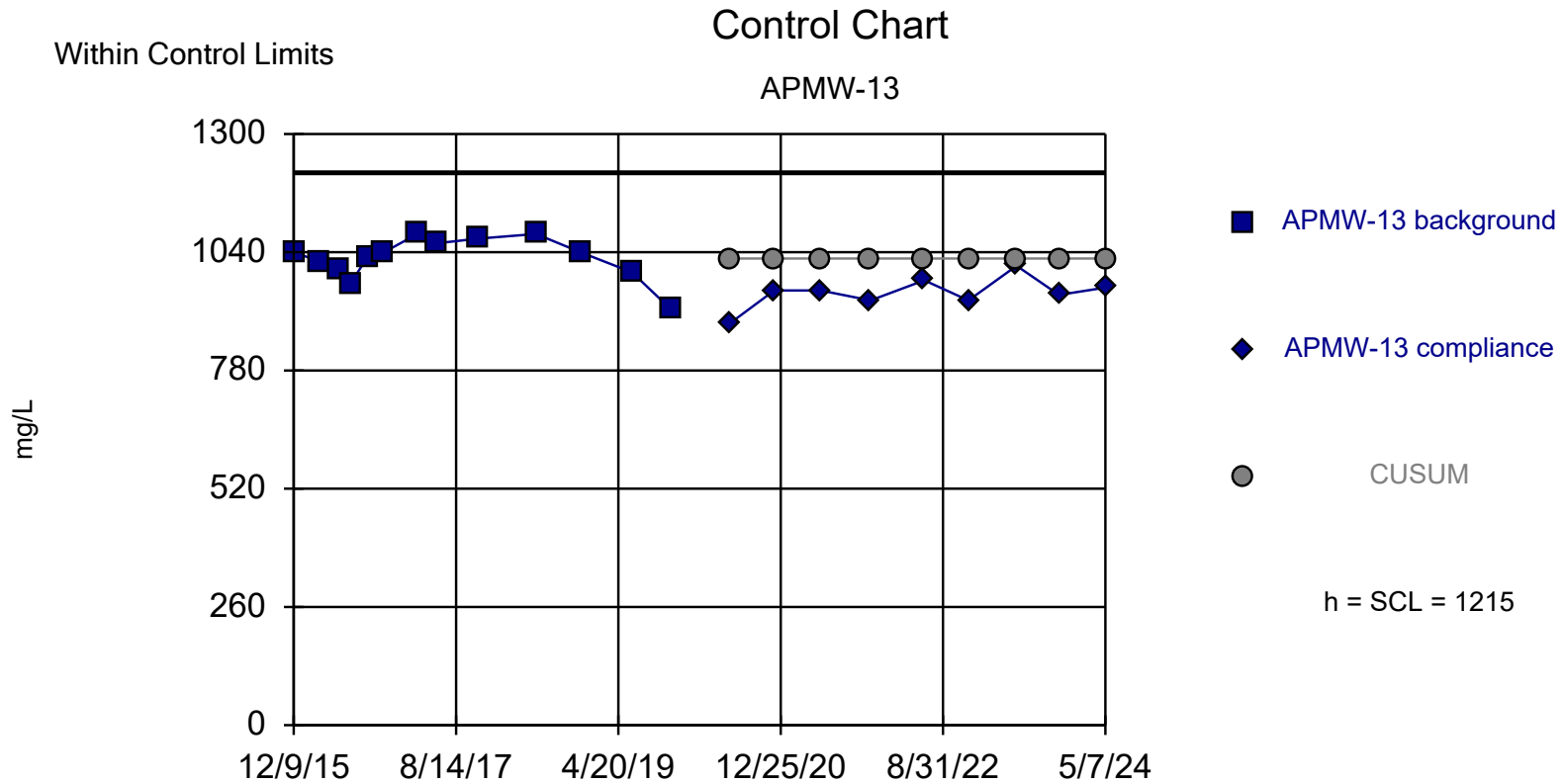
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:45 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=263.9, Std. Dev.=24.63, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9506, critical = 0.866. Report alpha = 0.01985. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:55 AM

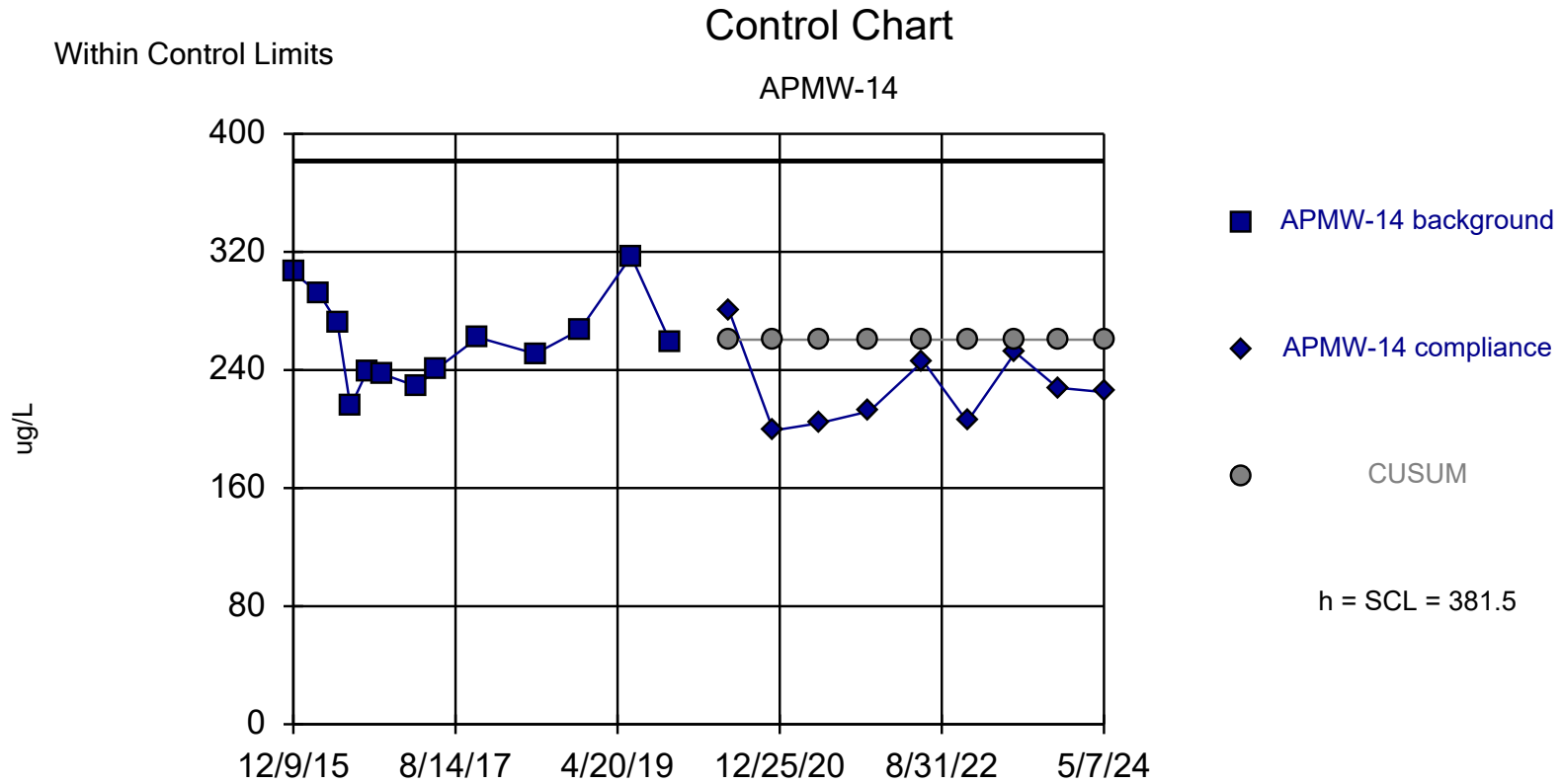
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=1026, Std. Dev.=47.08, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9114, critical = 0.866. Report alpha = 0.005312. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids Analysis Run 7/2/2024 6:17 PM

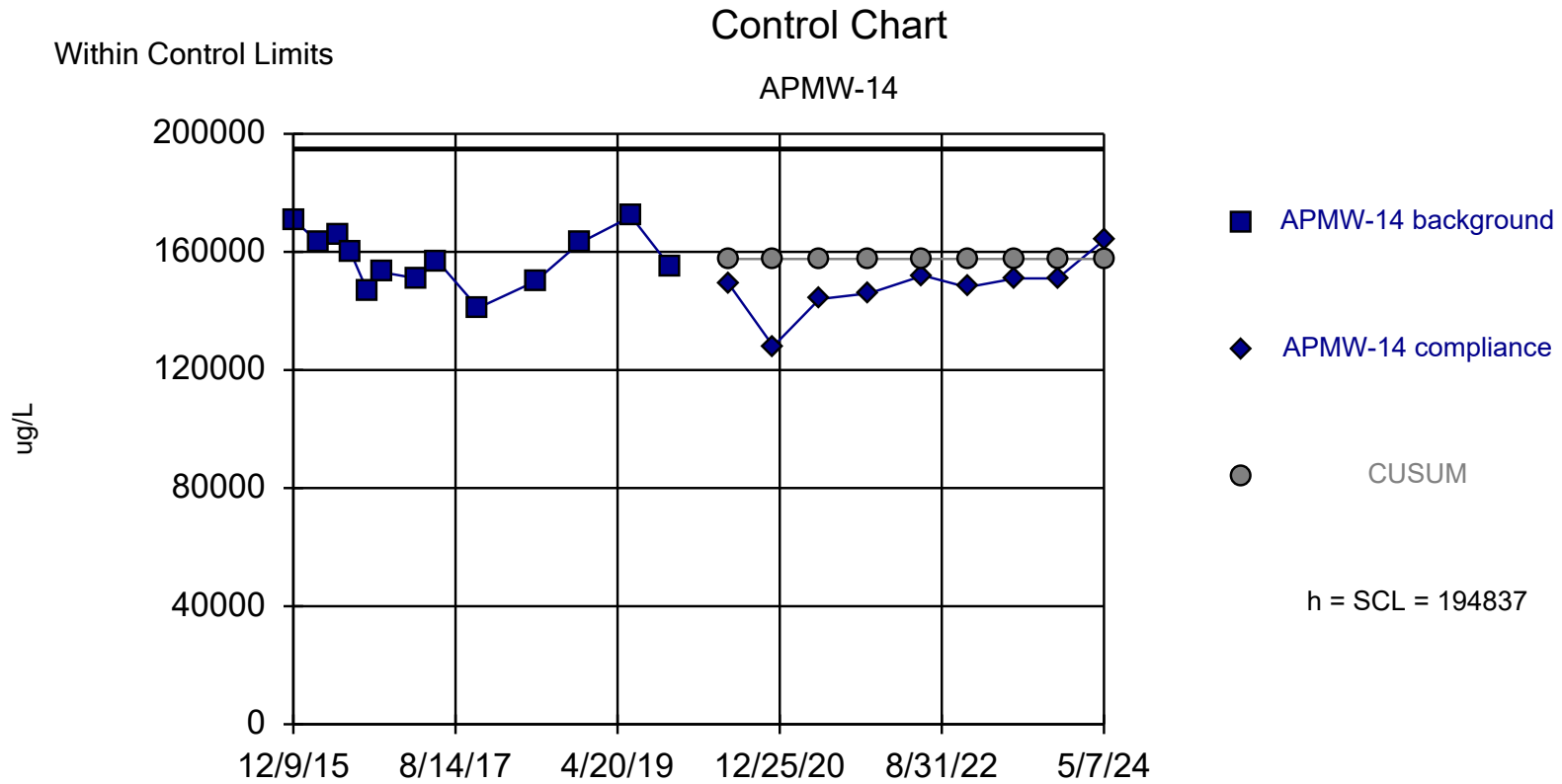
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary: Mean=260.5, Std. Dev.=30.25, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9589, critical = 0.866. Report alpha = 0.01981. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Boron Analysis Run 1/25/2025 12:00 PM

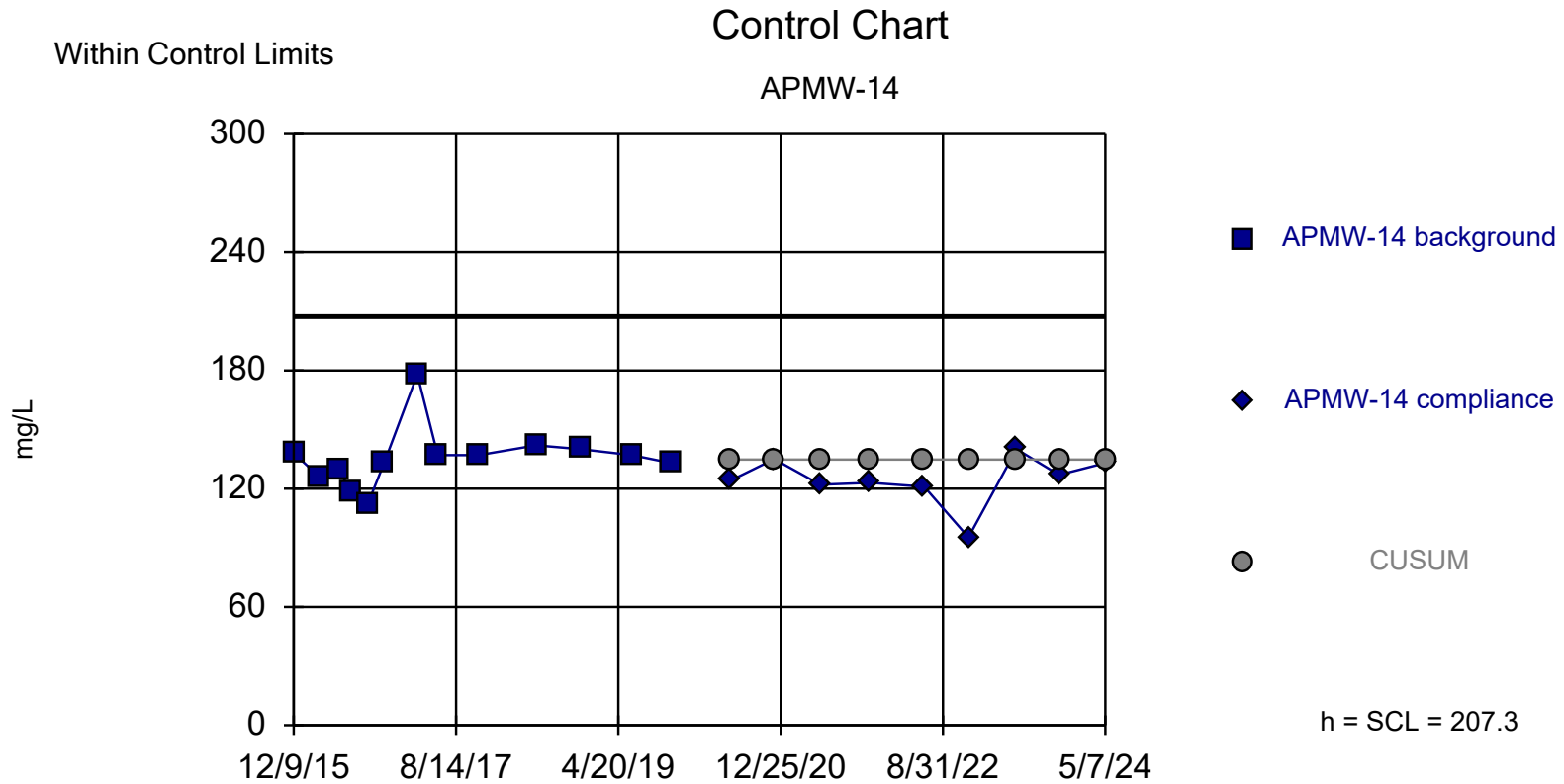
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=157615, Std. Dev.=9305, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9774, critical = 0.866. Report alpha = 0.005332. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/2/2024 6:29 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program



Background Data Summary (based on natural log transformation): Mean=4.904, Std. Dev.=0.1076, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8695, critical = 0.866. Report alpha = 0.005332. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

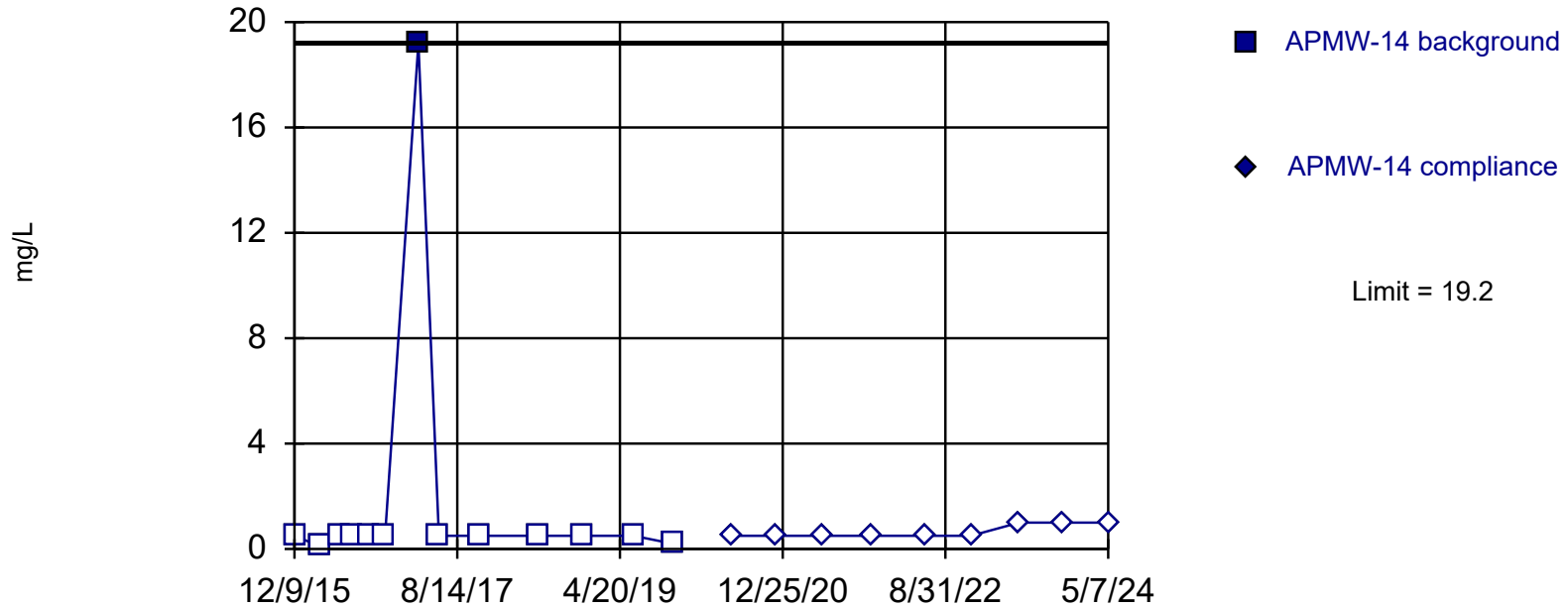
Constituent: Chloride Analysis Run 7/2/2024 6:29 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program

Within Limit

## Prediction Limit

Intrawell Non-parametric

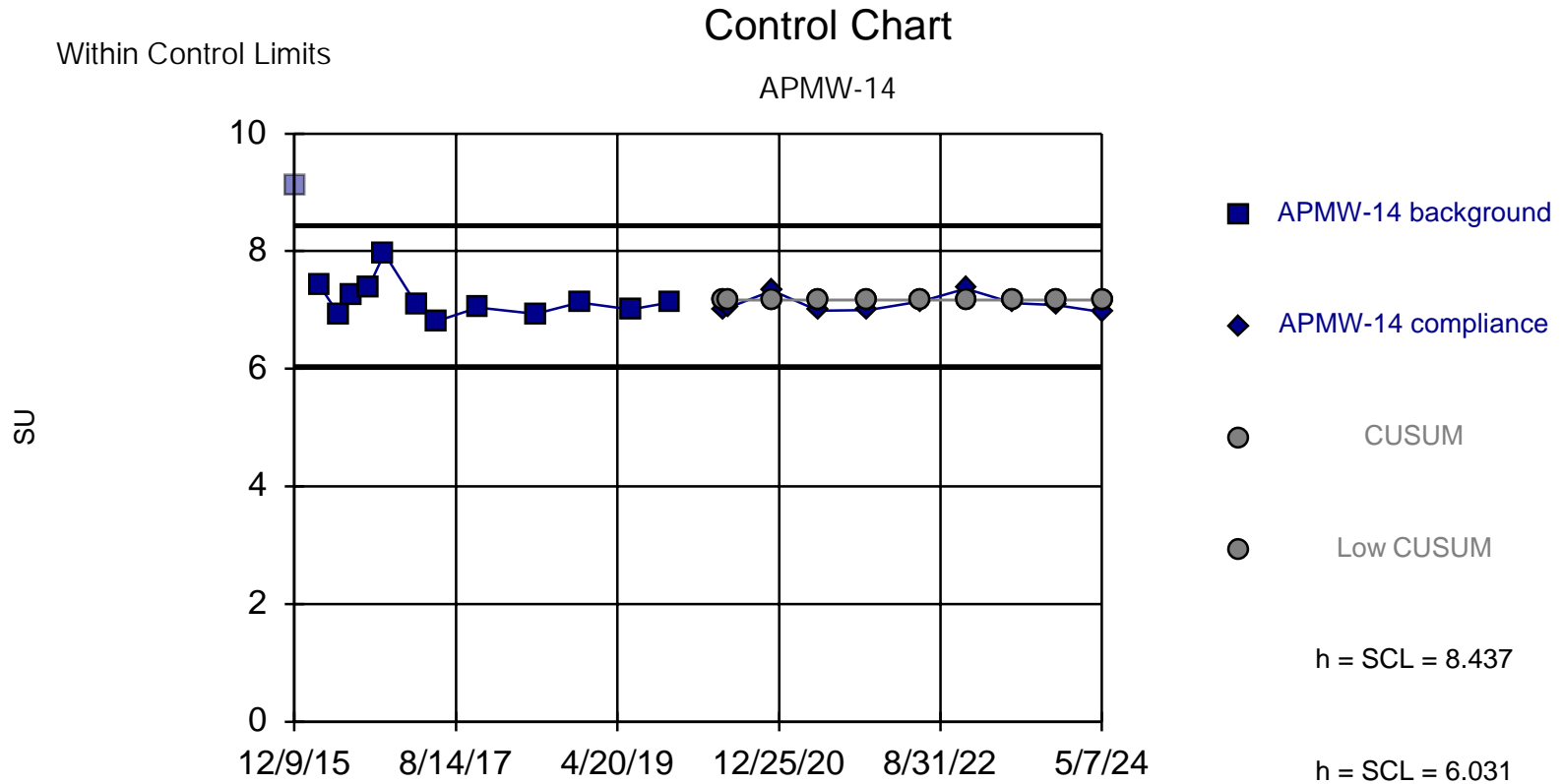


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 7/2/2024 6:29 PM

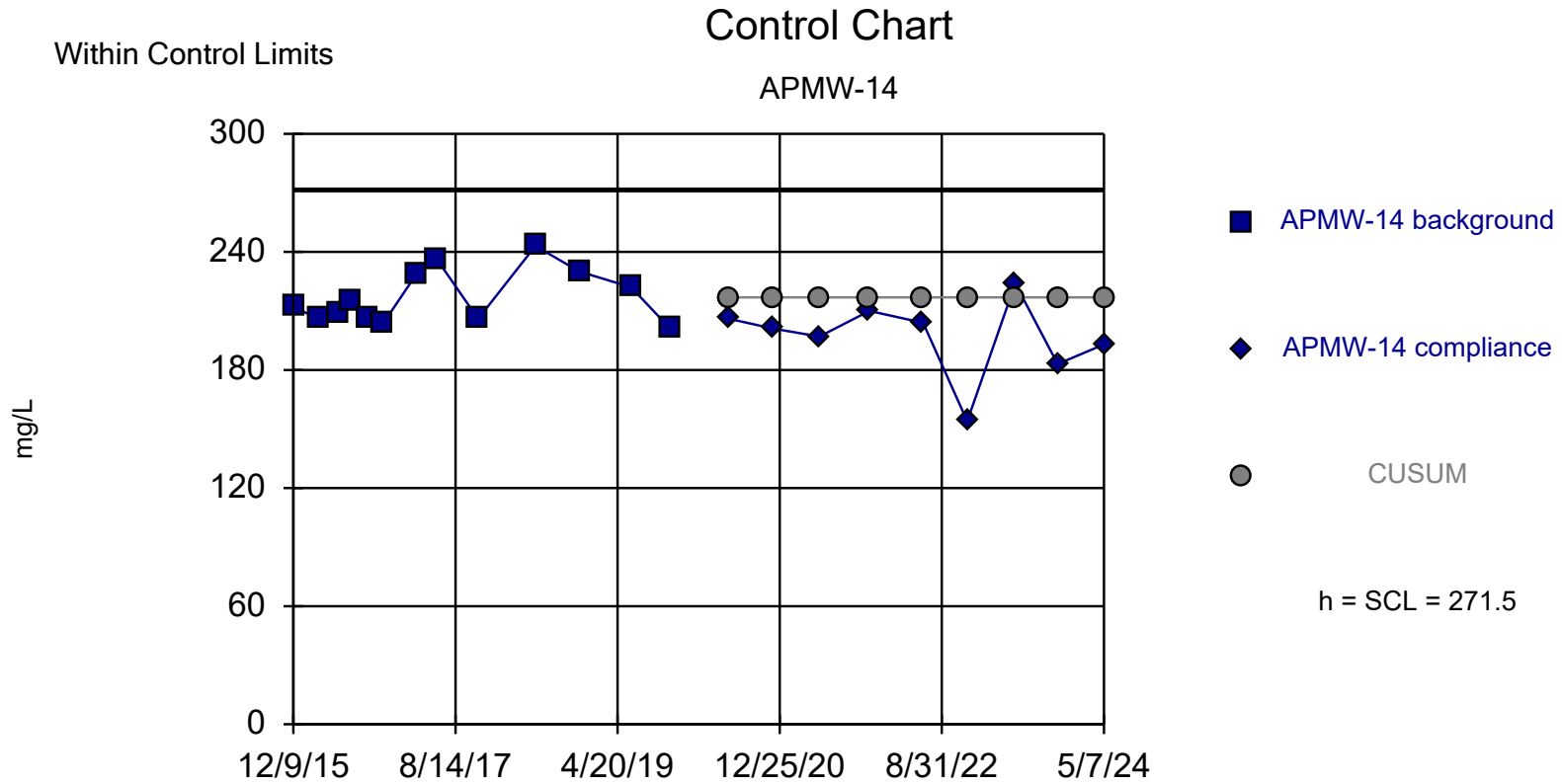
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program





Background Data Summary (based on cube root transformation): Mean=1.928, Std. Dev.=0.02694, n=12. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8605, critical = 0.859. Report alpha = 0.006568. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

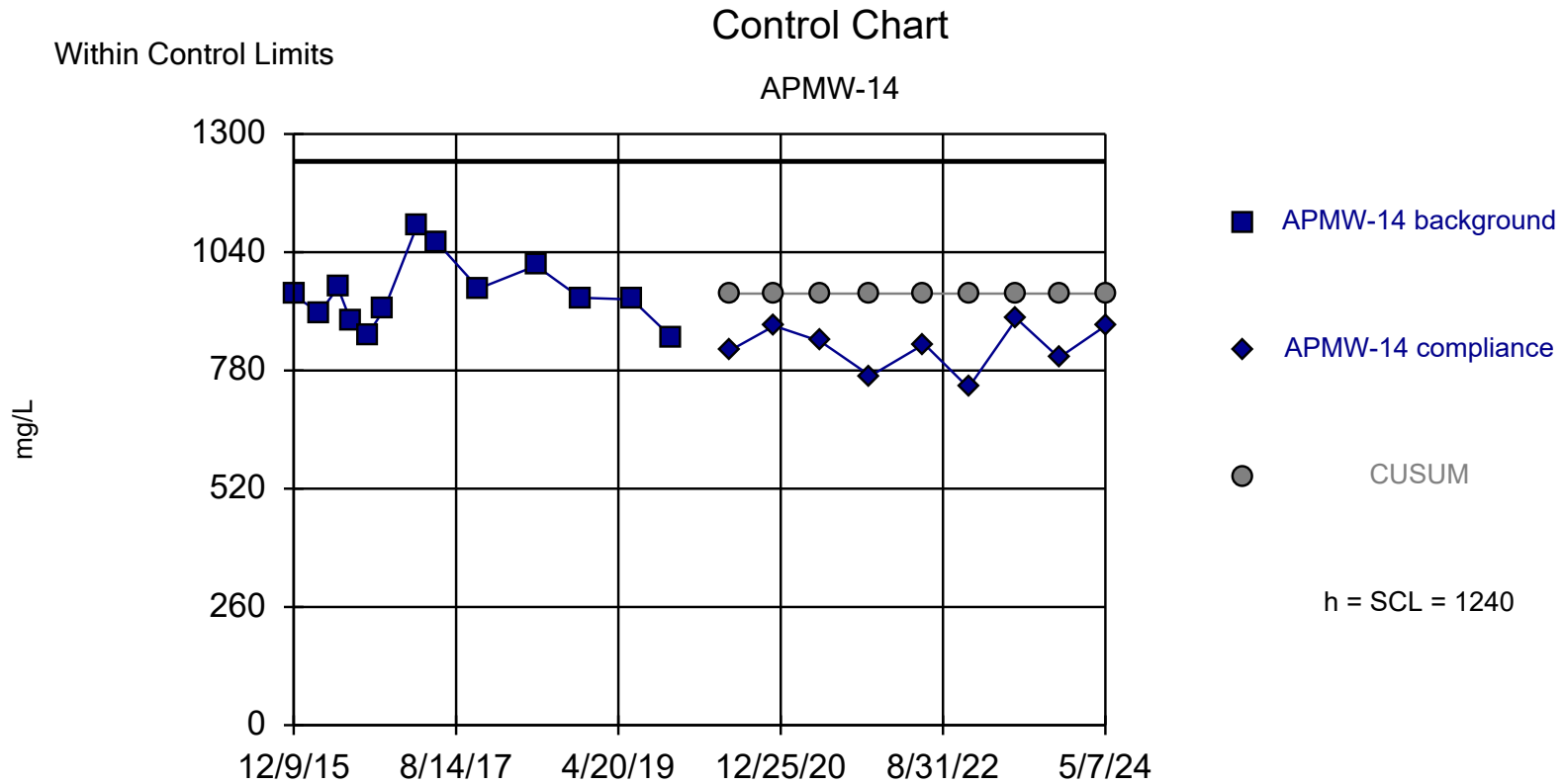
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:55 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=216.9, Std. Dev.=13.65, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8994, critical = 0.866. Report alpha = 0.01963. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 12:01 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=948.8, Std. Dev.=72.74, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9344, critical = 0.866. Report alpha = 0.005332. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

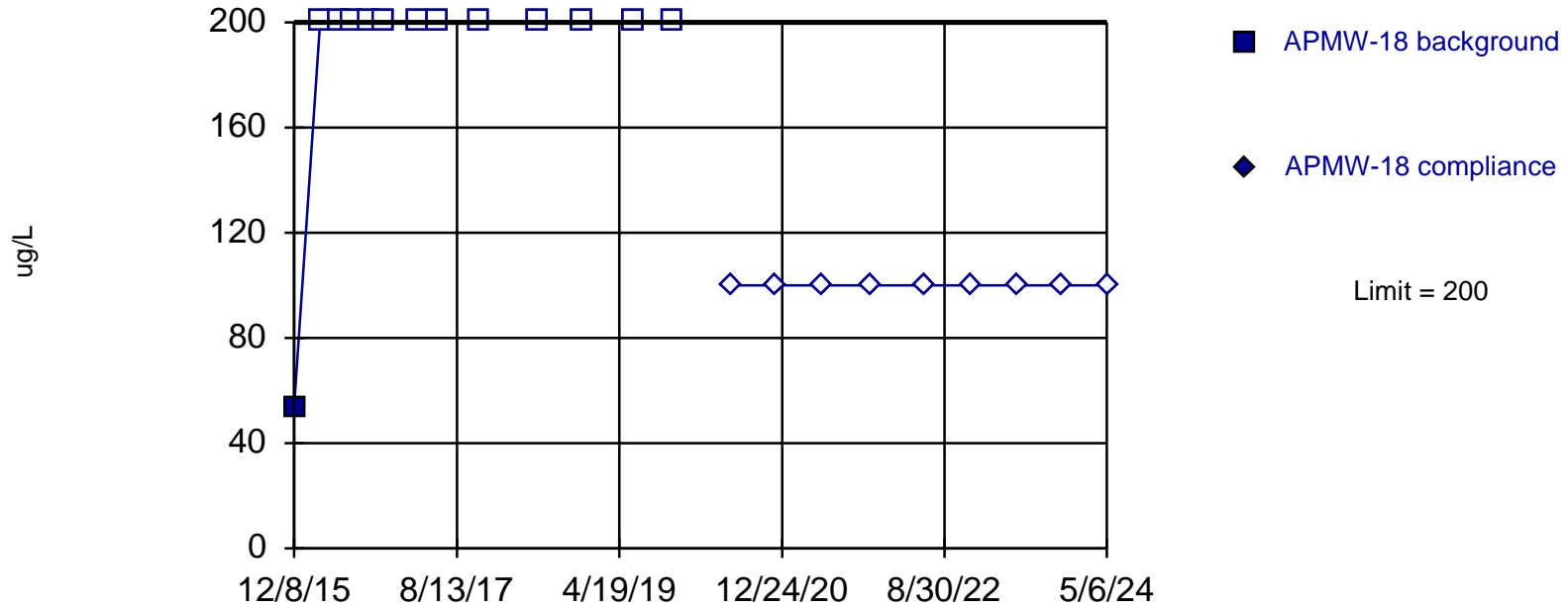
Constituent: Total Dissolved Solids Analysis Run 7/2/2024 6:29 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEE-AM-Program

Within Limit

## Prediction Limit

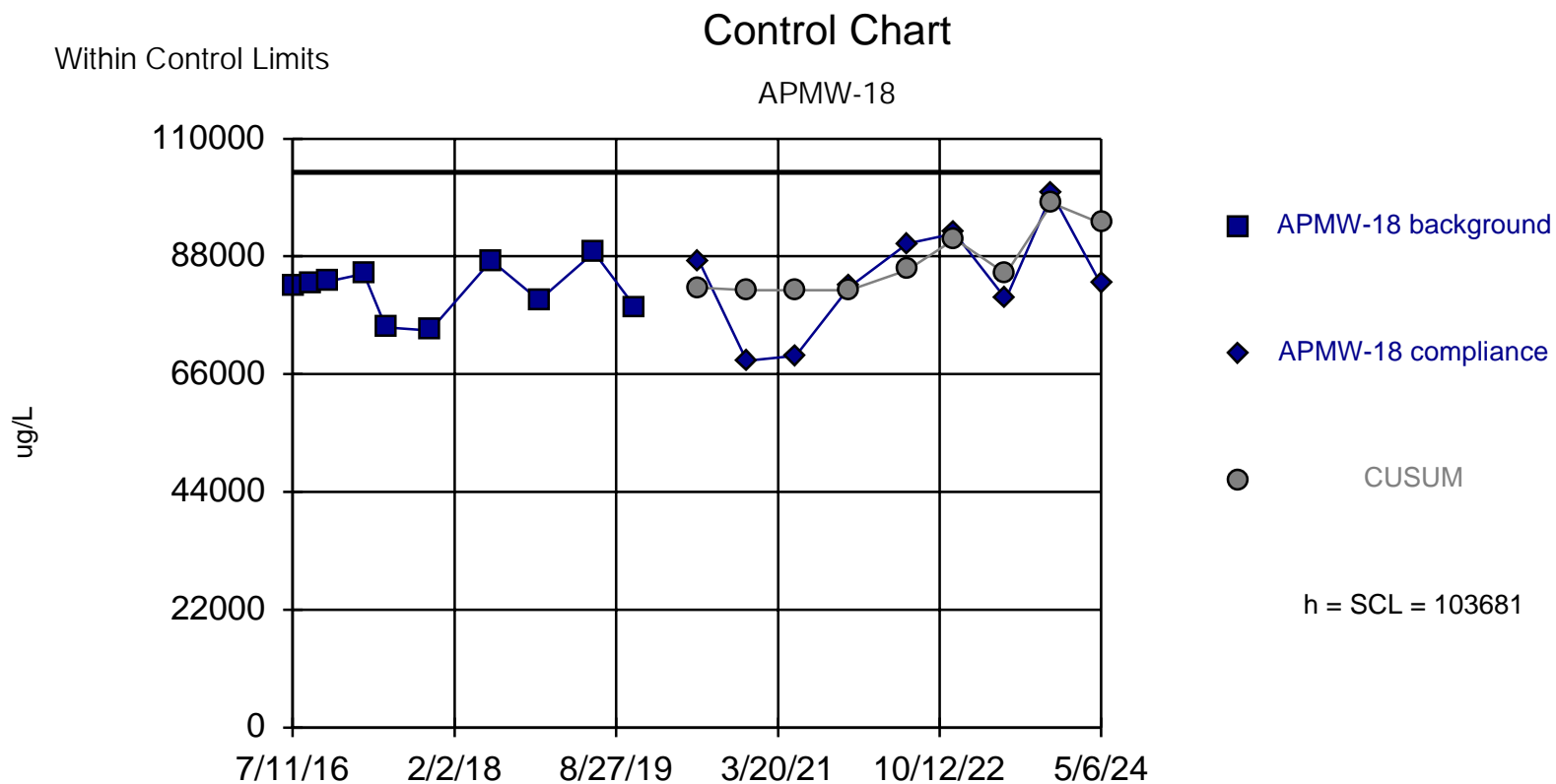
Intrawell Non-parametric

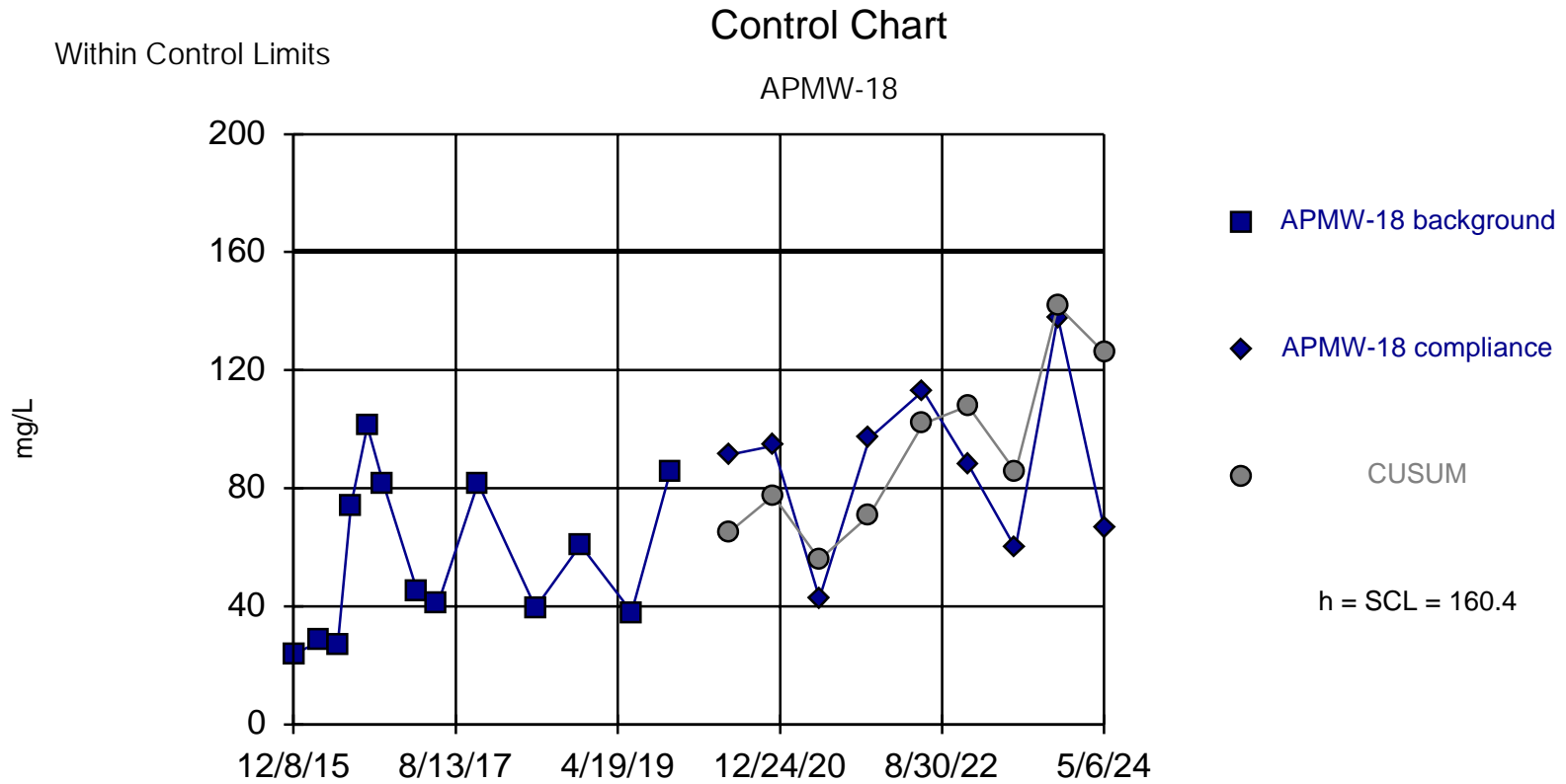


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 7/1/2024 4:36 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





Background Data Summary: Mean=55.84, Std. Dev.=26.14, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9088, critical = 0.866. Report alpha = 0.005446. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

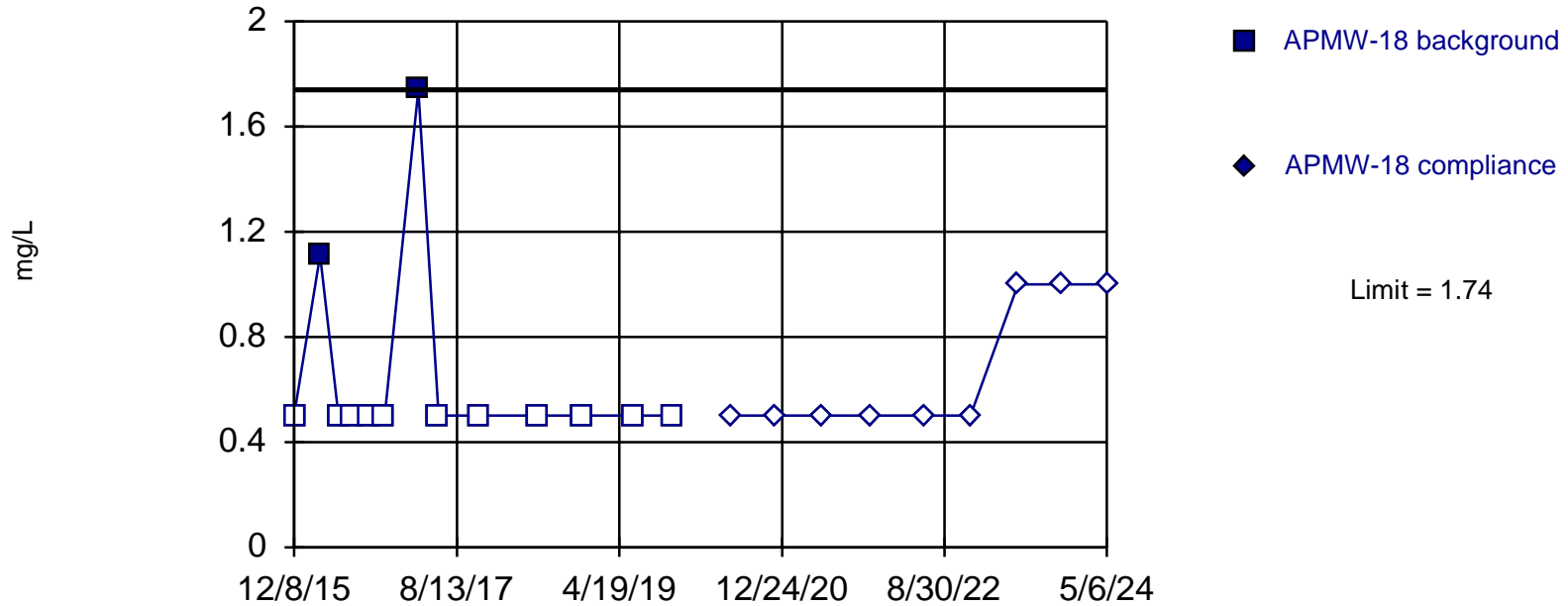
Constituent: Chloride Analysis Run 7/1/2024 4:36 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

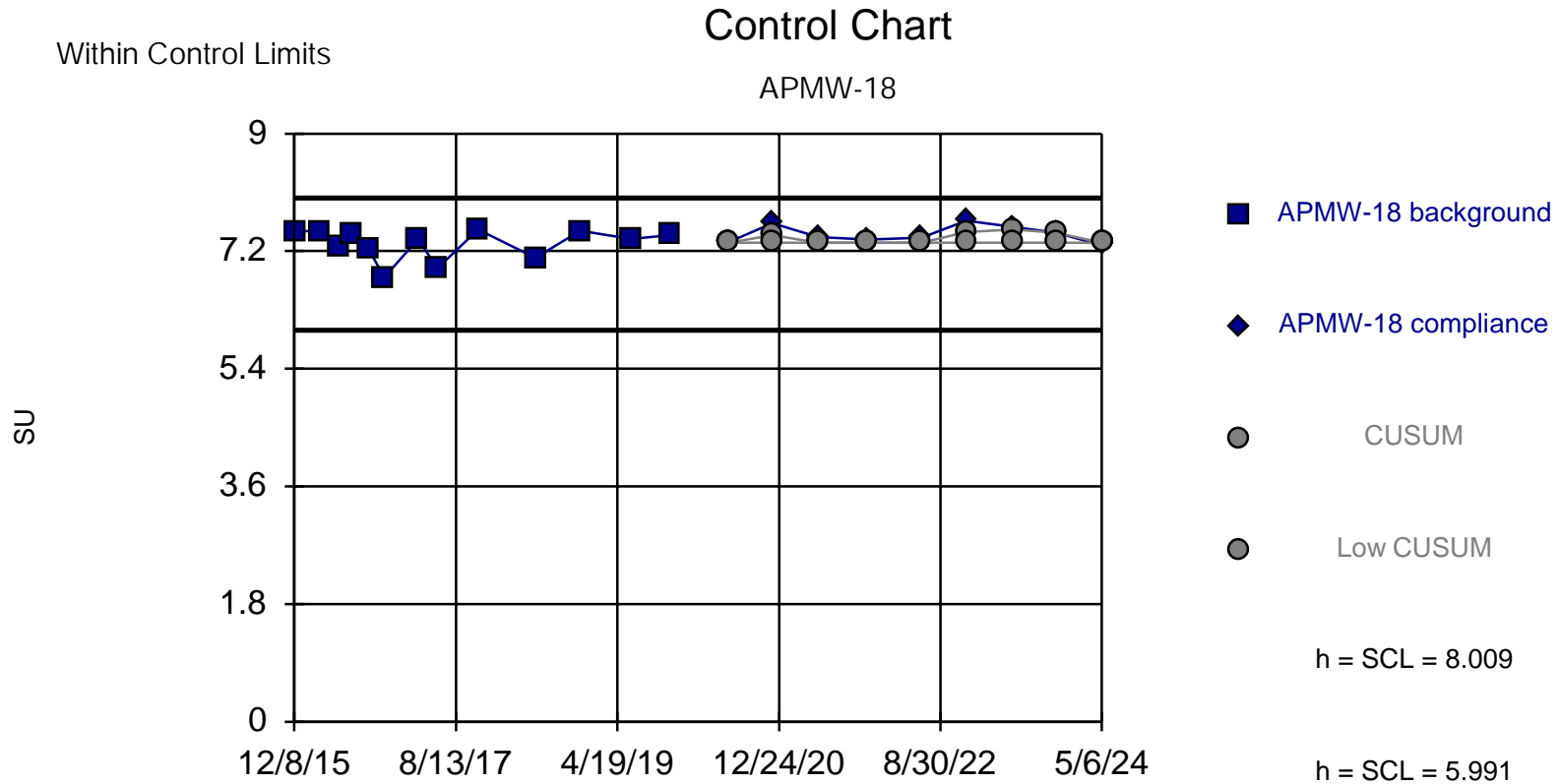
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 84.62% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 7/1/2024 4:36 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (based on  $x^6$  transformation): Mean=155040, Std. Dev.=27197, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8703, critical = 0.866. Report alpha = 0.00531. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

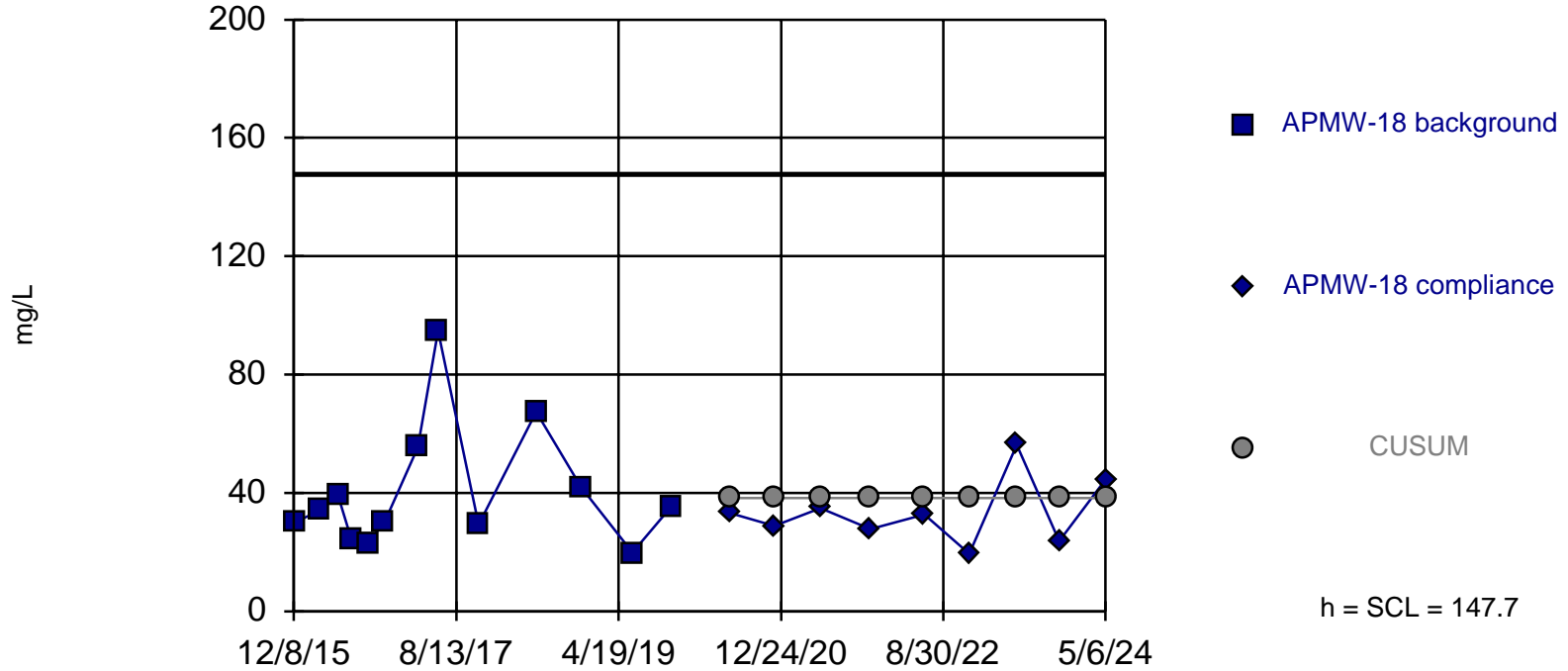
Constituent: pH, Field-Measured    Analysis Run 7/2/2024 2:53 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



### Control Chart

Within Control Limits

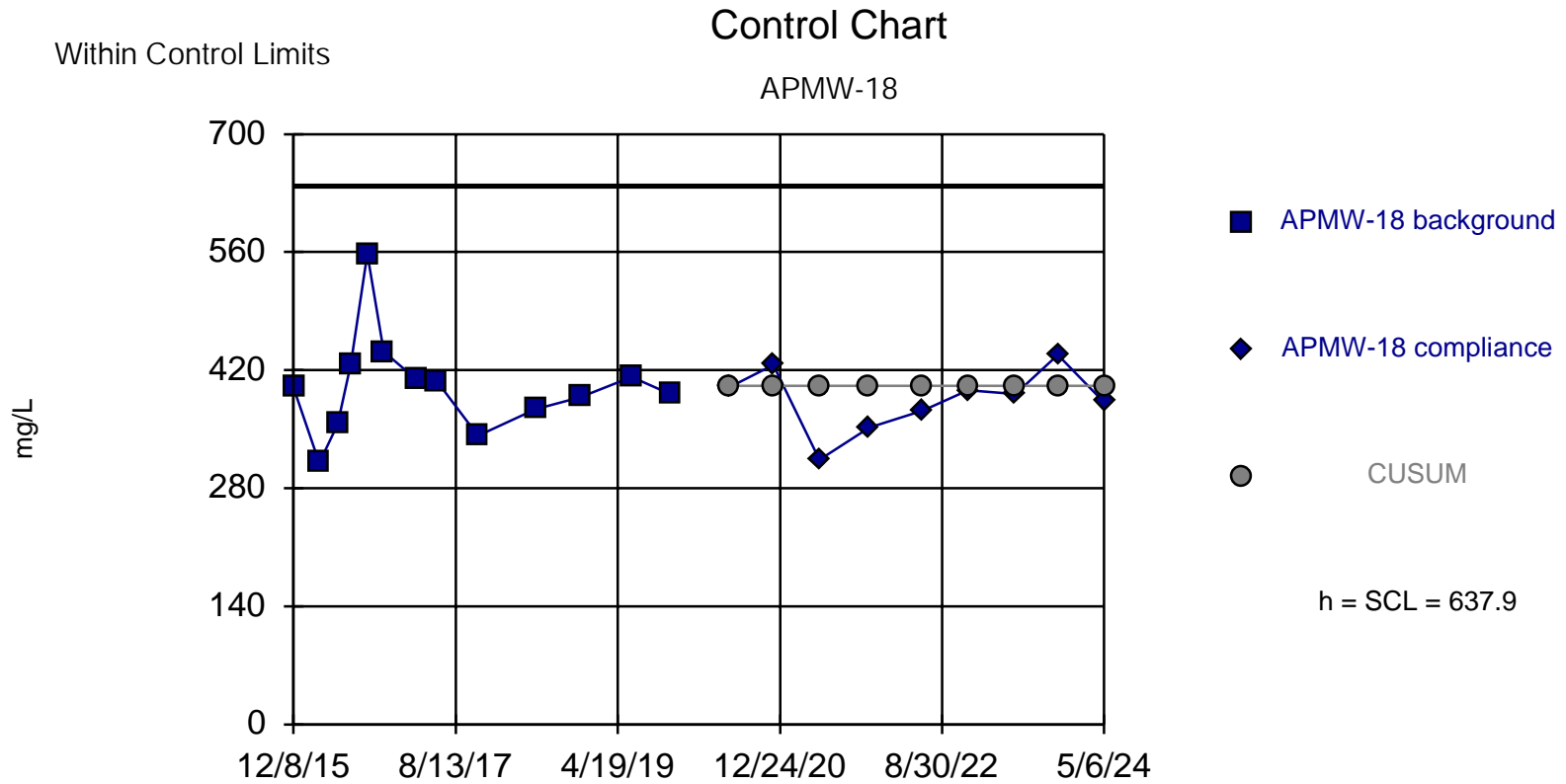
APMW-18



Background Data Summary (based on square root transformation): Mean=6.19, Std. Dev.=1.491, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8874, critical = 0.866. Report alpha = 0.00515. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 7/1/2024 4:36 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



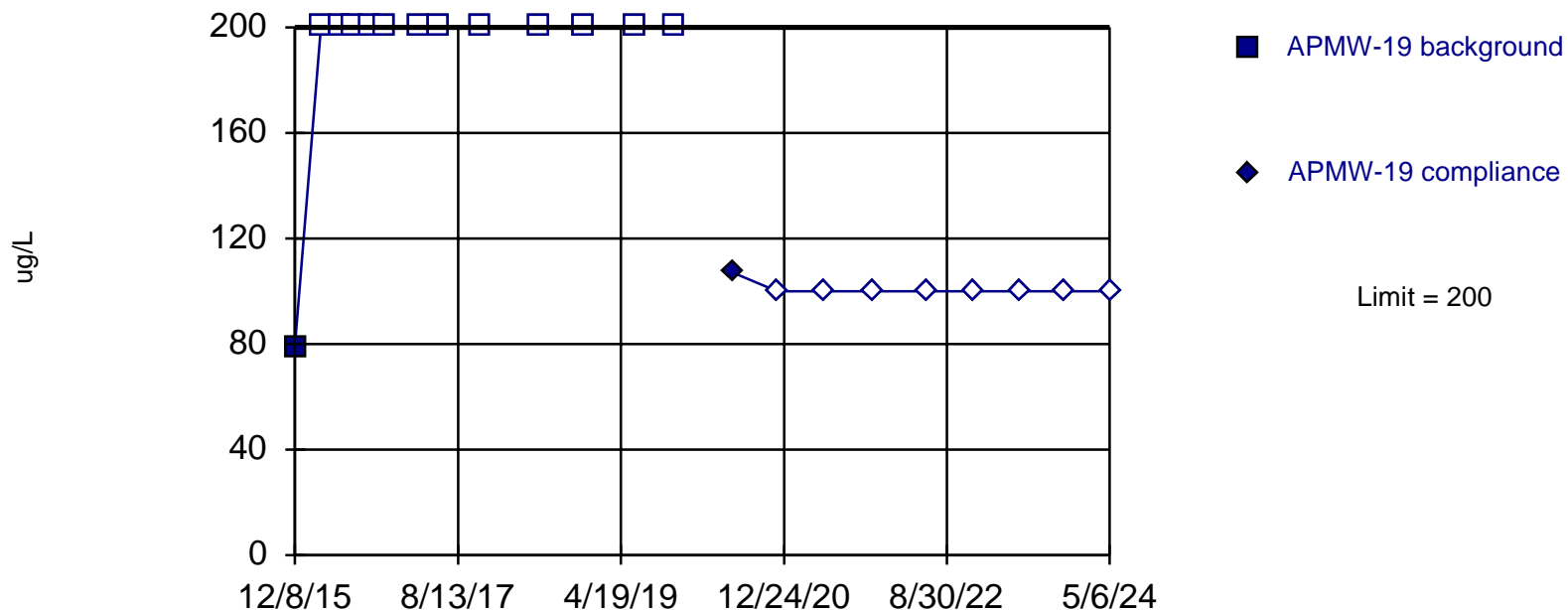
Background Data Summary: Mean=401.2, Std. Dev.=59.18, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8861, critical = 0.866. Report alpha = 0.00515. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 7/1/2024 4:36 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

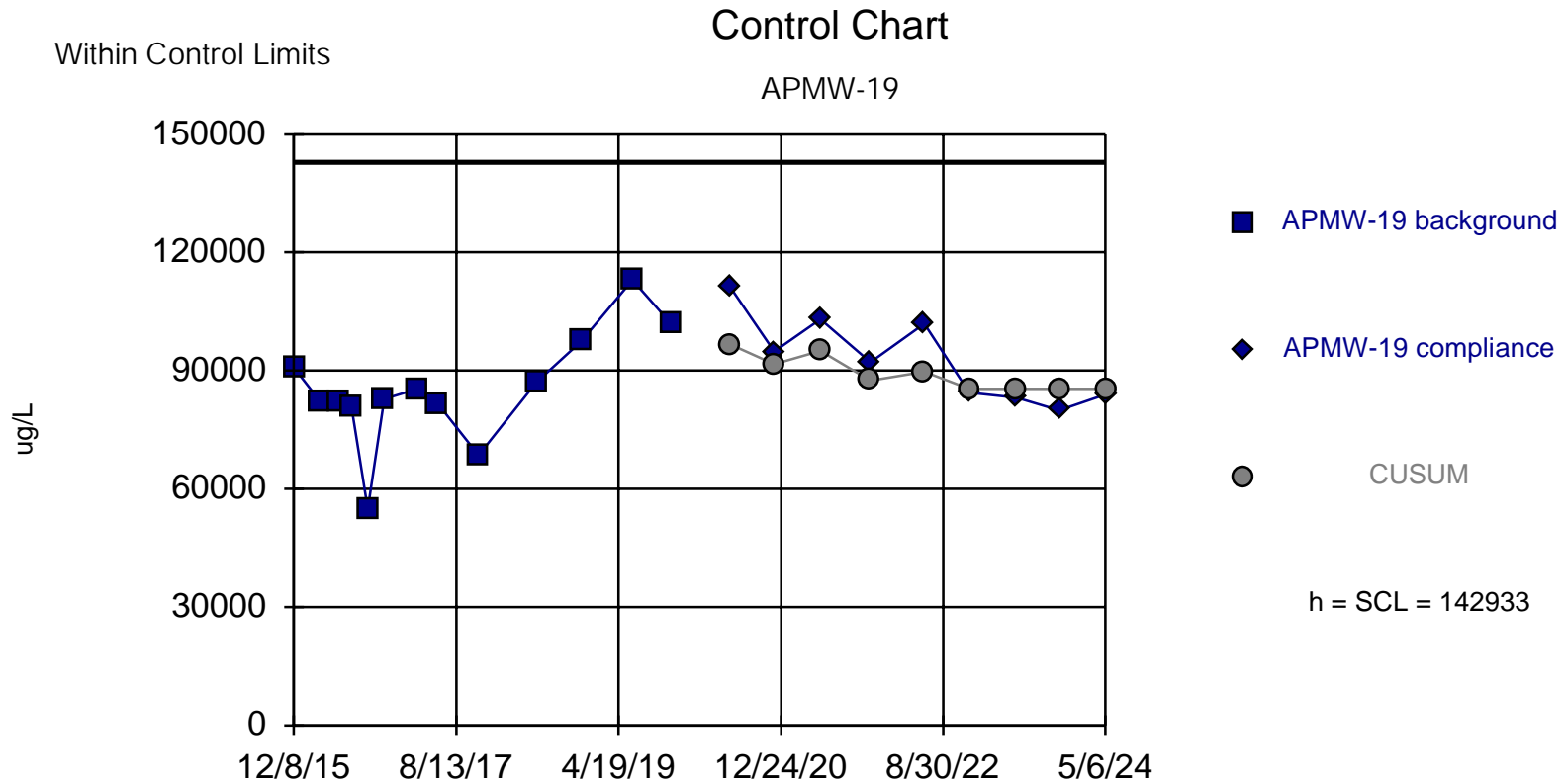
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 7/2/2024 9:46 AM

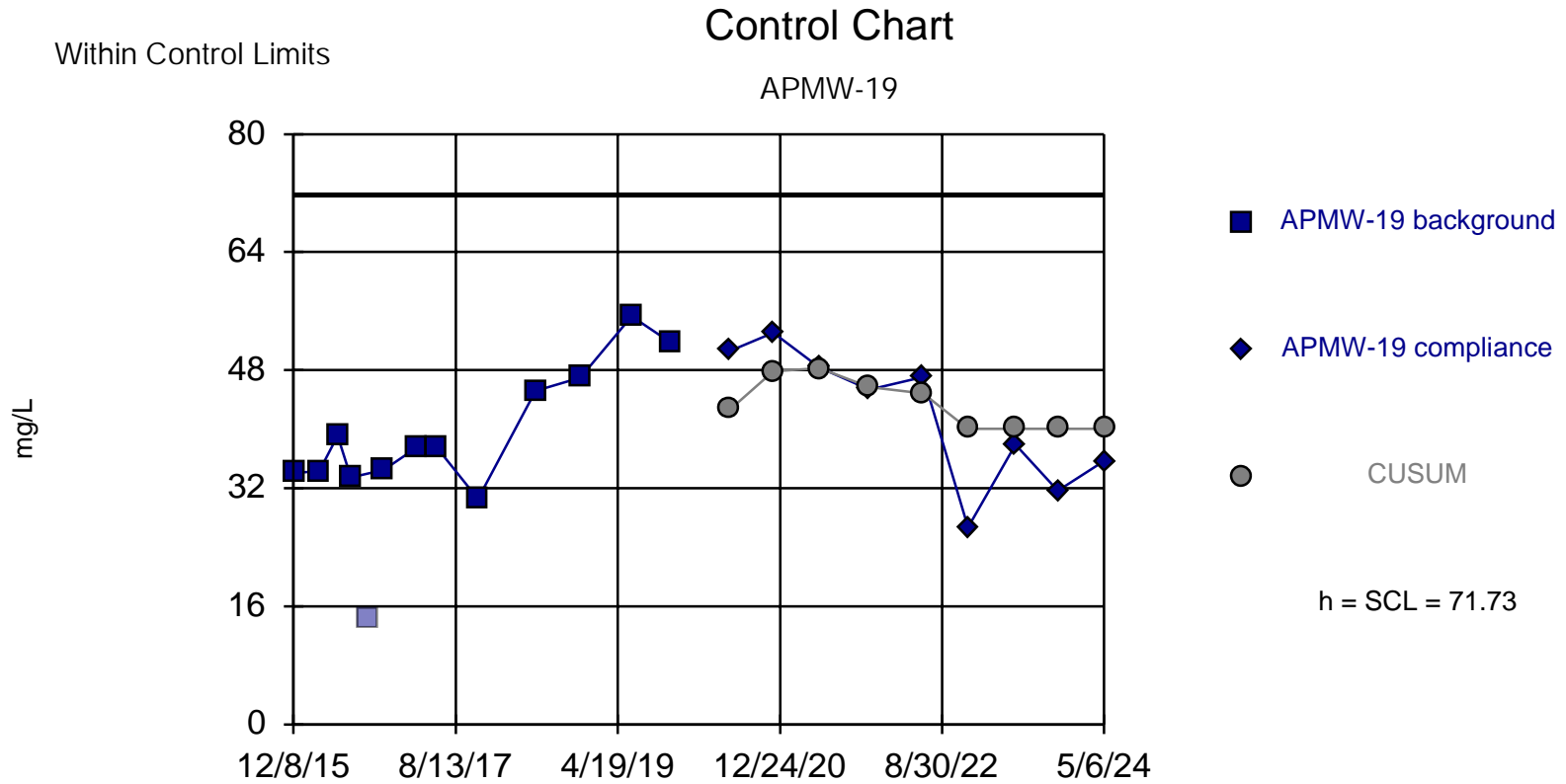
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=85323, Std. Dev.=14403, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9453, critical = 0.866. Report alpha = 0.005198. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 7/2/2024 9:46 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=40.03, Std. Dev.=7.925, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8899, critical = 0.859. Report alpha = 0.006032. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

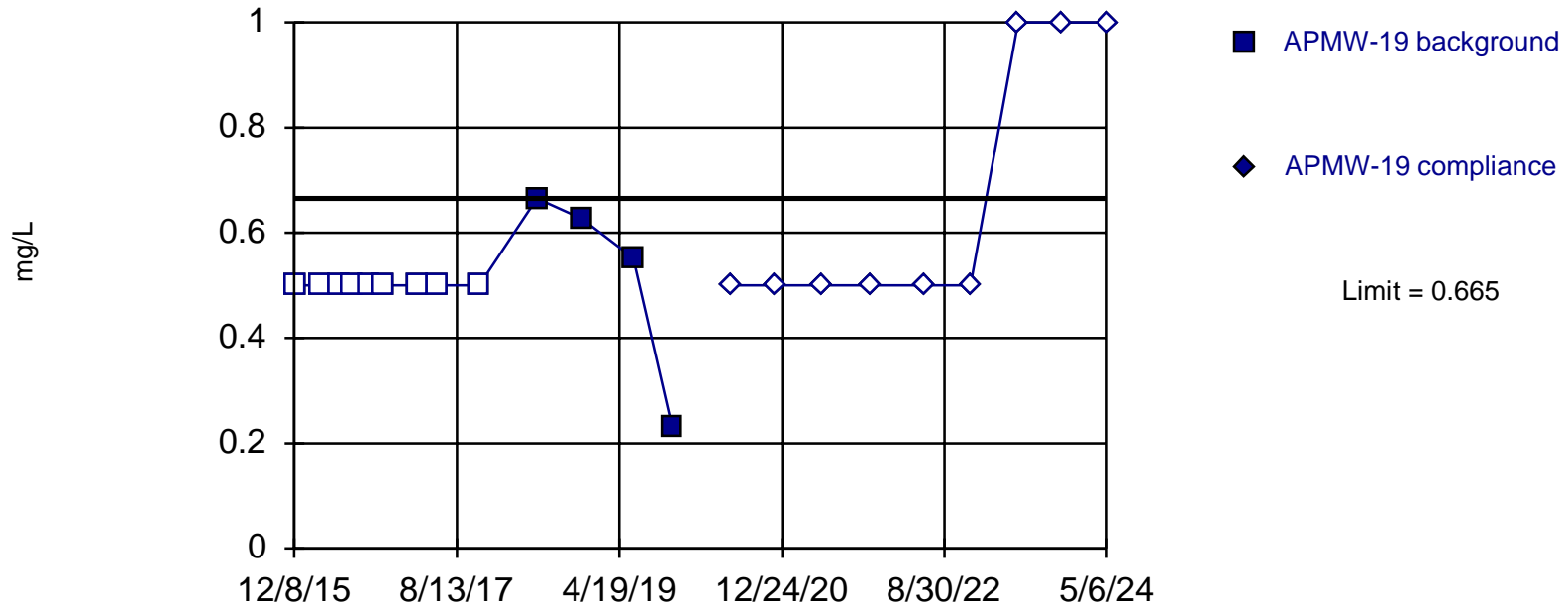
Constituent: Chloride Analysis Run 7/2/2024 9:52 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

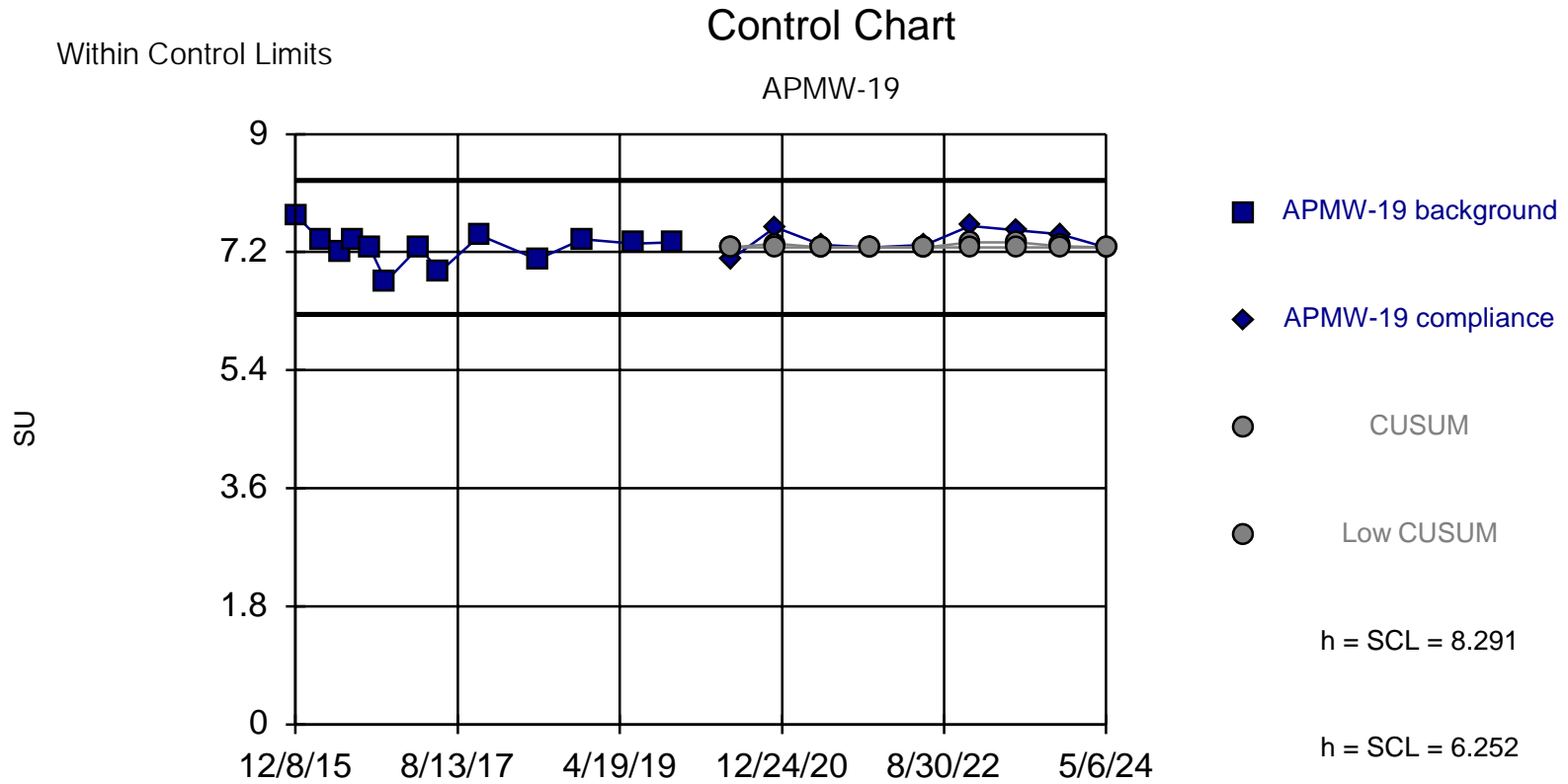
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 69.23% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 7/2/2024 9:46 AM

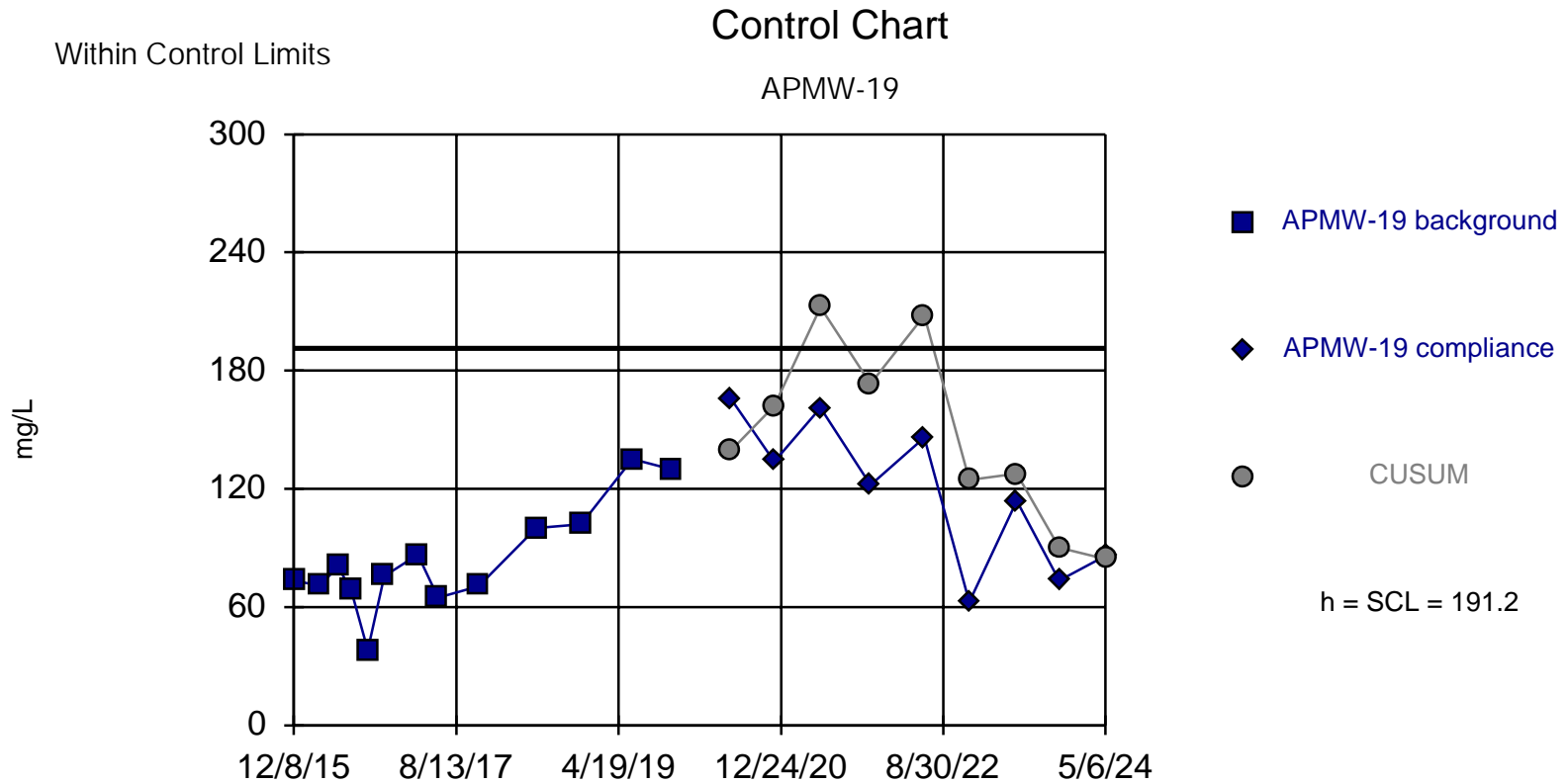
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.272, Std. Dev.=0.2548, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9316, critical = 0.866. Report alpha = 0.005062. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: pH, Field-Measured Analysis Run 7/2/2024 2:56 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

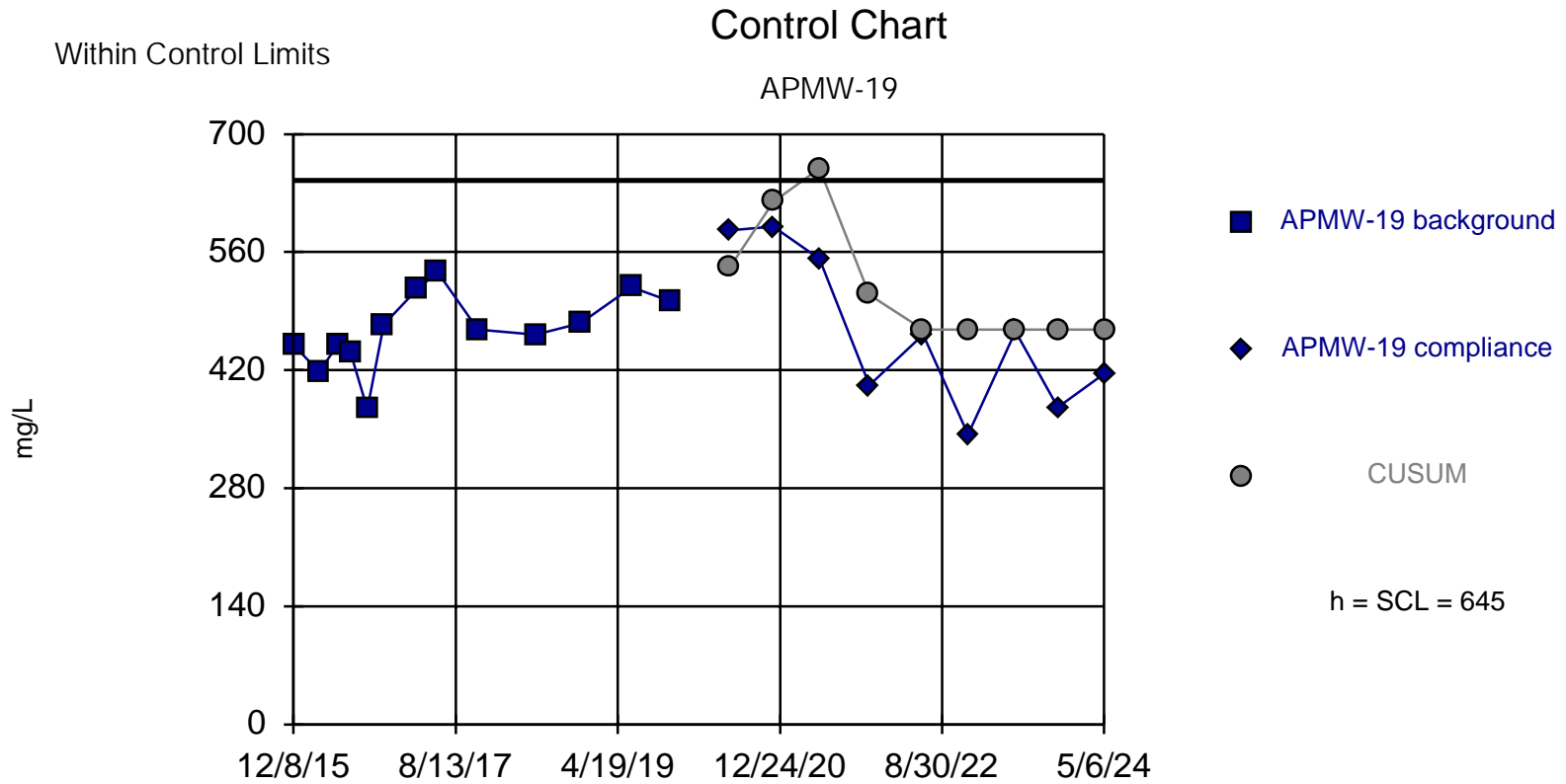


Background Data Summary: Mean=84.34, Std. Dev.=26.71, n=13. Exceedance nullified by following point per option settings. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9224, critical = 0.866. Report alpha = 0.005286. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 7/2/2024 9:46 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





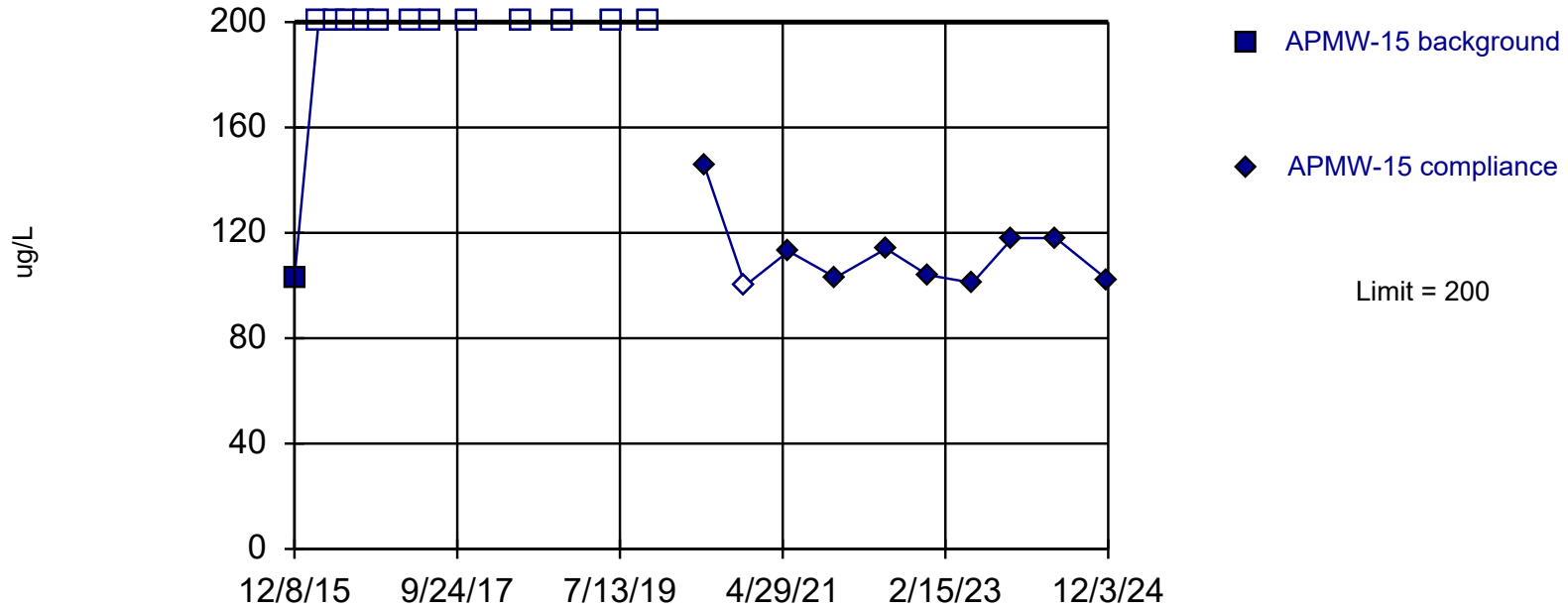
Background Data Summary: Mean=468, Std. Dev.=44.24, n=13. Exceedance nullified by following point per option settings. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9679, critical = 0.866. Report alpha = 0.005286. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 7/2/2024 9:46 AM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

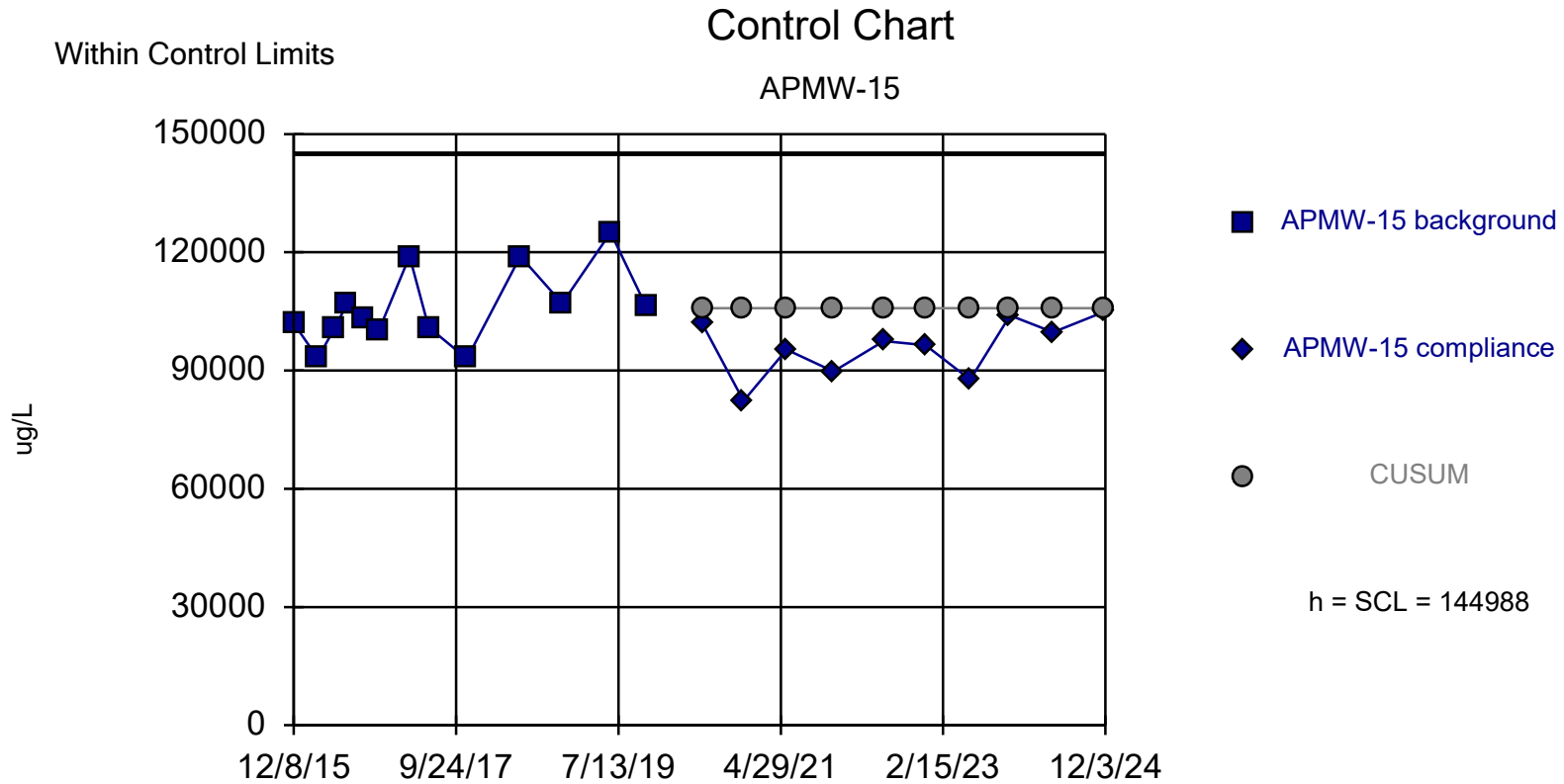
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:12 AM

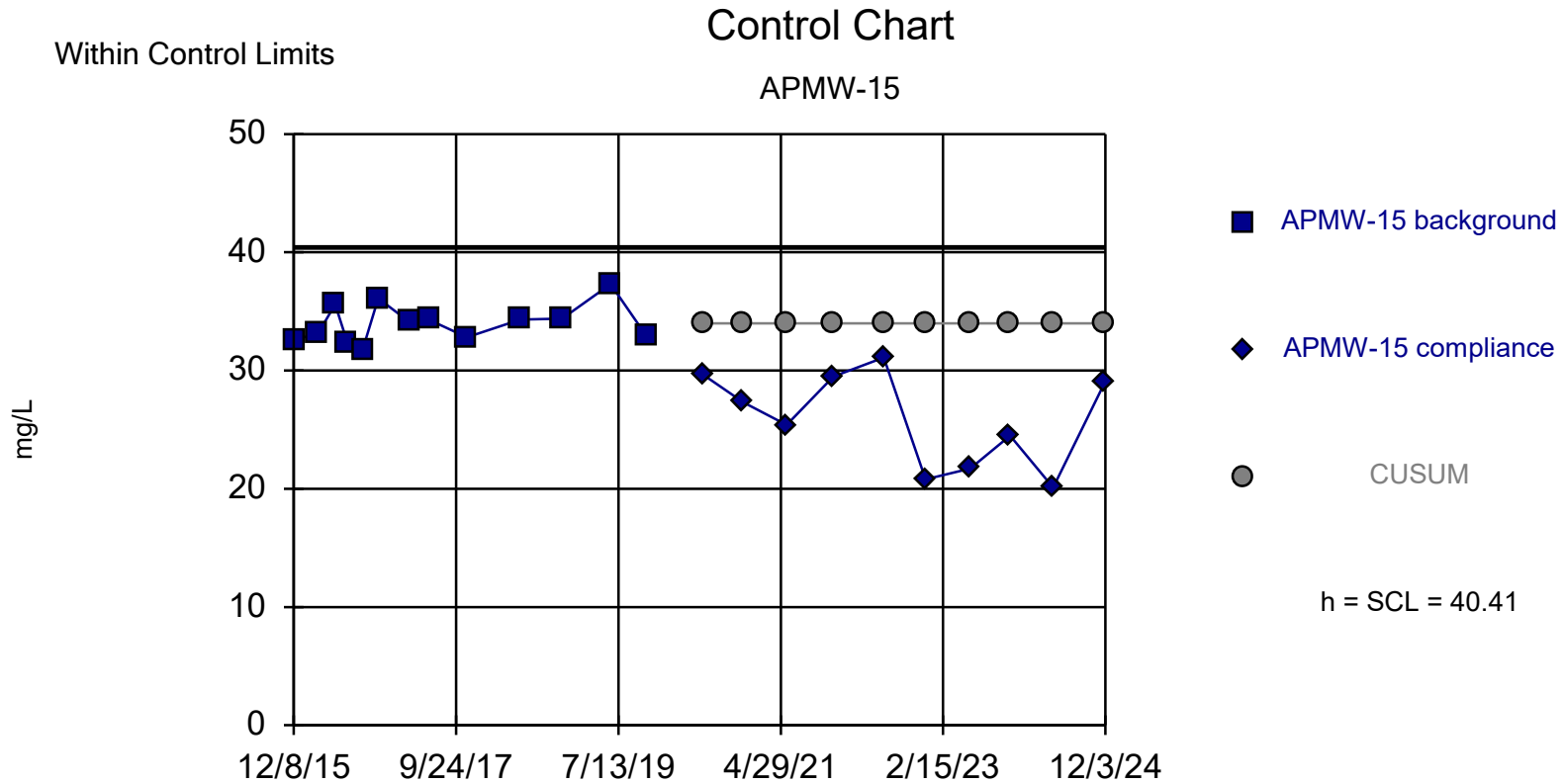
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=105838, Std. Dev.=9787, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9071, critical = 0.866. Report alpha = 0.005956. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 3:17 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=33.98, Std. Dev.=1.608, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9375, critical = 0.866. Report alpha = 0.005956. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

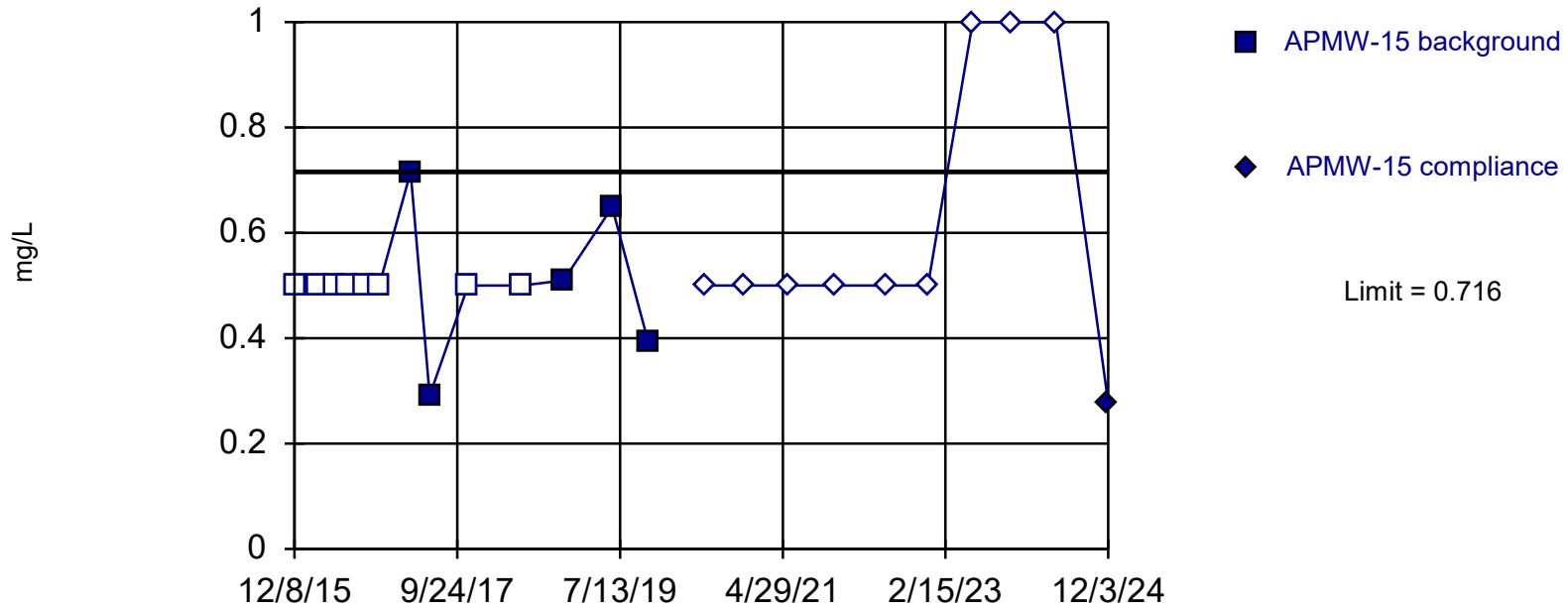
Constituent: Chloride Analysis Run 1/23/2025 3:17 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

### Prediction Limit

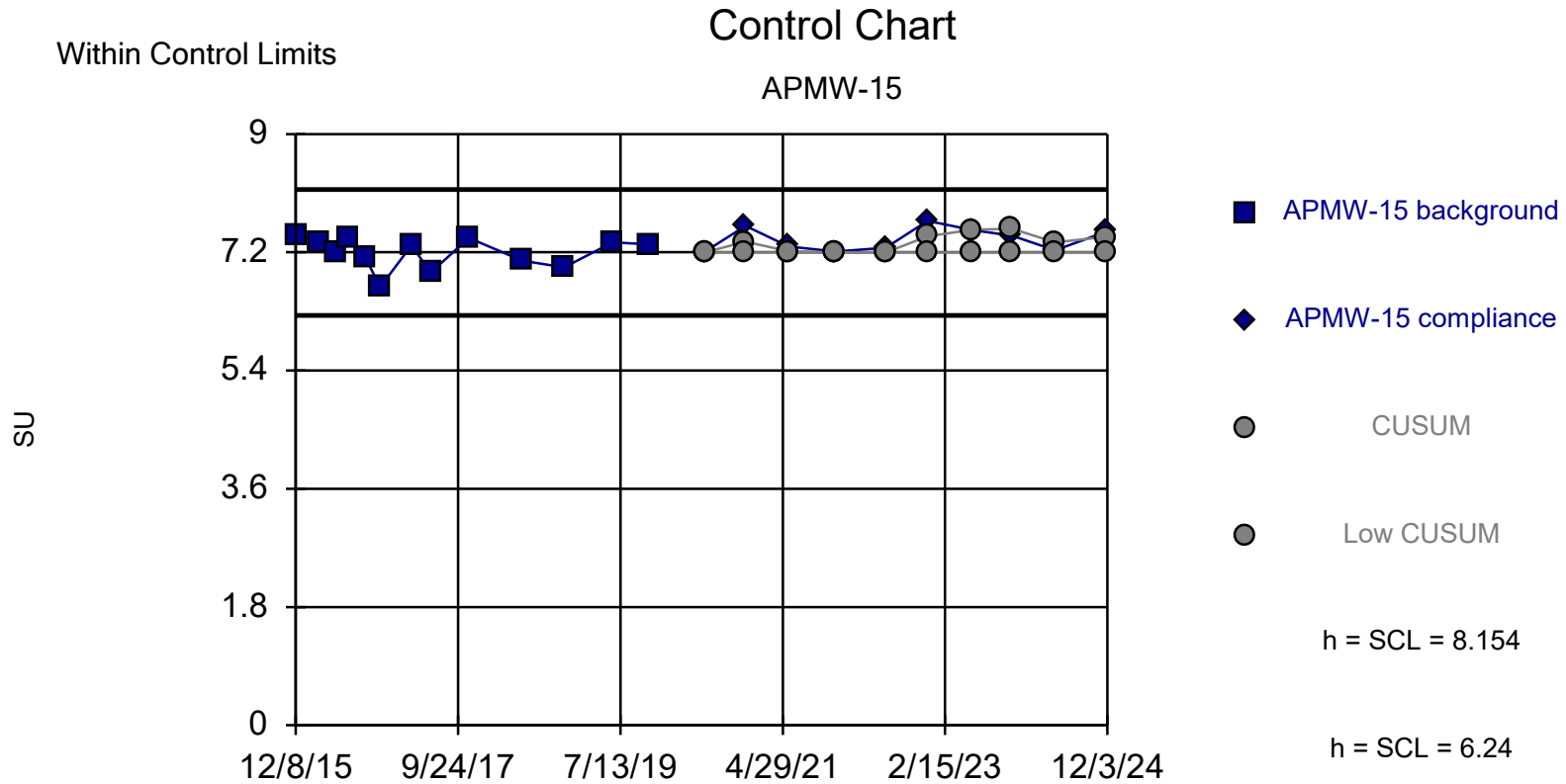
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 61.54% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

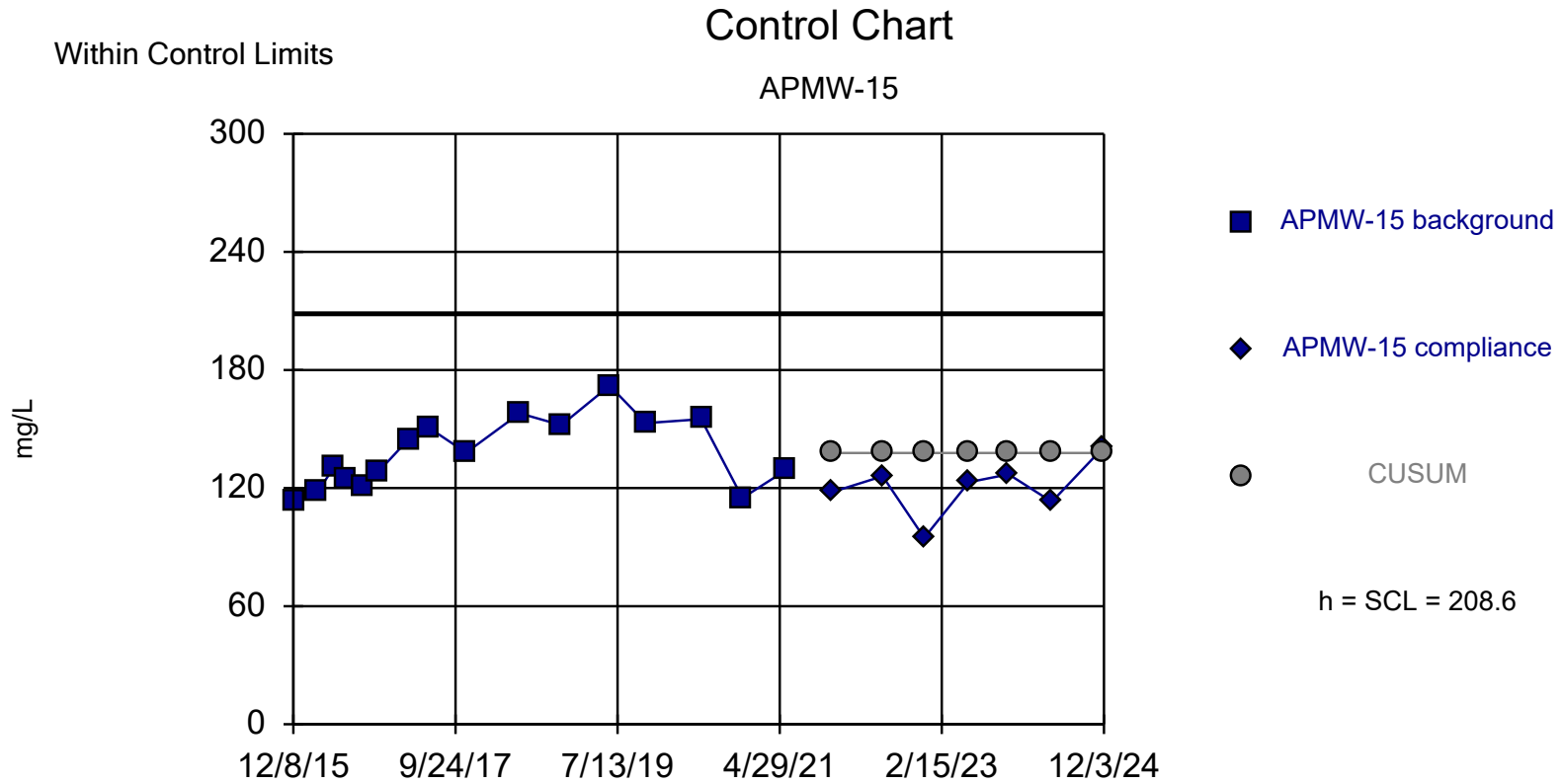
Constituent: Fluoride Analysis Run 1/23/2025 3:16 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.197, Std. Dev.=0.2393, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9057, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

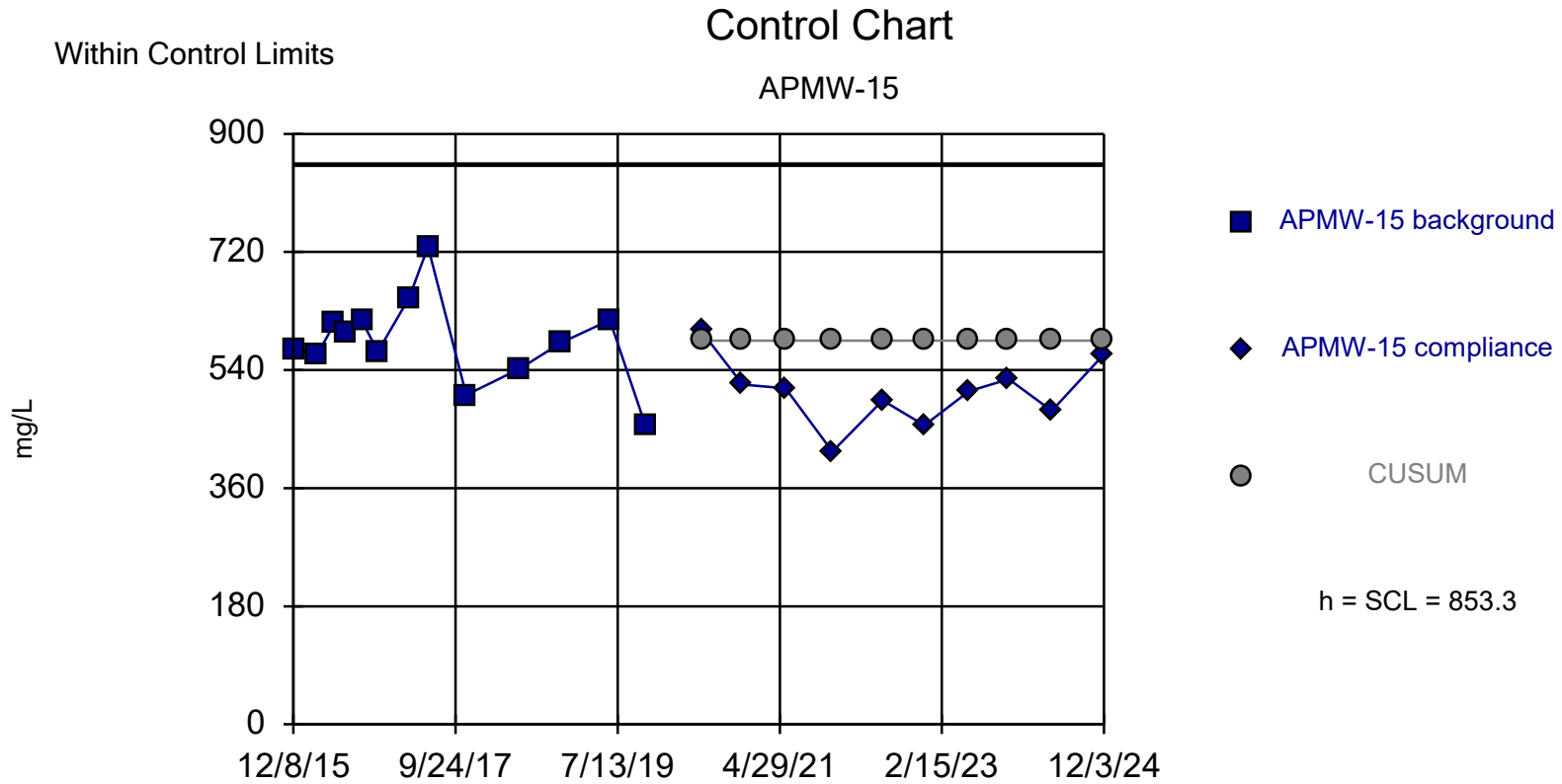
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:05 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=137.8, Std. Dev.=17.71, n=16. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.939, critical = 0.887. Report alpha = 0.01034. Dates ending 5/24/2021 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:10 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

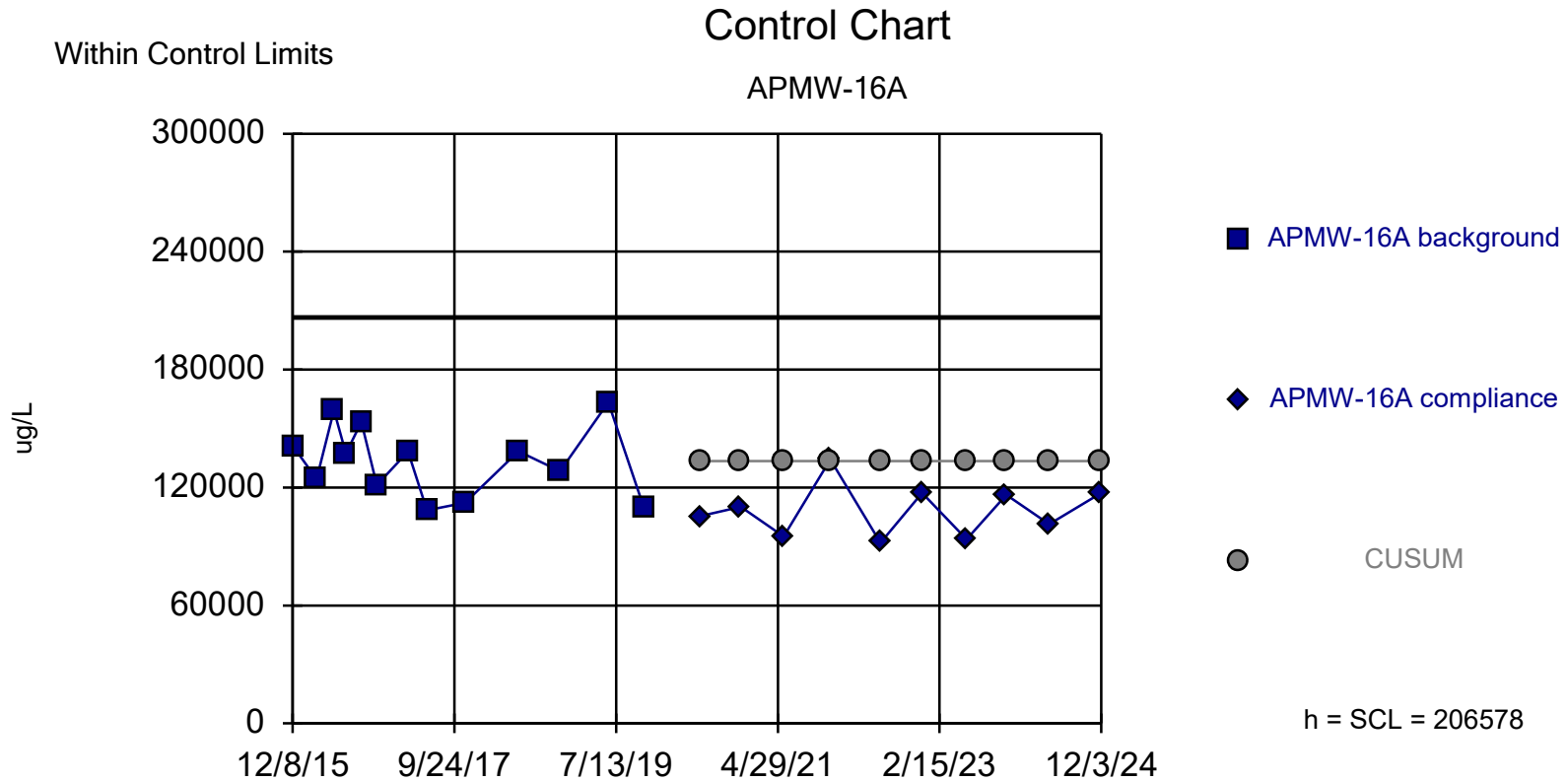


Background Data Summary: Mean=584.6, Std. Dev.=67.16, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9651, critical = 0.866. Report alpha = 0.005716. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 3:14 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



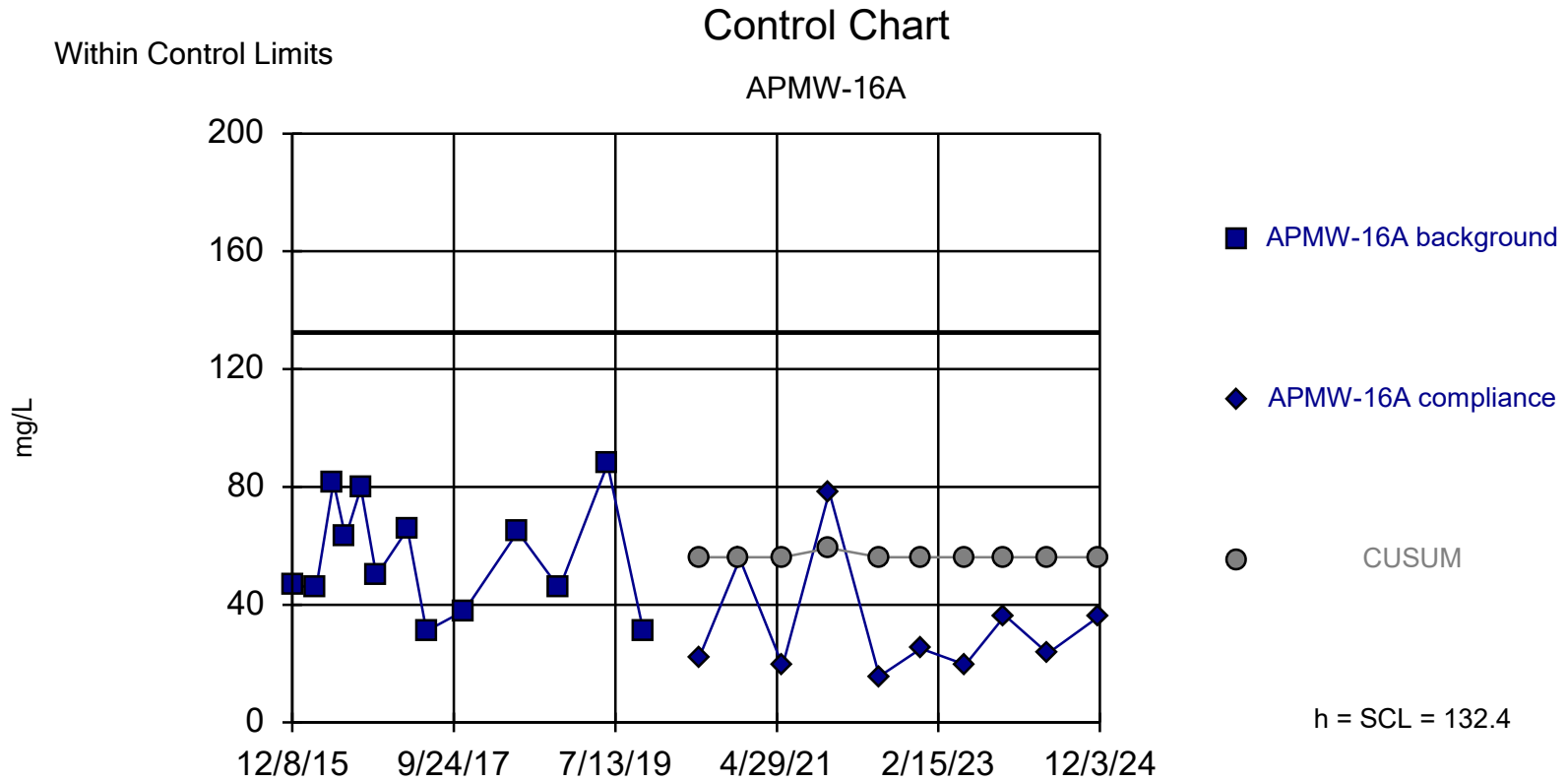




Background Data Summary: Mean=133456, Std. Dev.=18280, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9448, critical = 0.866. Report alpha = 0.005798. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 3:24 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

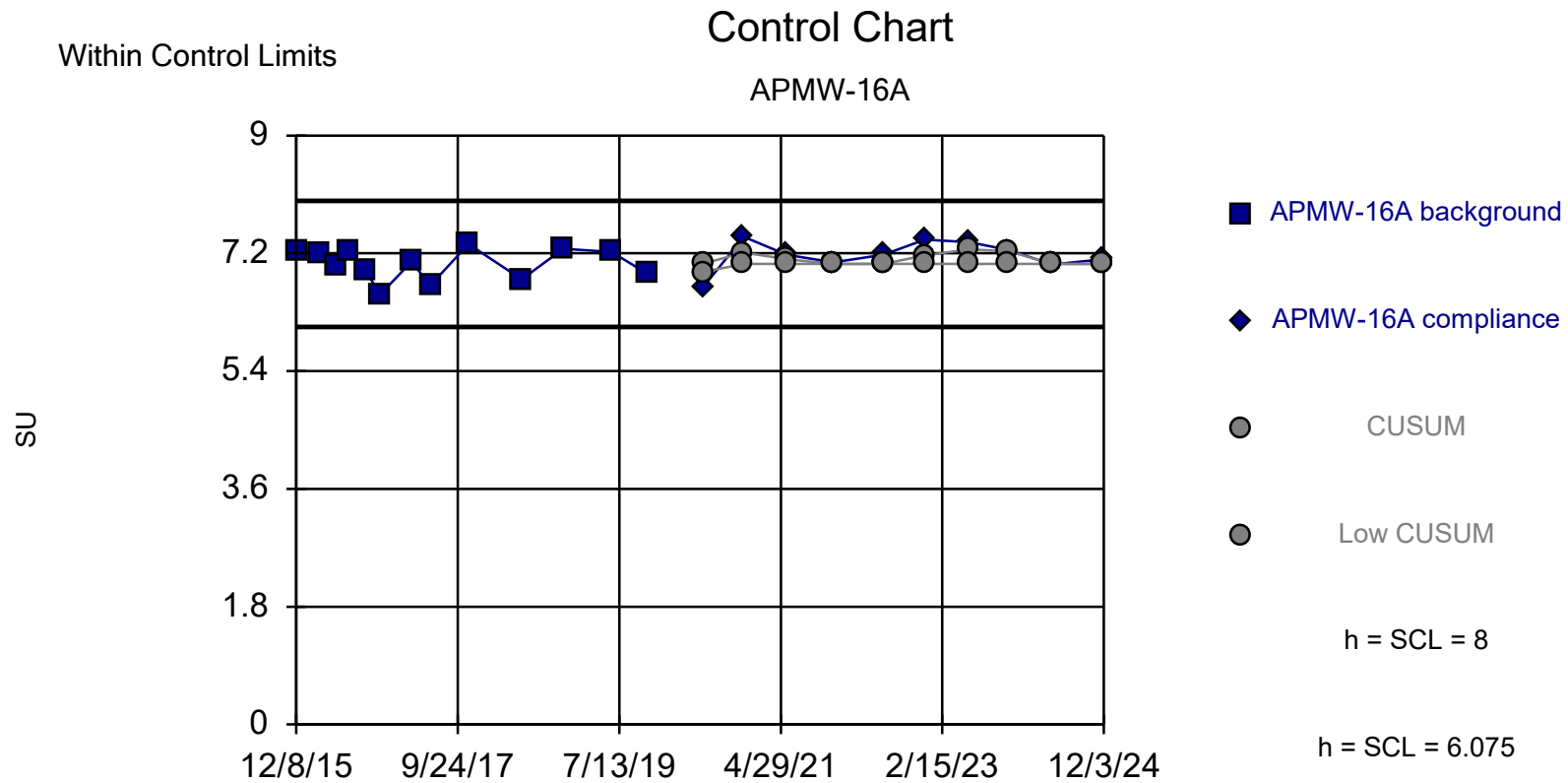


Background Data Summary: Mean=56.15, Std. Dev.=19.06, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9315, critical = 0.866. Report alpha = 0.005798. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 1/23/2025 3:26 PM

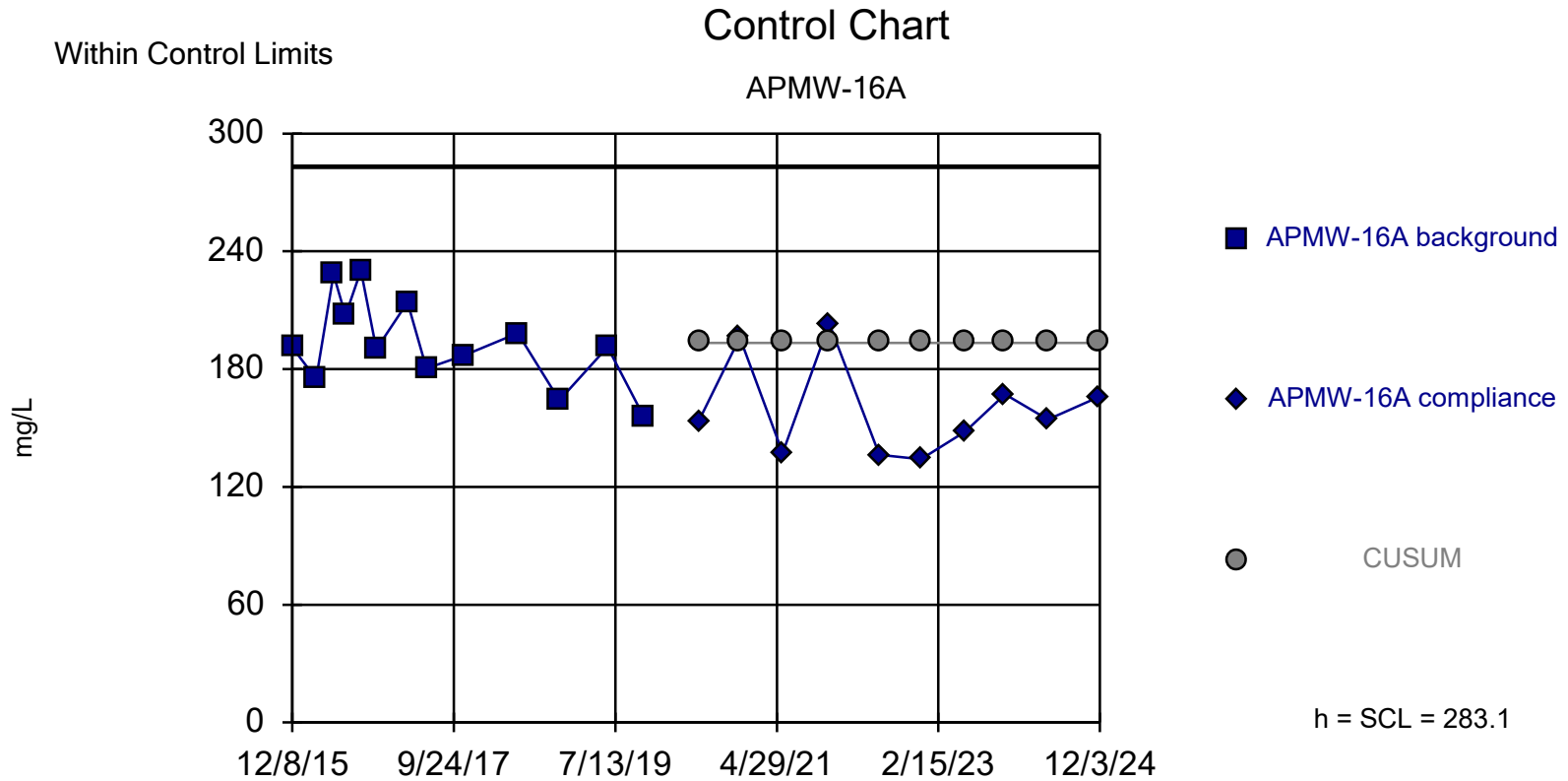
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





Background Data Summary: Mean=7.038, Std. Dev.=0.2406, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9309, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

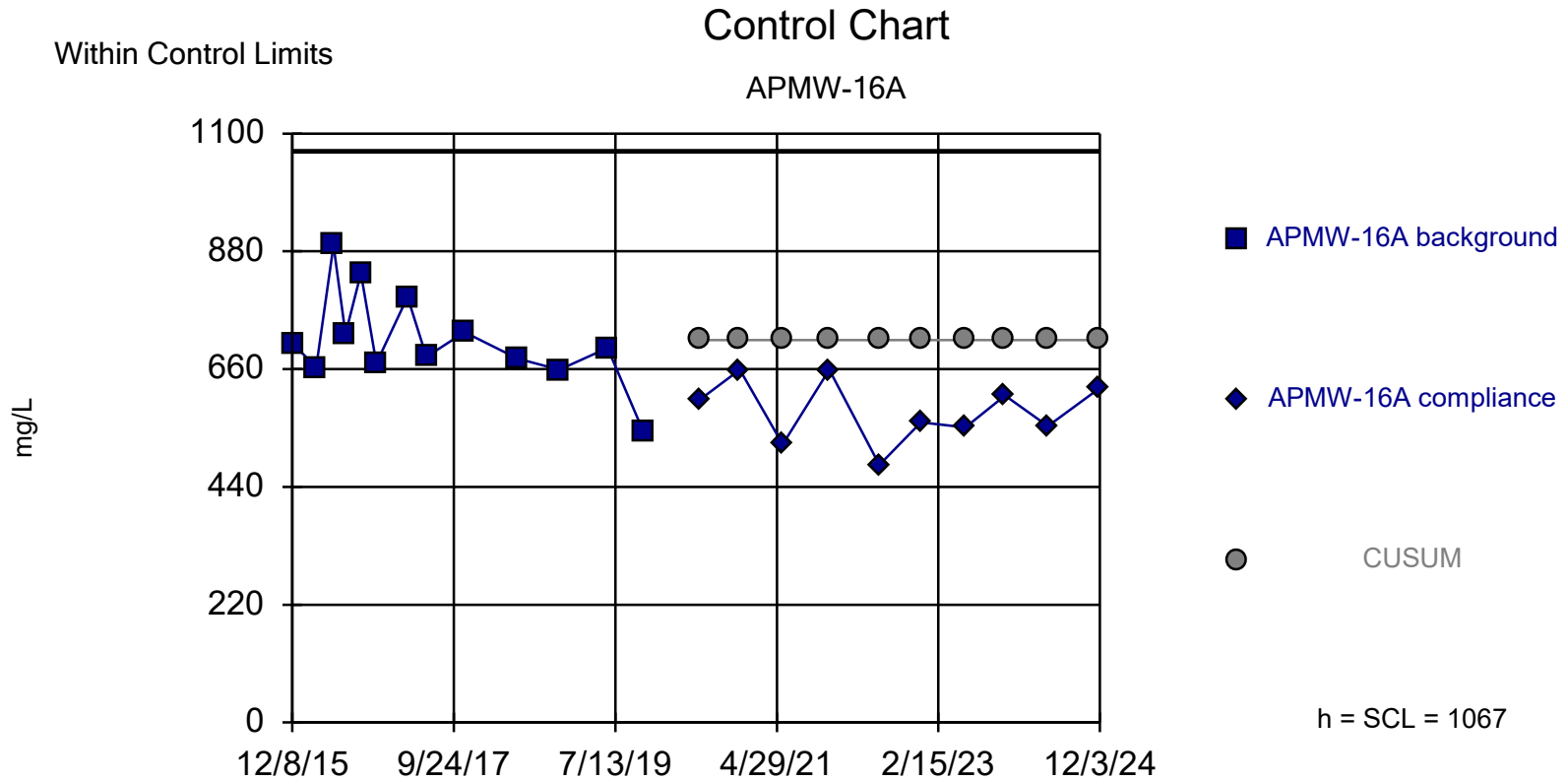
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:06 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=193.4, Std. Dev.=22.44, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9667, critical = 0.866. Report alpha = 0.005798. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/23/2025 3:29 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



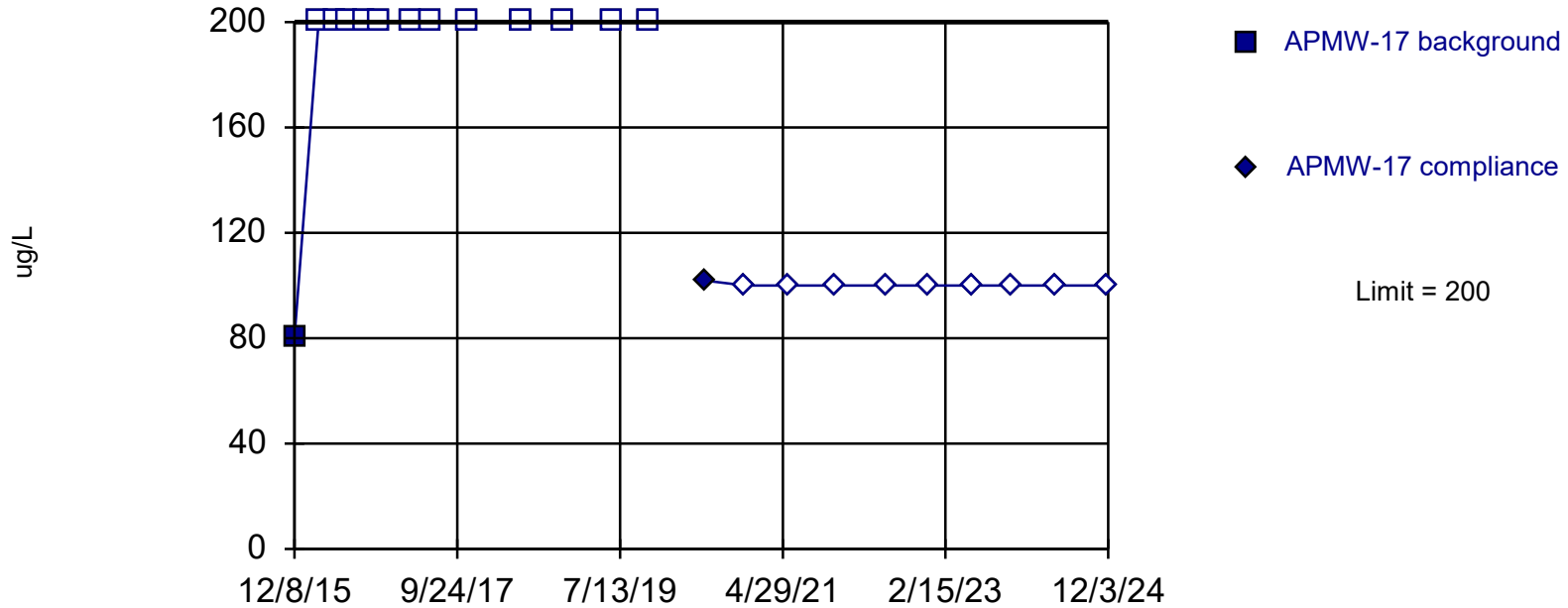
Background Data Summary: Mean=714.3, Std. Dev.=88.16, n=13. Data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.933, critical = 0.866. Report alpha = 0.005798. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 3:30 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

Intrawell Non-parametric

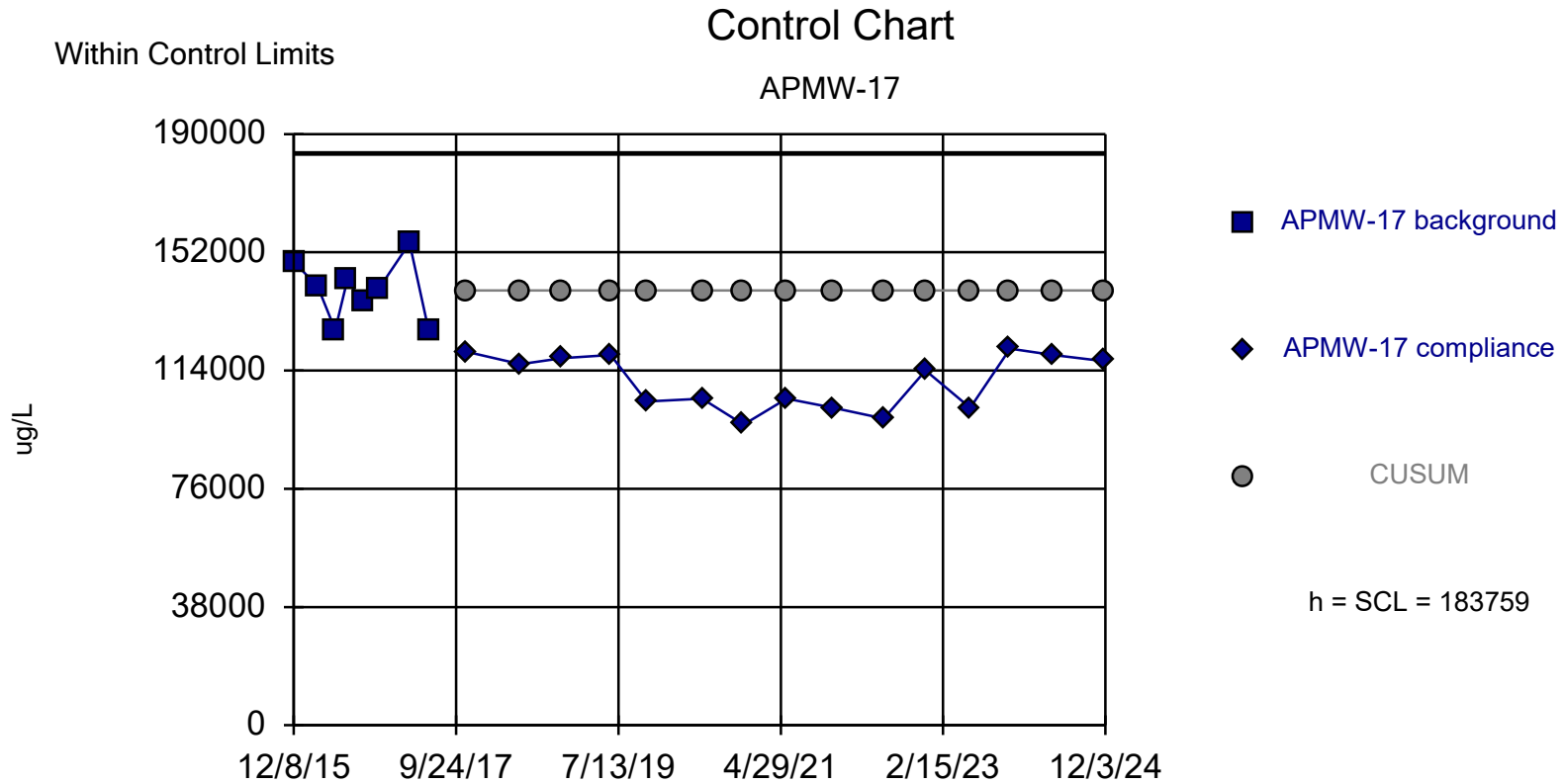


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/23/2025 3:33 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

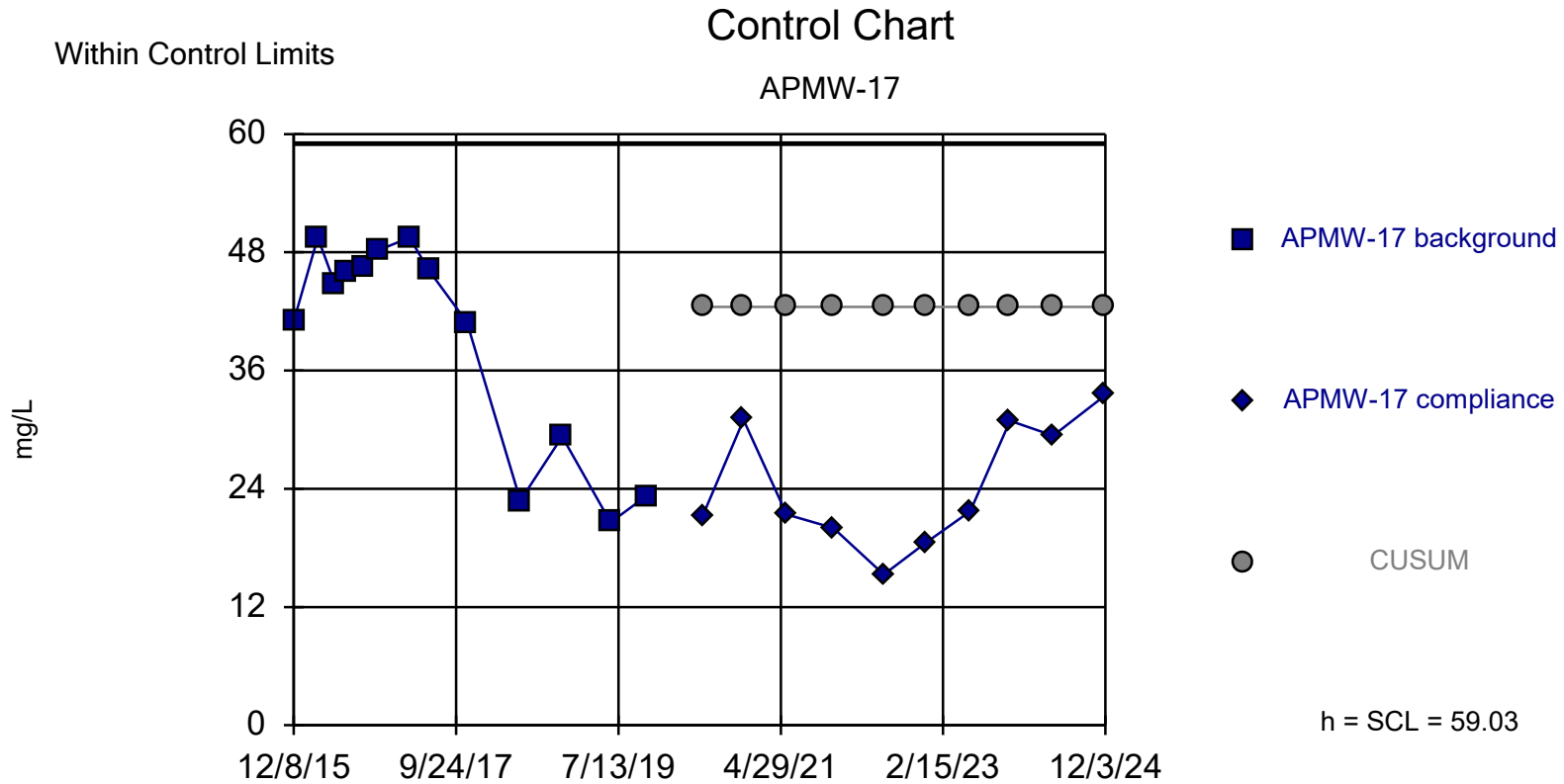




Background Data Summary: Mean=139750, Std. Dev.=9780, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9472, critical = 0.818. Report alpha = 0.01593. Dates ending 6/5/2017 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Calcium Analysis Run 1/23/2025 3:33 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



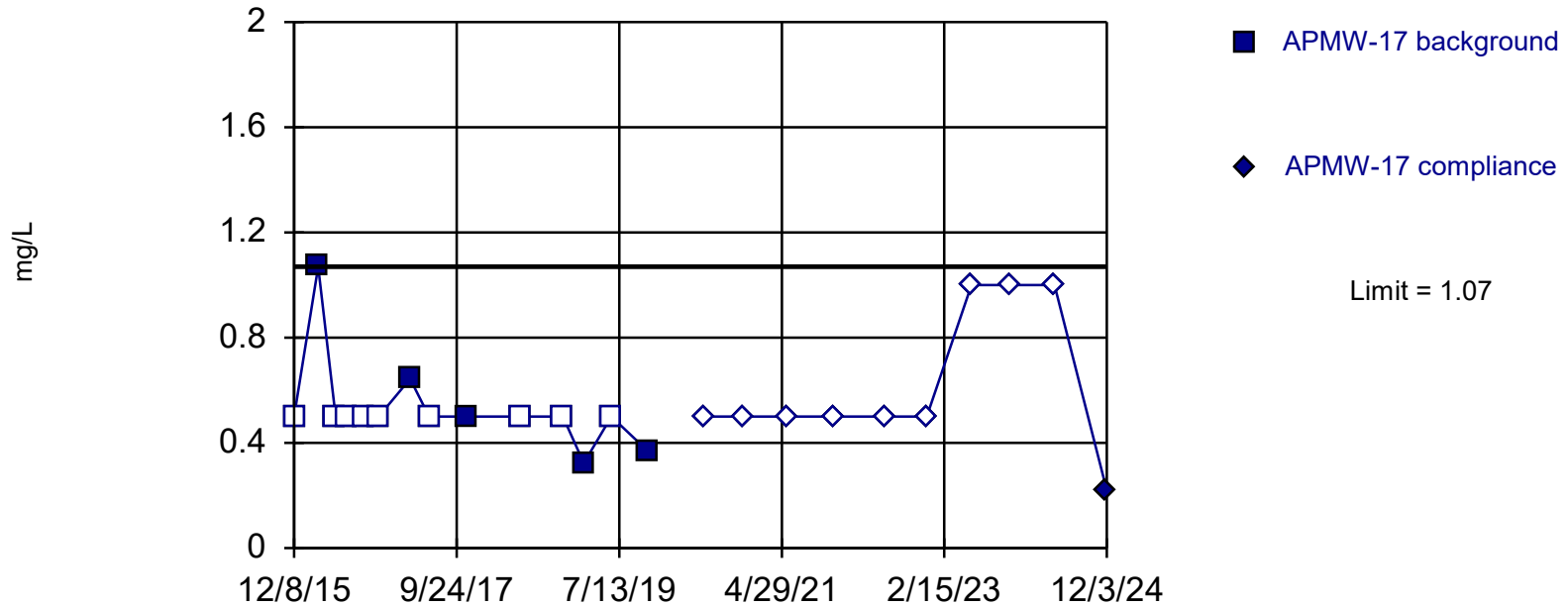
Background Data Summary (based on  $x^4$  transformation): Mean=3247075, Std. Dev.=2223138, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8771, critical = 0.866. Report alpha = 0.005576. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 1/23/2025 3:35 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 14 background values. 64.29% NDs. Well-constituent pair annual alpha = 0.01715. Individual comparison alpha = 0.008612 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

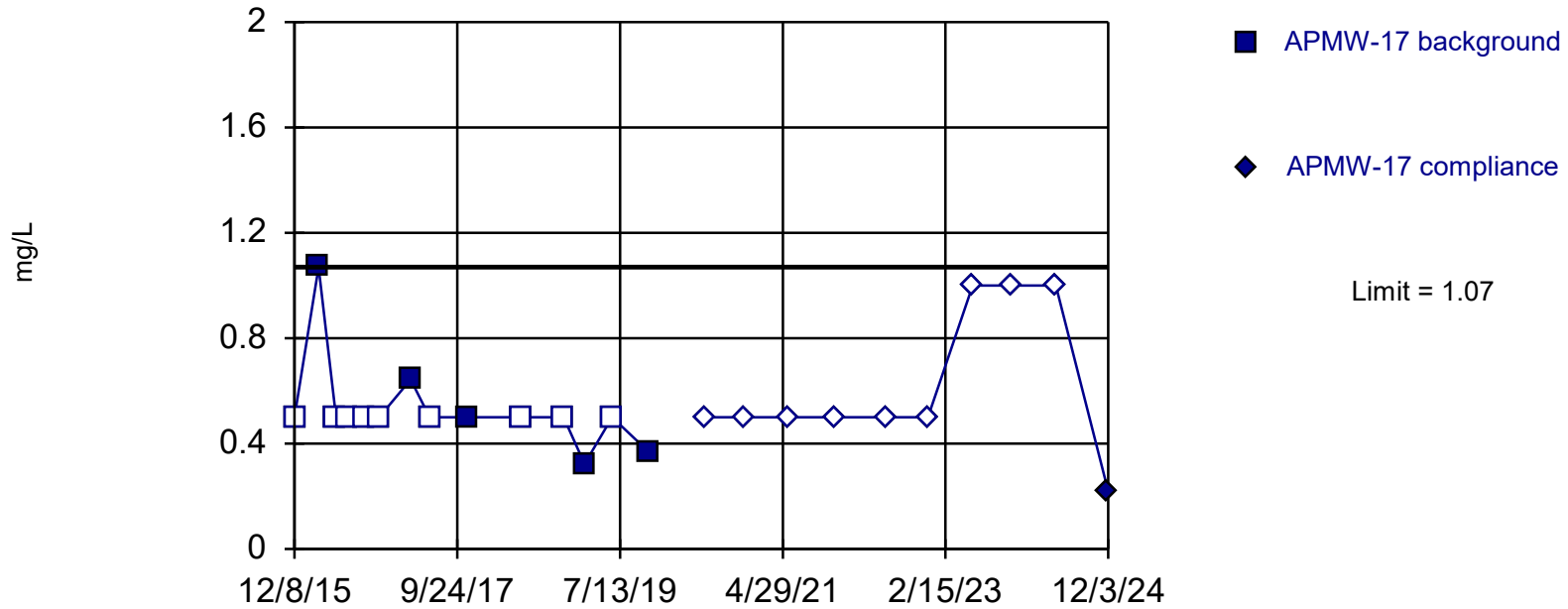
Constituent: Fluoride Analysis Run 1/23/2025 3:40 PM

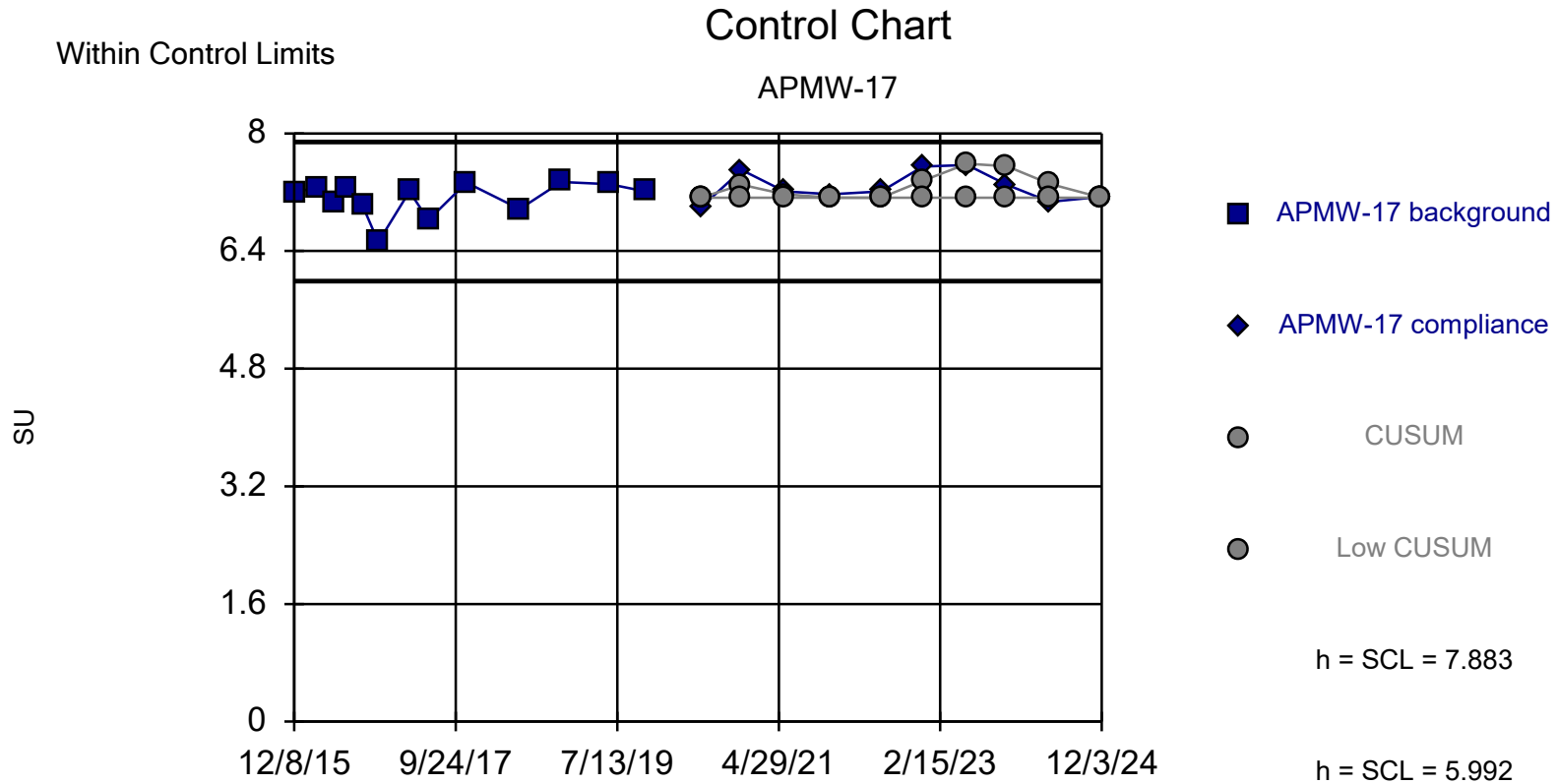
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

# Prediction Limit

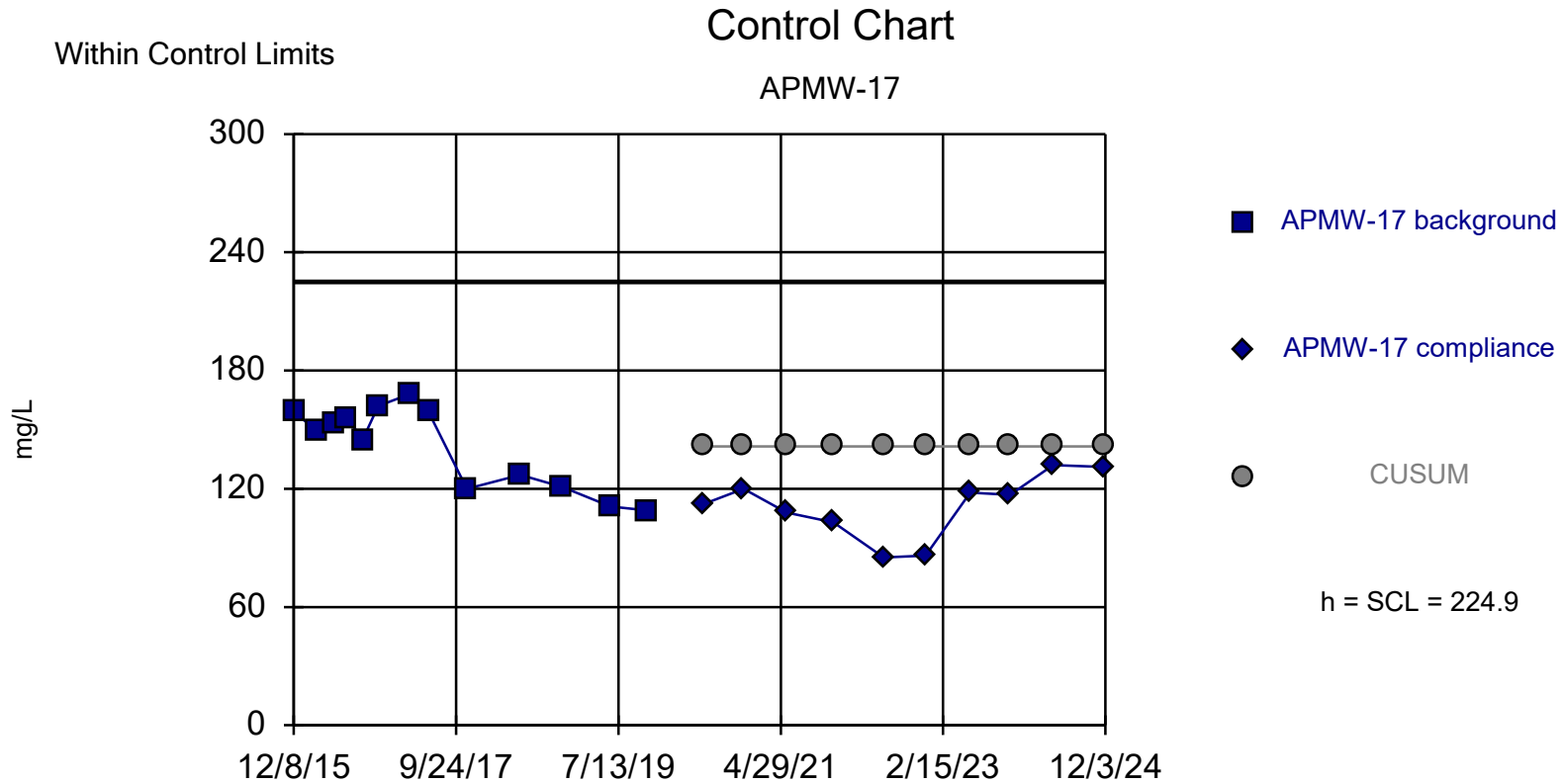
## Intrawell Non-parametric





Background Data Summary (based on  $x^4$  transformation): Mean=2575, Std. Dev.=321.6, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8721, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

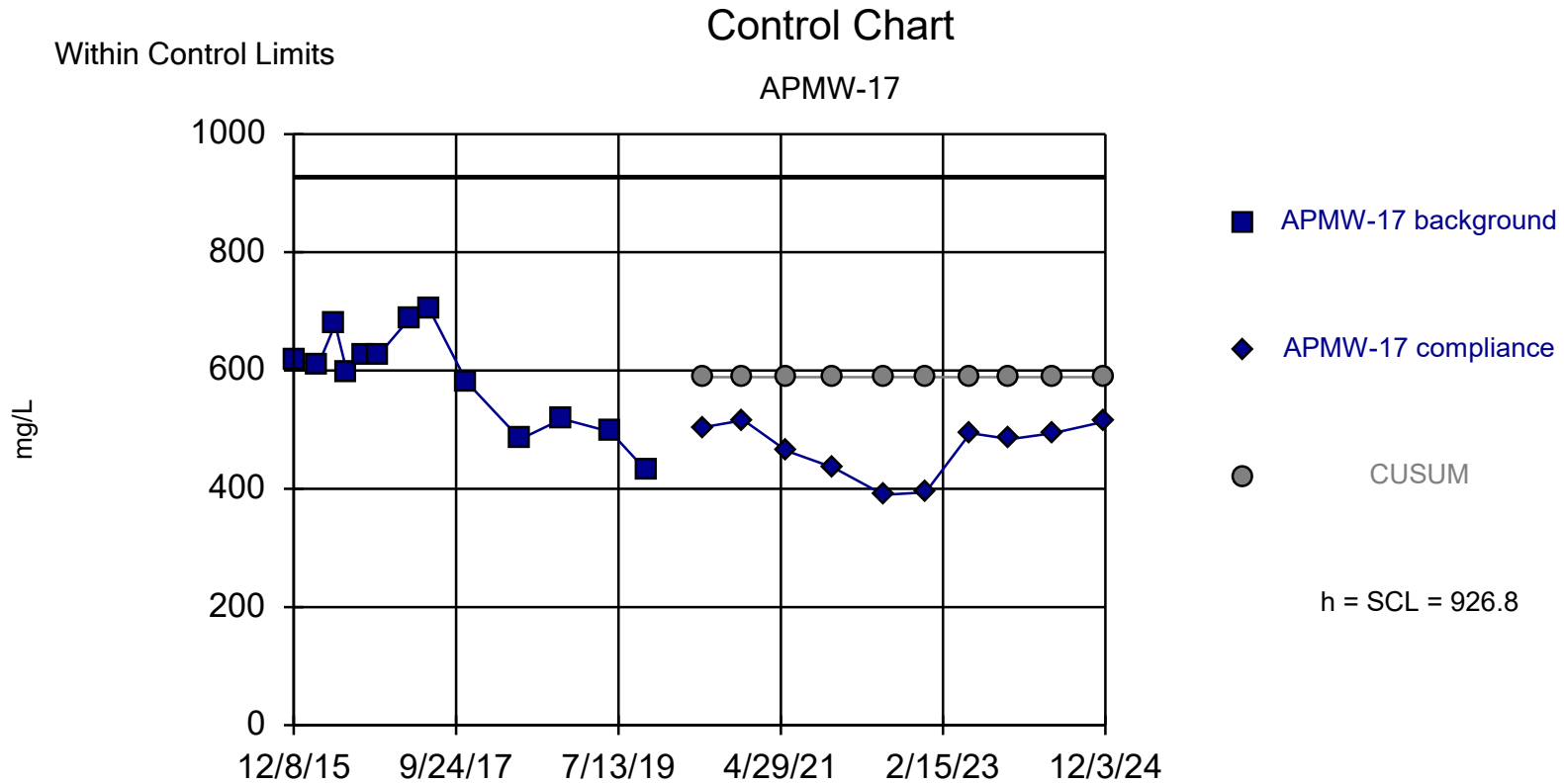
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:06 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=141.5, Std. Dev.=20.87, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8872, critical = 0.866. Report alpha = 0.005654. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/23/2025 3:43 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

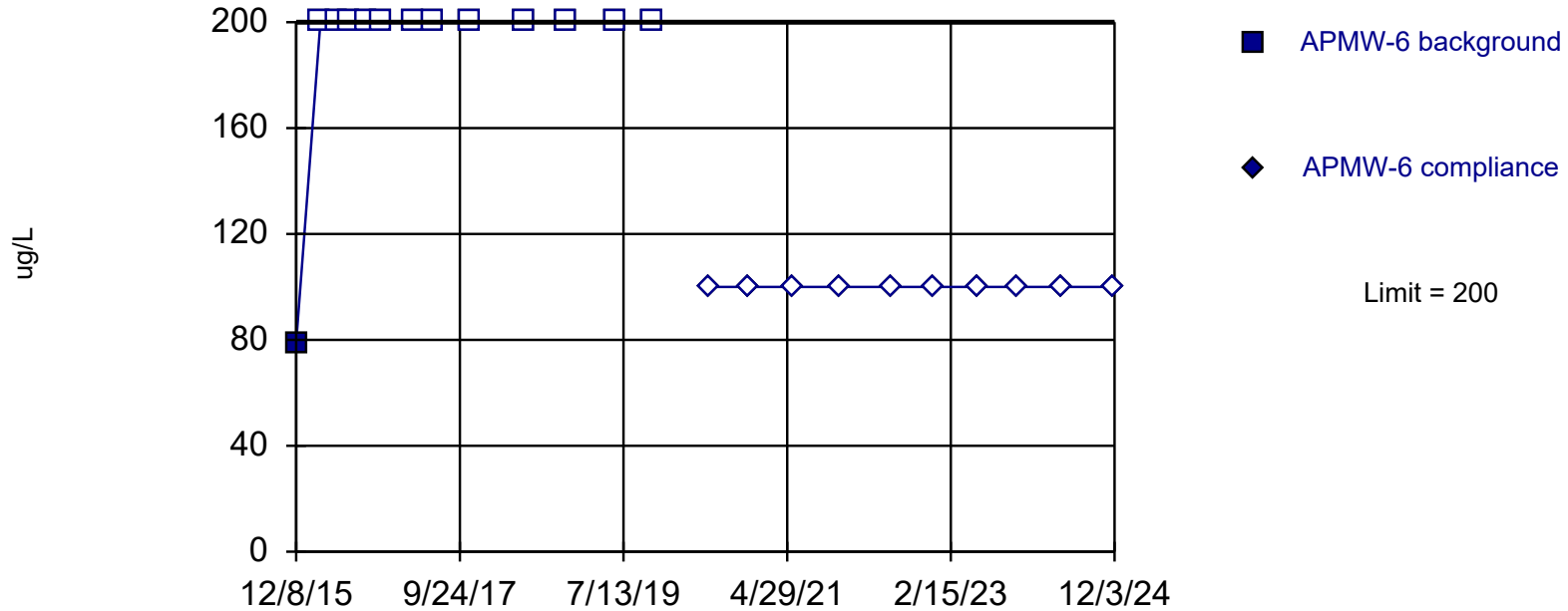


Background Data Summary: Mean=588.9, Std. Dev.=84.47, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9463, critical = 0.866. Report alpha = 0.005654. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Within Limit

## Prediction Limit

Intrawell Non-parametric

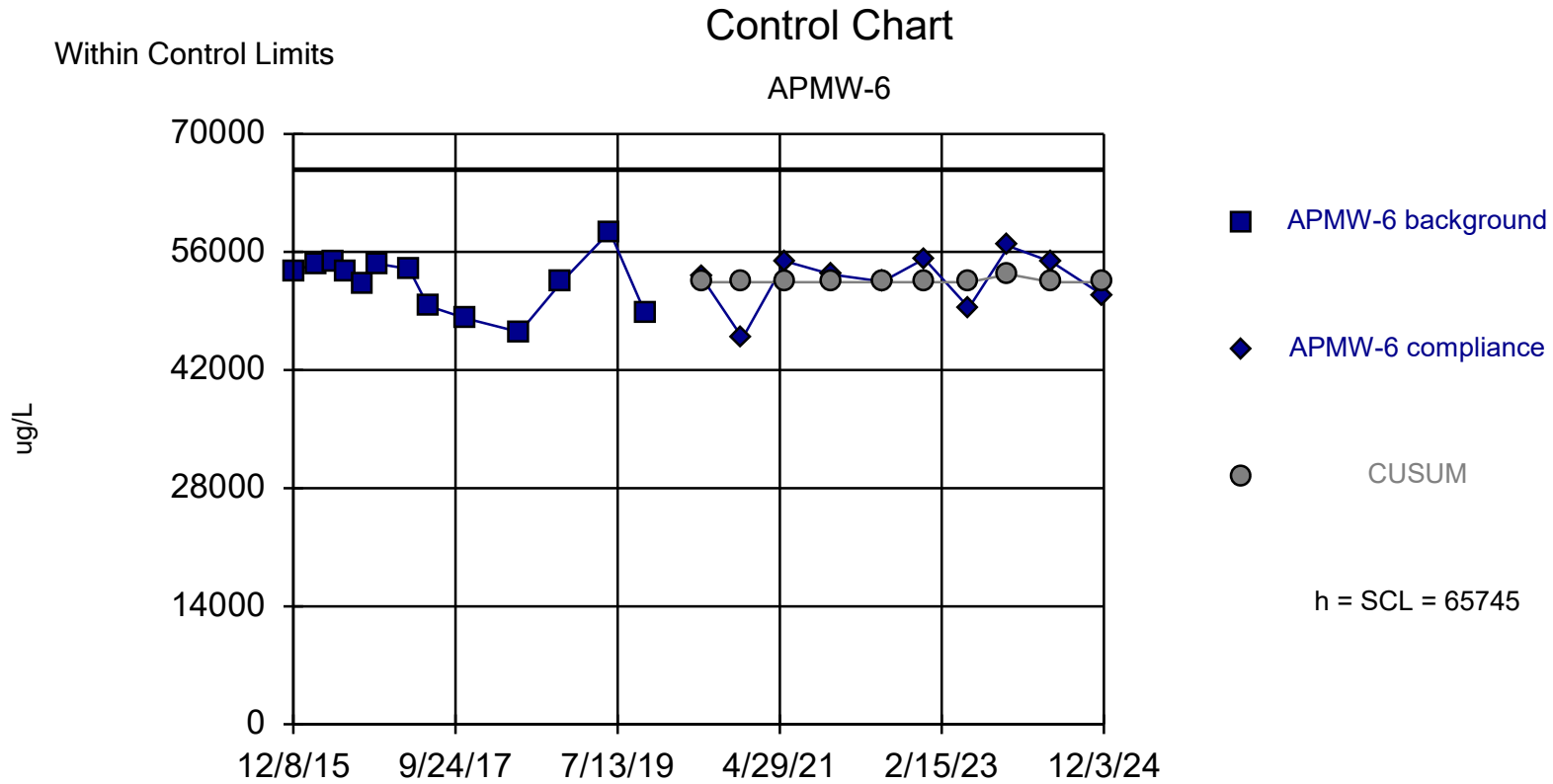


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:21 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

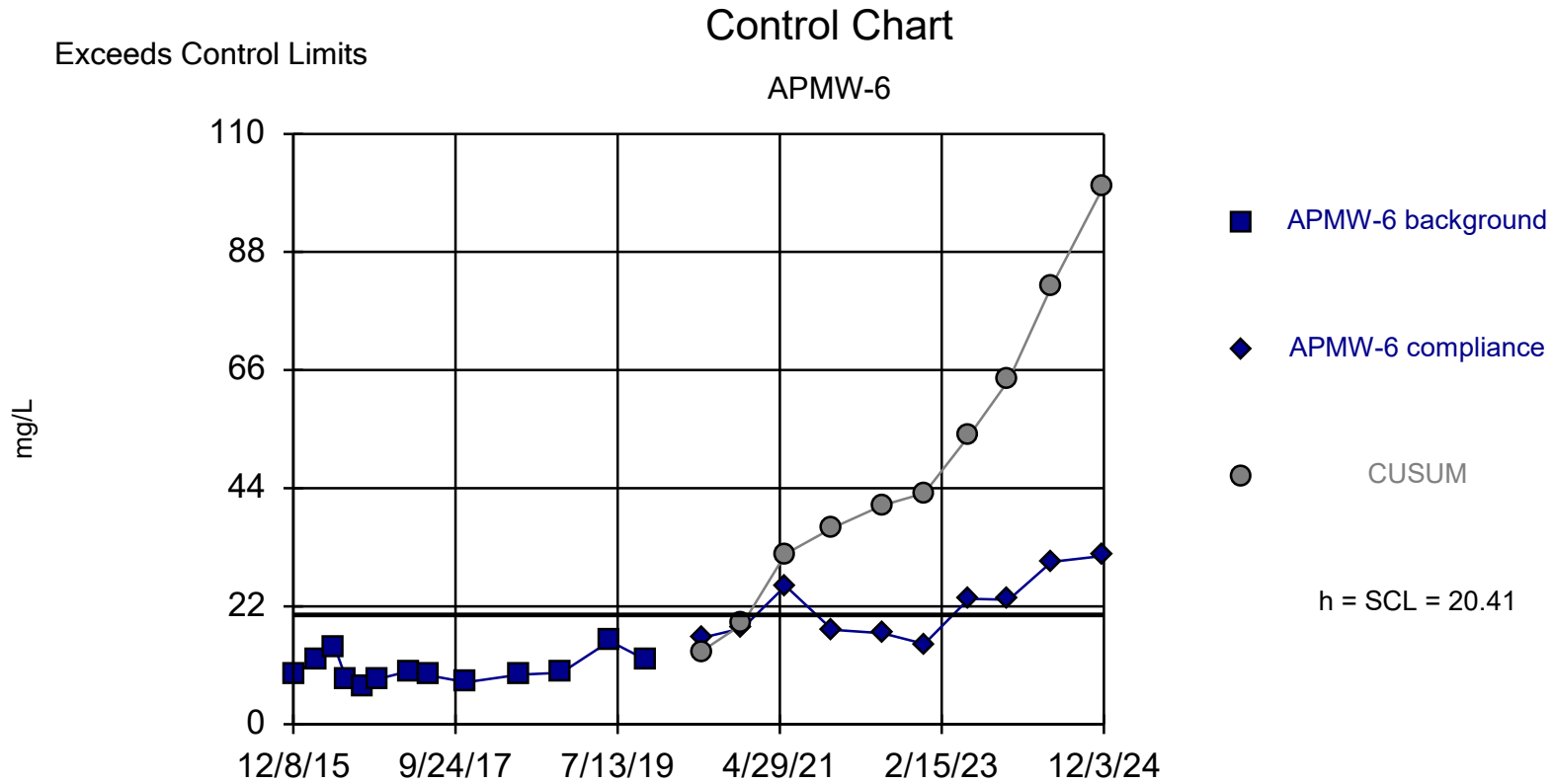




Background Data Summary: Mean=52400, Std. Dev.=3336, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9431, critical = 0.866. Report alpha = 0.005528. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 2:55 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=10.21, Std. Dev.=2.551, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8941, critical = 0.866. Report alpha = 0.005528. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

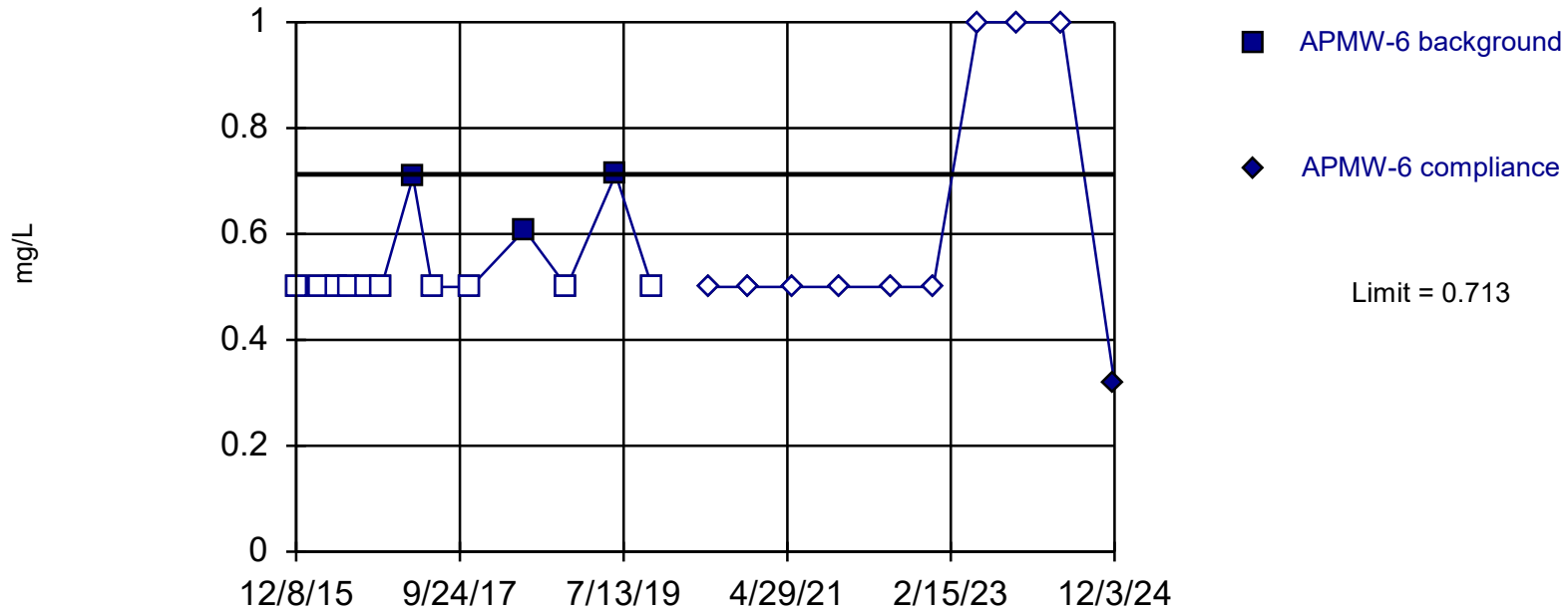
Constituent: Chloride Analysis Run 1/23/2025 2:56 PM

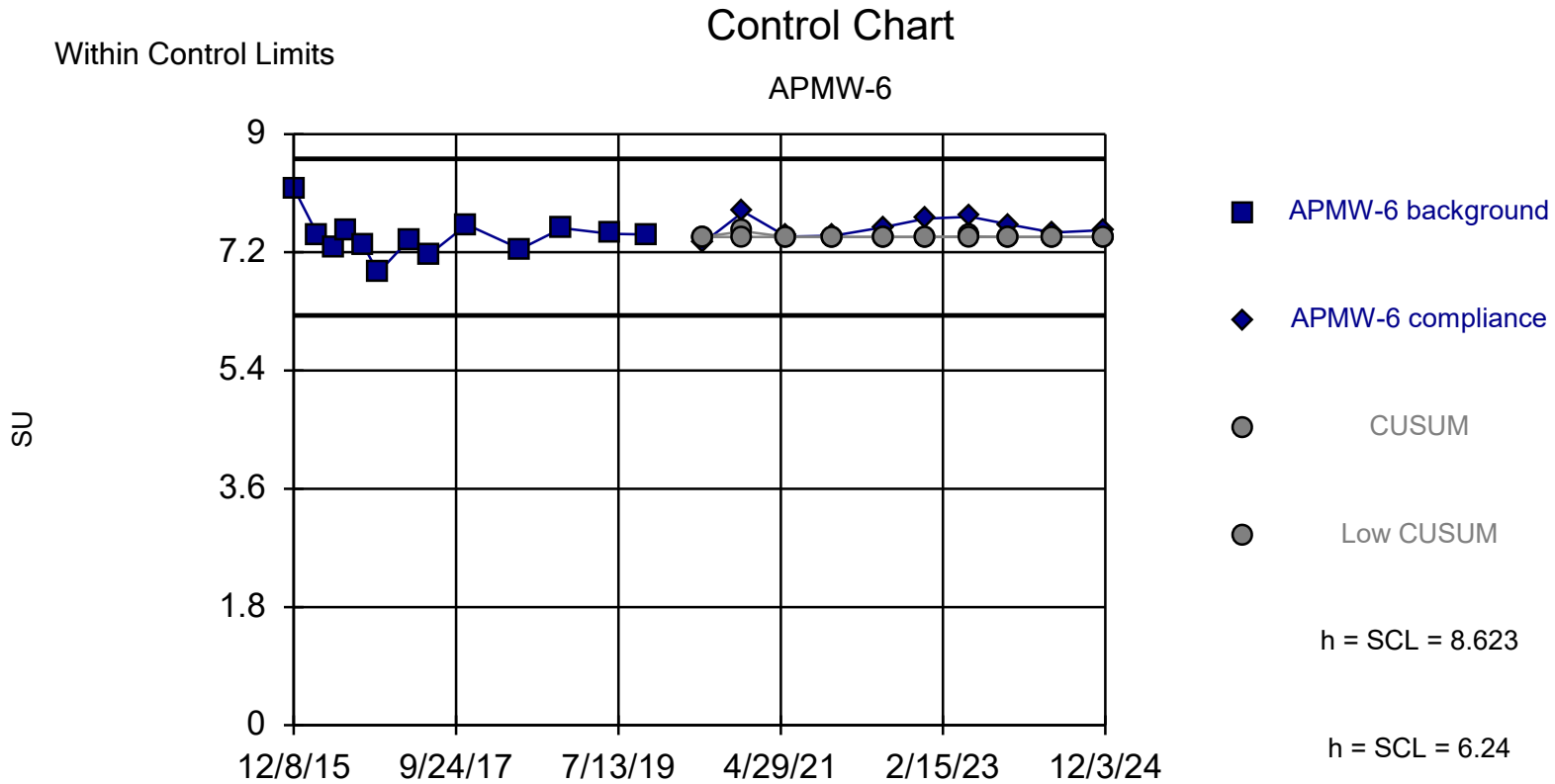
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

### Prediction Limit

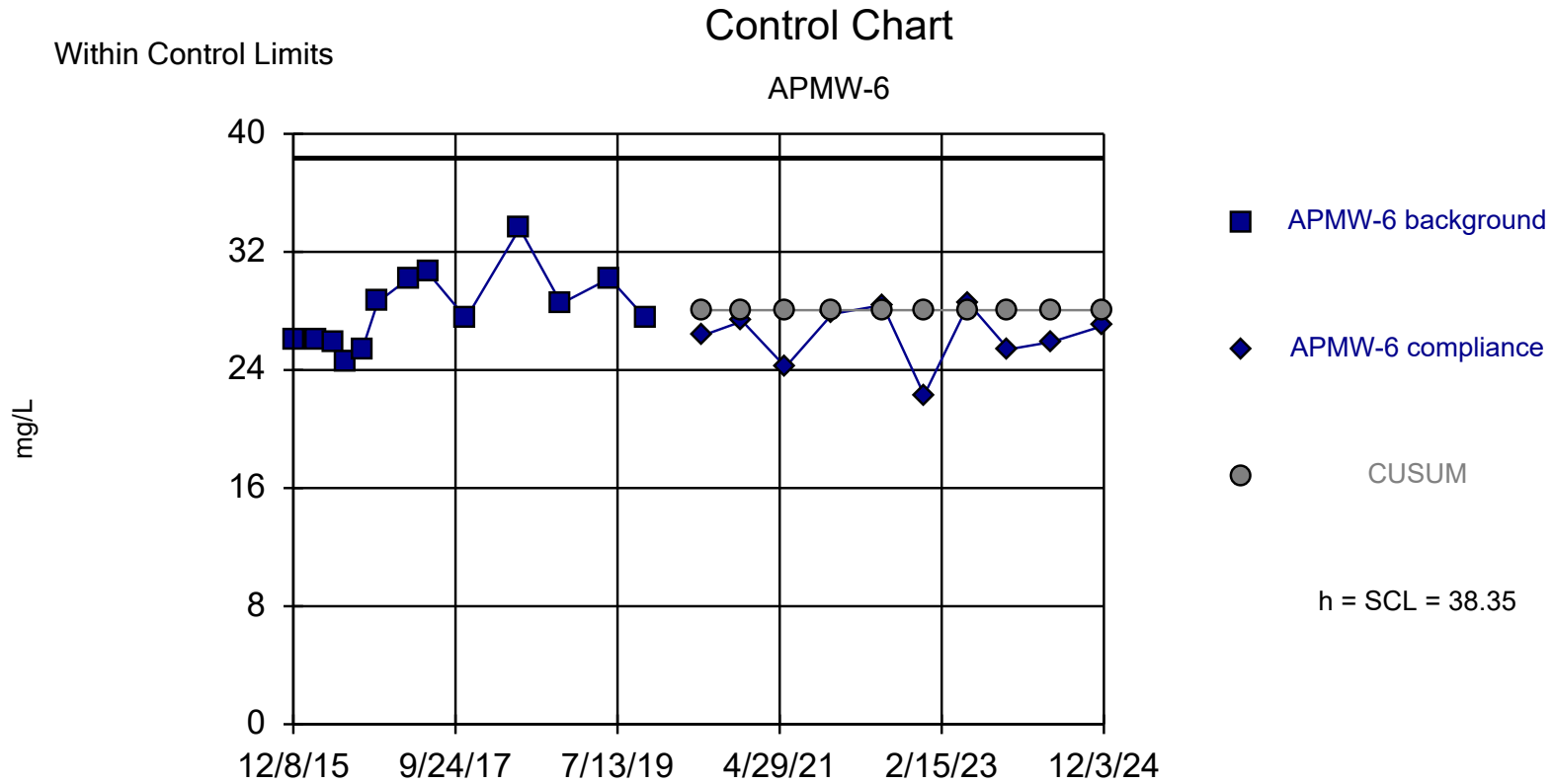
Intrawell Non-parametric





Background Data Summary: Mean=7.432, Std. Dev.=0.298, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9114, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

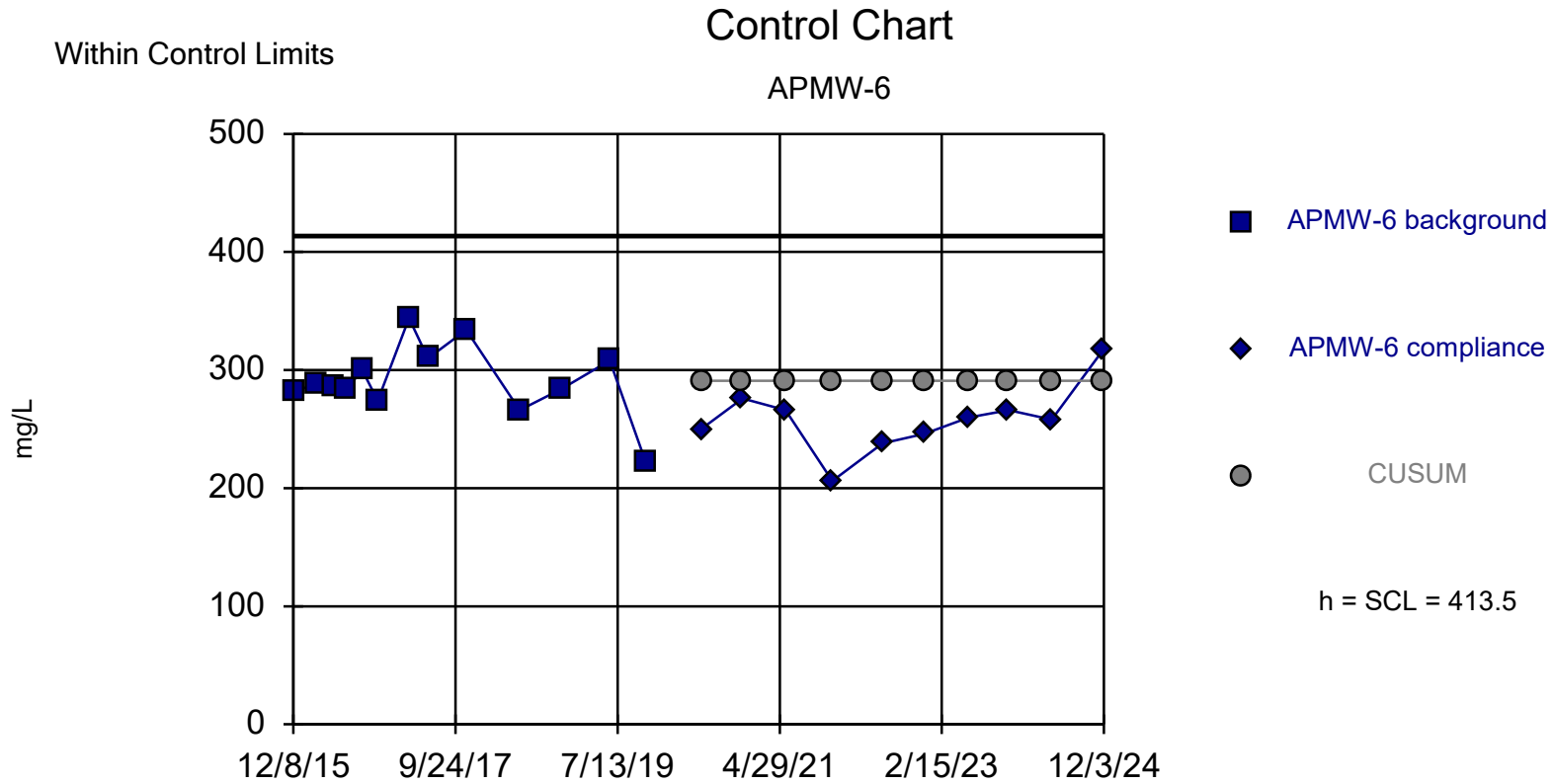
Constituent: pH, Field-Measured     Analysis Run 1/23/2025 5:07 PM  
Gerald Gentleman Station     Client: NPPD     Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=28.05, Std. Dev.=2.576, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9413, critical = 0.866. Report alpha = 0.02237. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:19 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



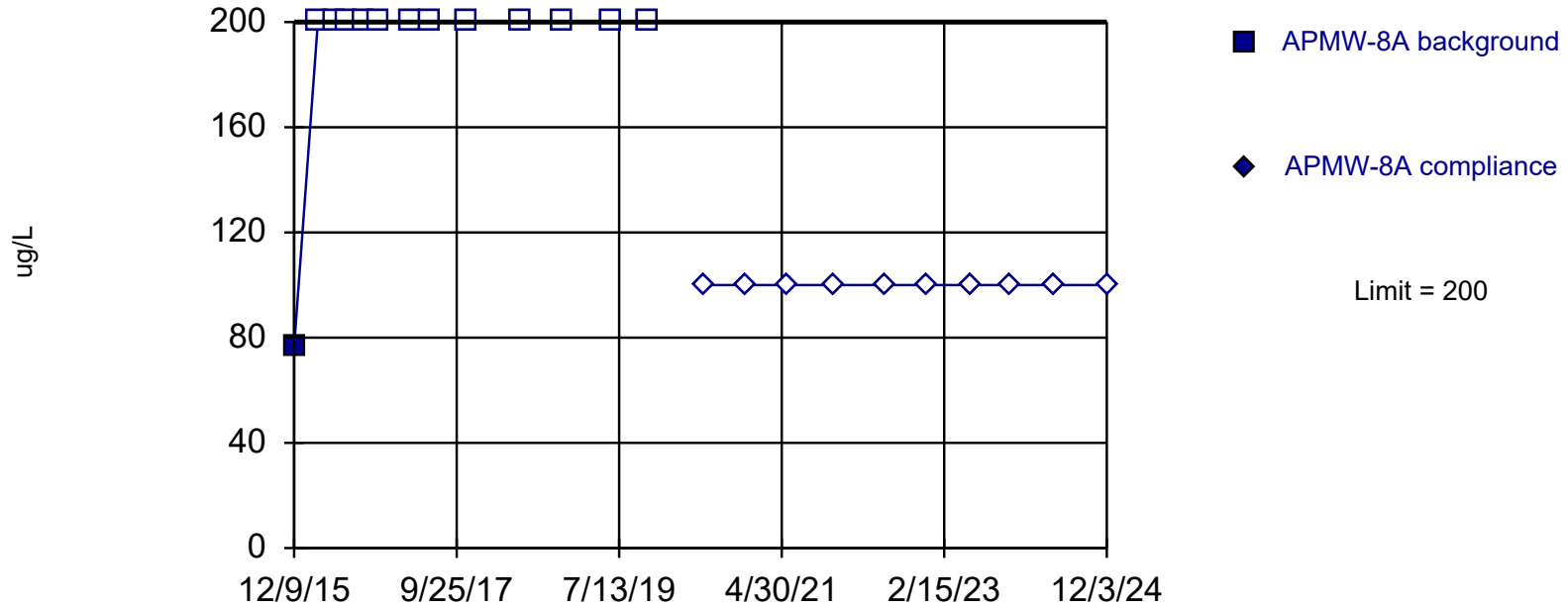
Background Data Summary: Mean=290.9, Std. Dev.=30.66, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9423, critical = 0.866. Report alpha = 0.005692. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:58 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

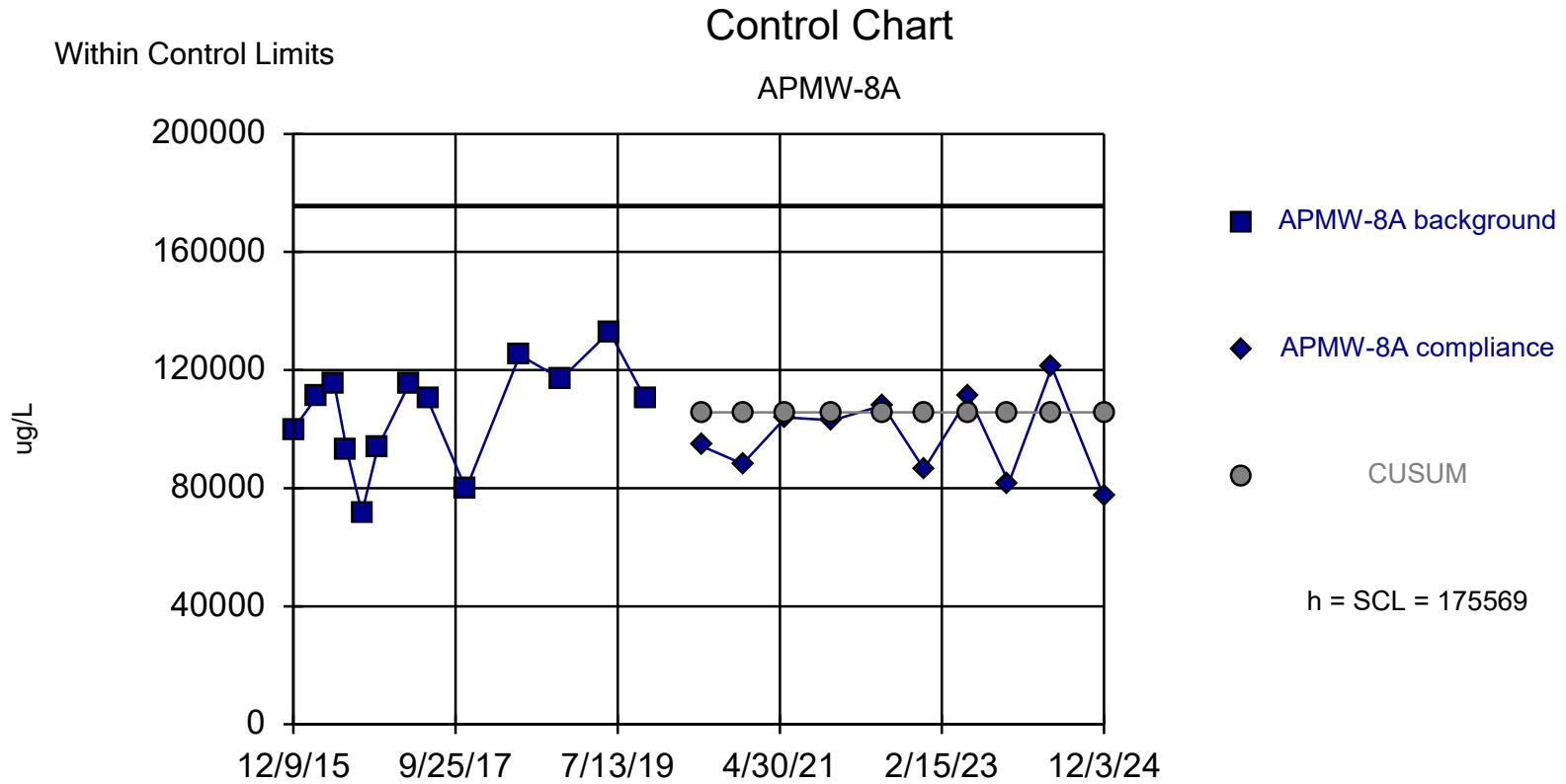
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:23 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]

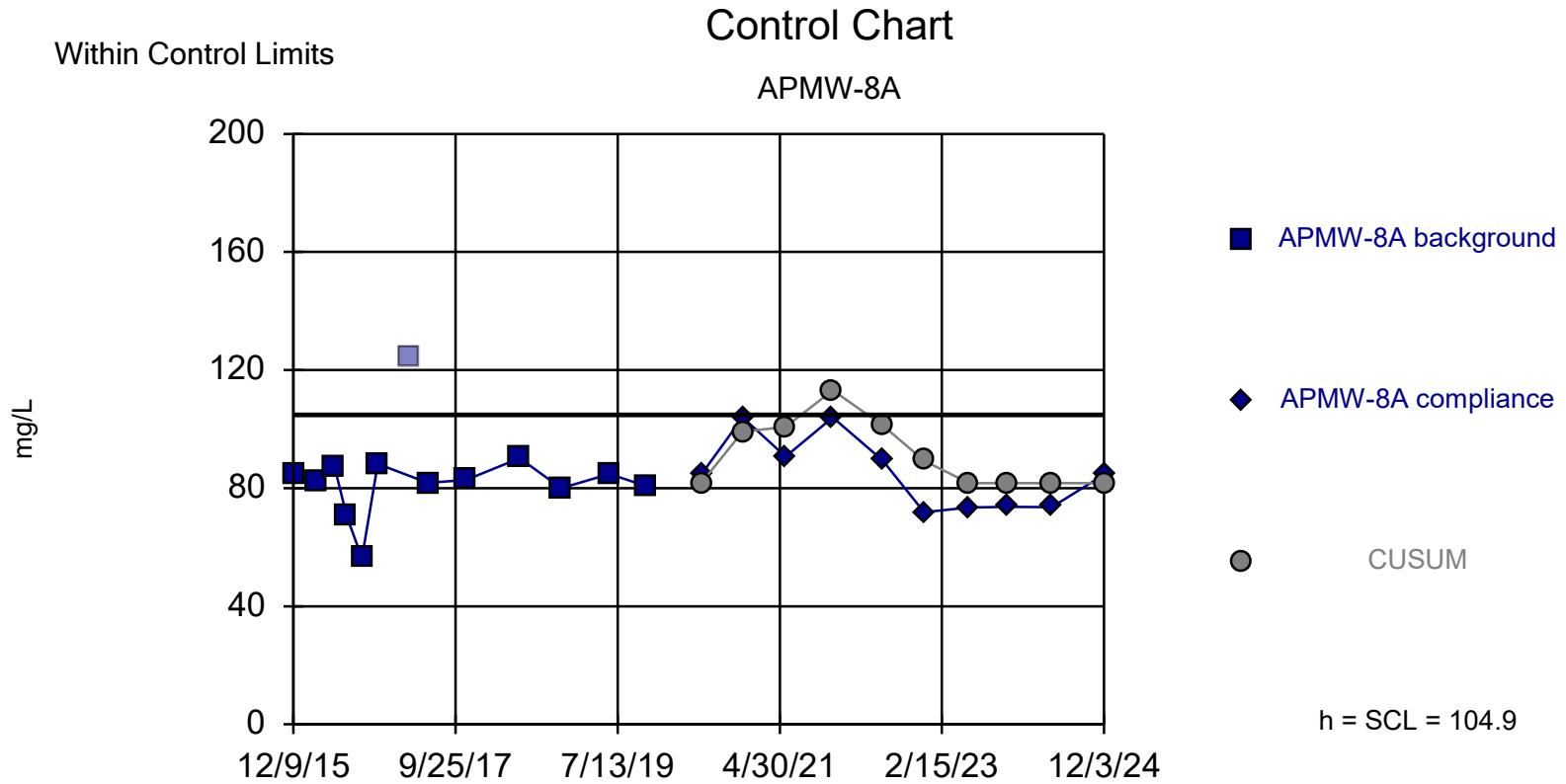


Background Data Summary: Mean=105685, Std. Dev.=17471, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9544, critical = 0.866. Report alpha = 0.005648. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 2:50 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





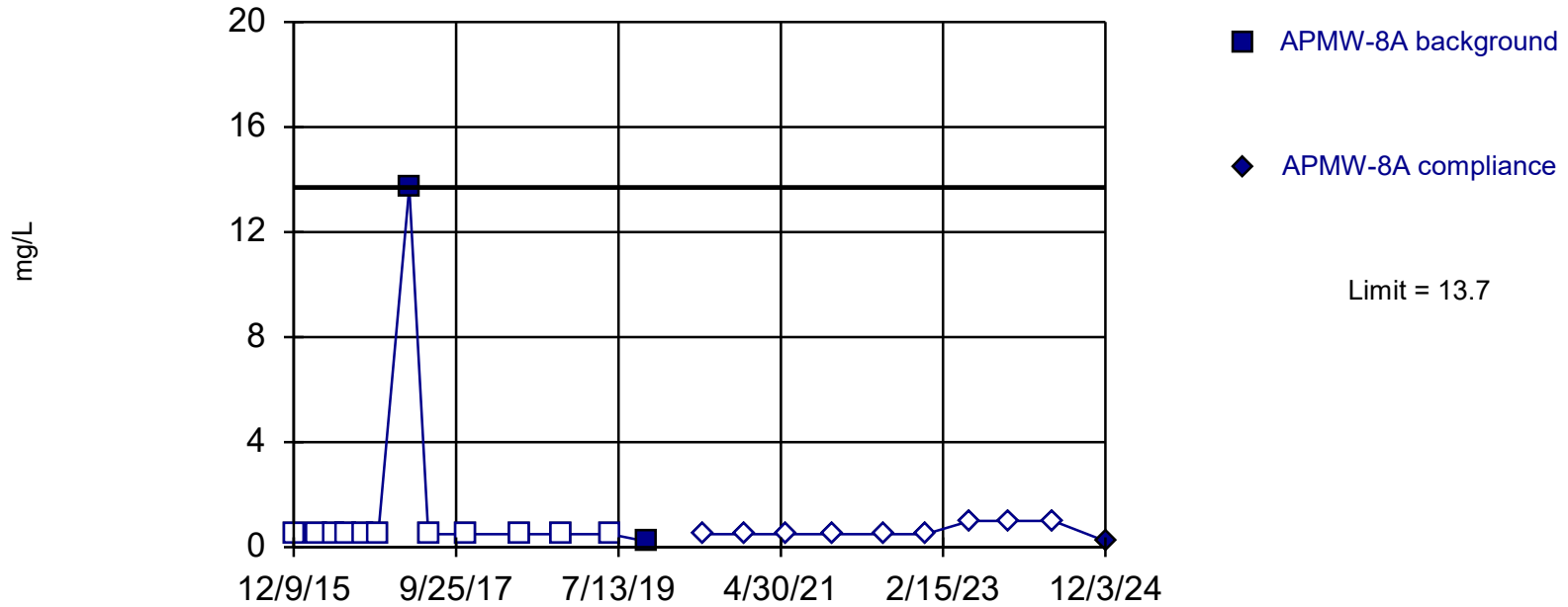
Background Data Summary (based on cube transformation): Mean=545530, Std. Dev.=151922, n=12. Exceedance nullified by following point per option settings. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8793, critical = 0.859. Report alpha = 0.006616. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

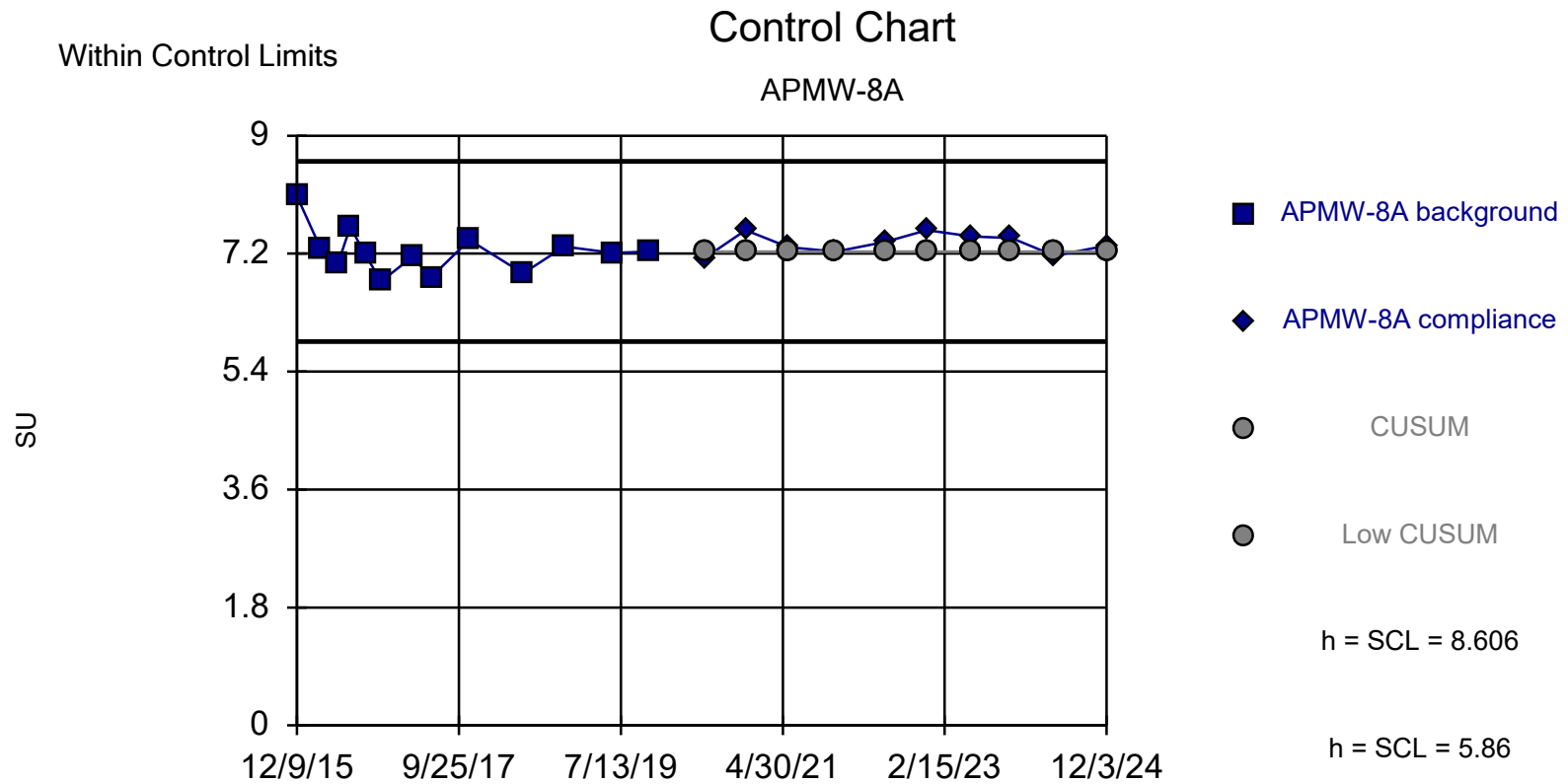
Constituent: Chloride Analysis Run 1/23/2025 2:51 PM  
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

# Prediction Limit

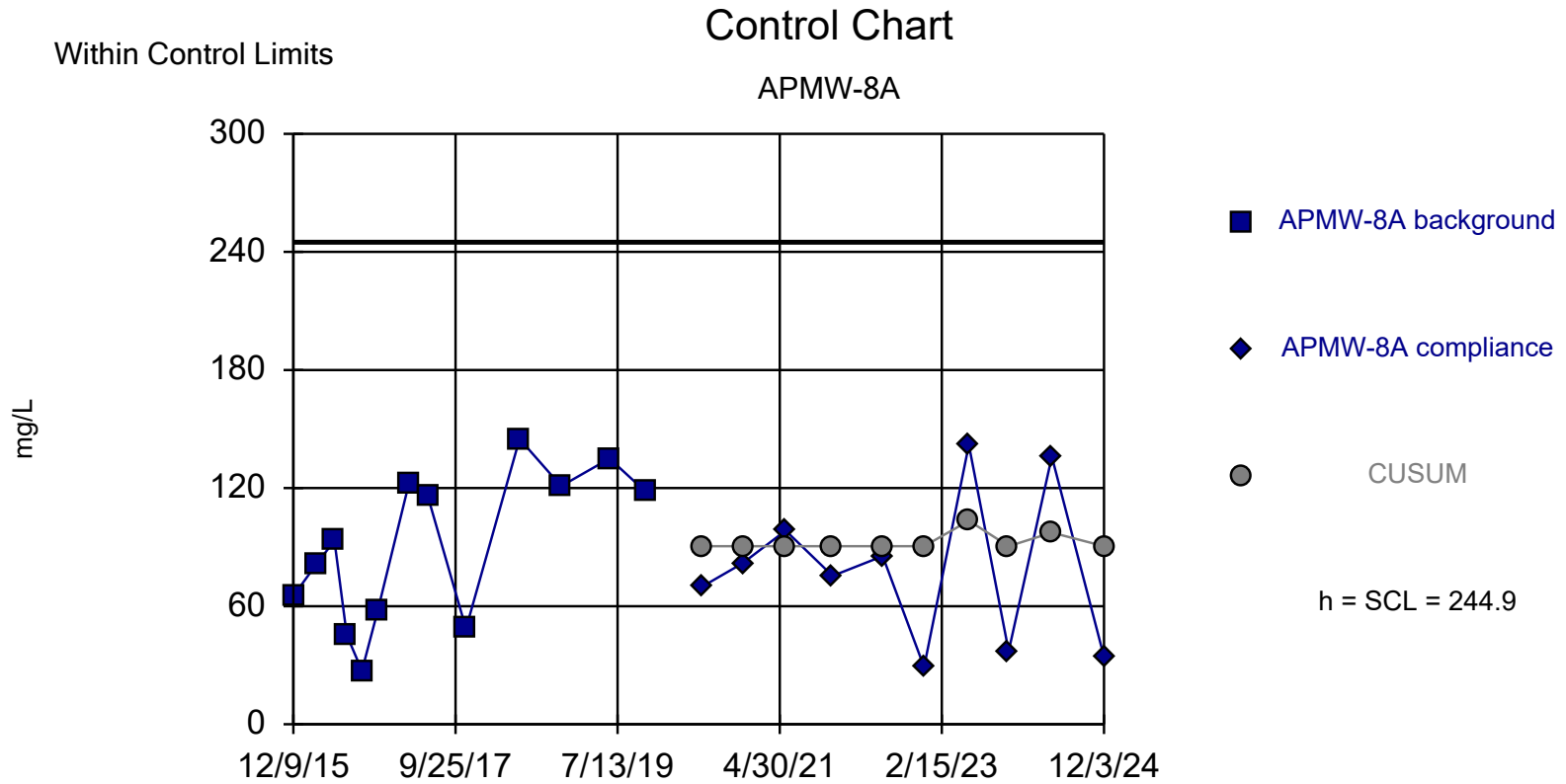
Intrawell Non-parametric





Background Data Summary: Mean=7.233, Std. Dev.=0.3432, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9148, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

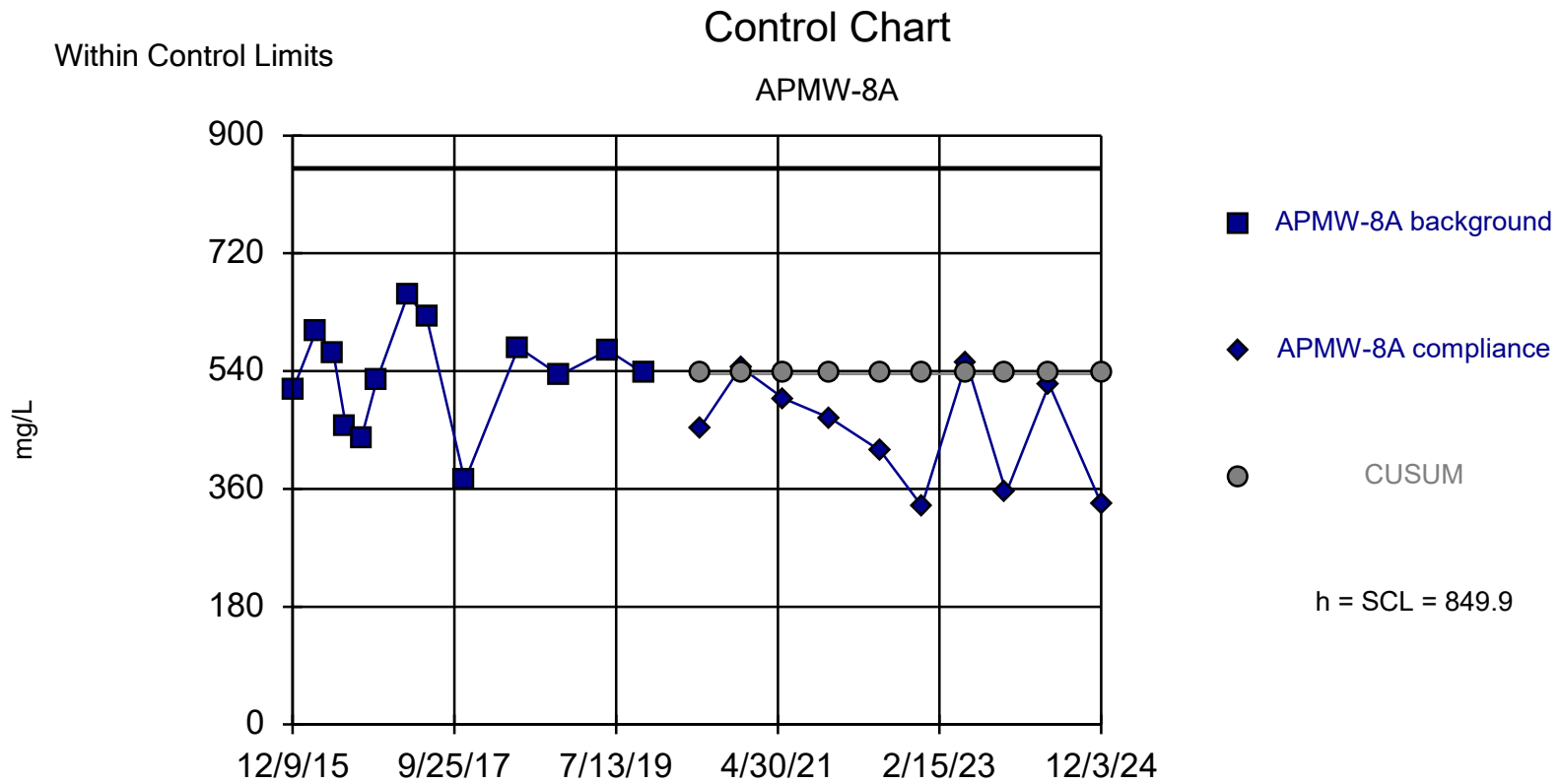
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:08 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=90.45, Std. Dev.=38.62, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9319, critical = 0.866. Report alpha = 0.02188. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:25 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



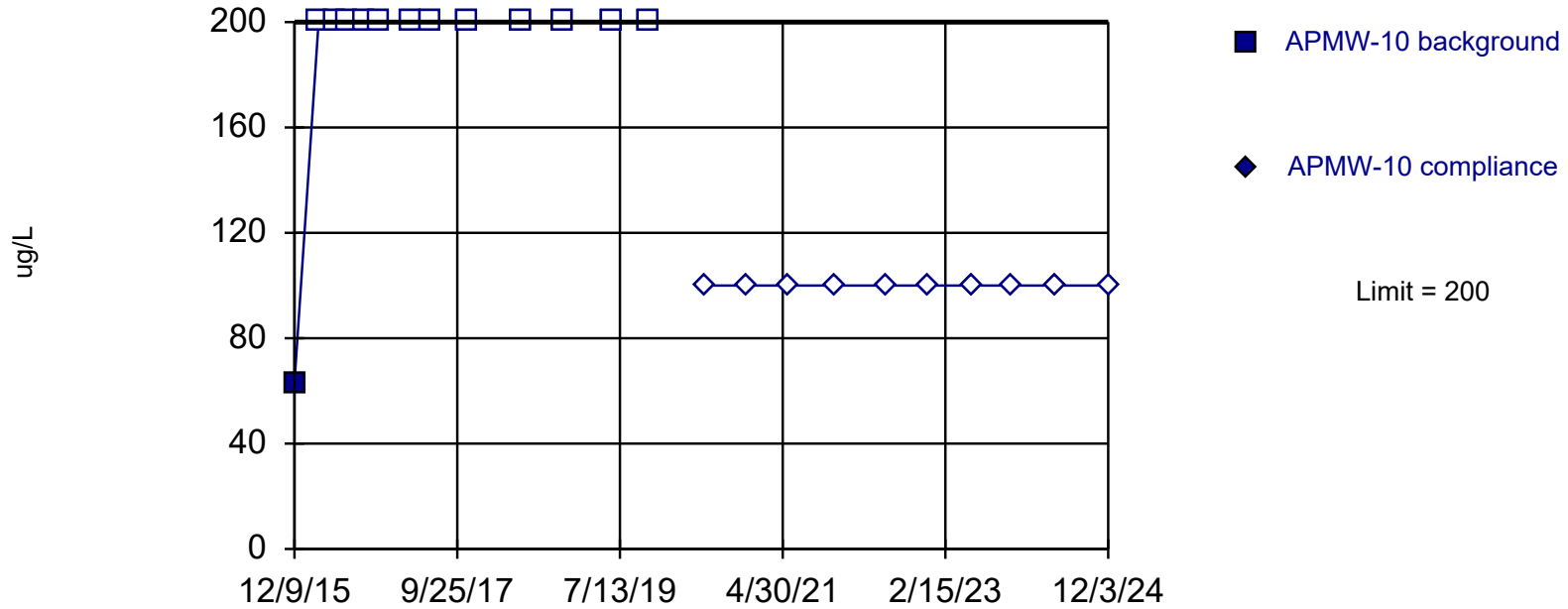
Background Data Summary: Mean=535.7, Std. Dev.=78.54, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9652, critical = 0.866. Report alpha = 0.005528. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

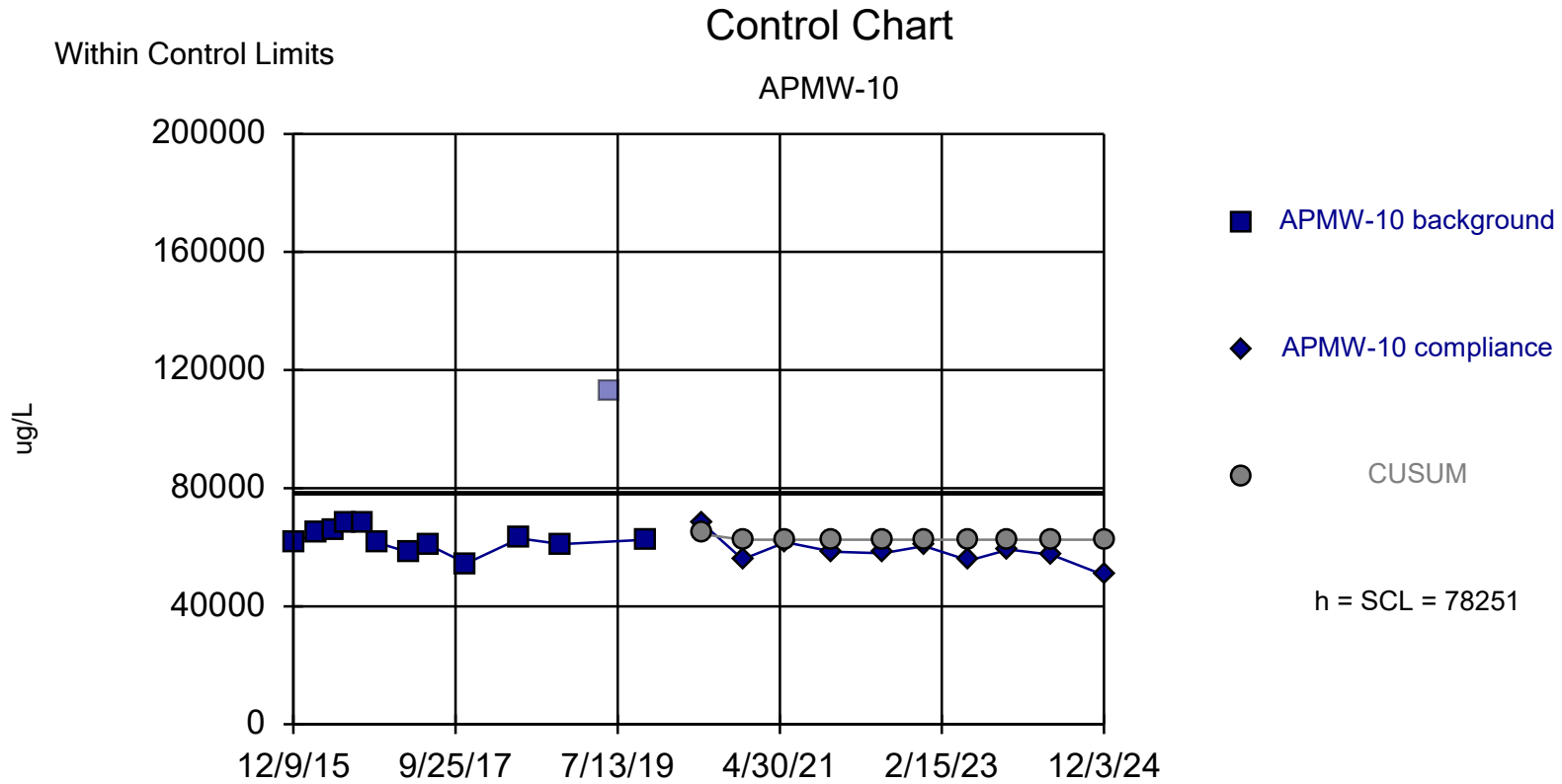
Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:53 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

### Prediction Limit

Intrawell Non-parametric

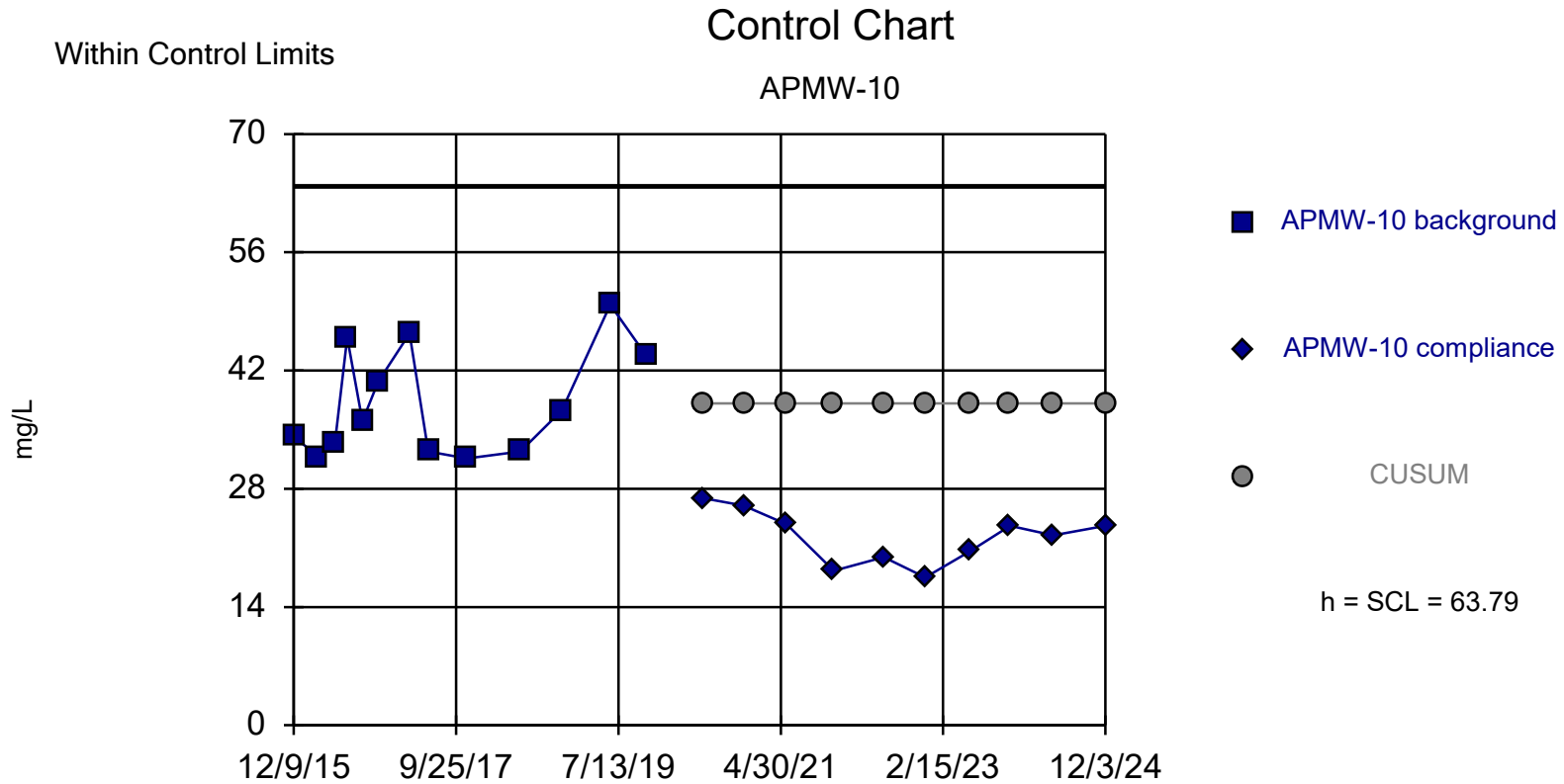




Background Data Summary: Mean=62525, Std. Dev.=3931, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.956, critical = 0.859. Report alpha = 0.006716. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 1:58 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=38.12, Std. Dev.=6.416, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8726, critical = 0.866. Report alpha = 0.005542. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

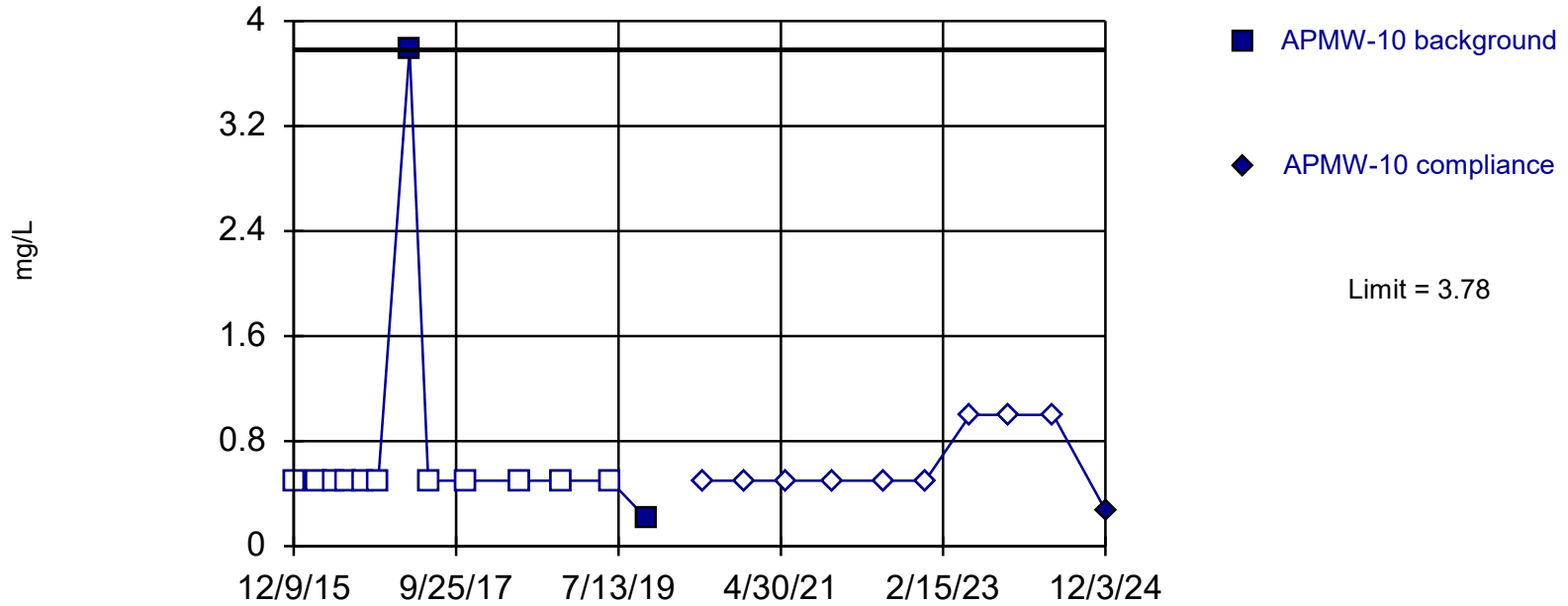
Constituent: Chloride Analysis Run 1/23/2025 2:00 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Within Limit

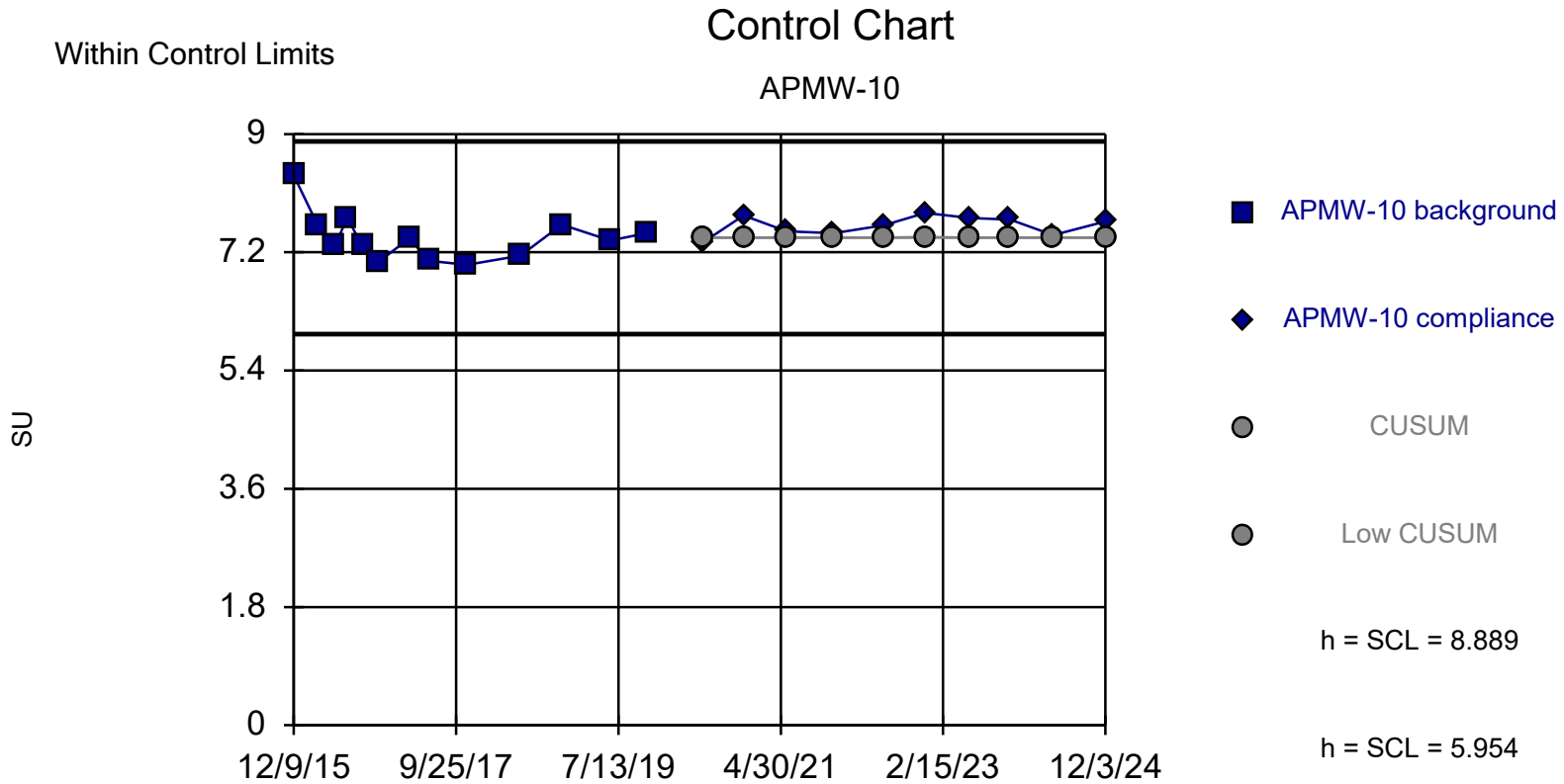
## Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 84.62% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

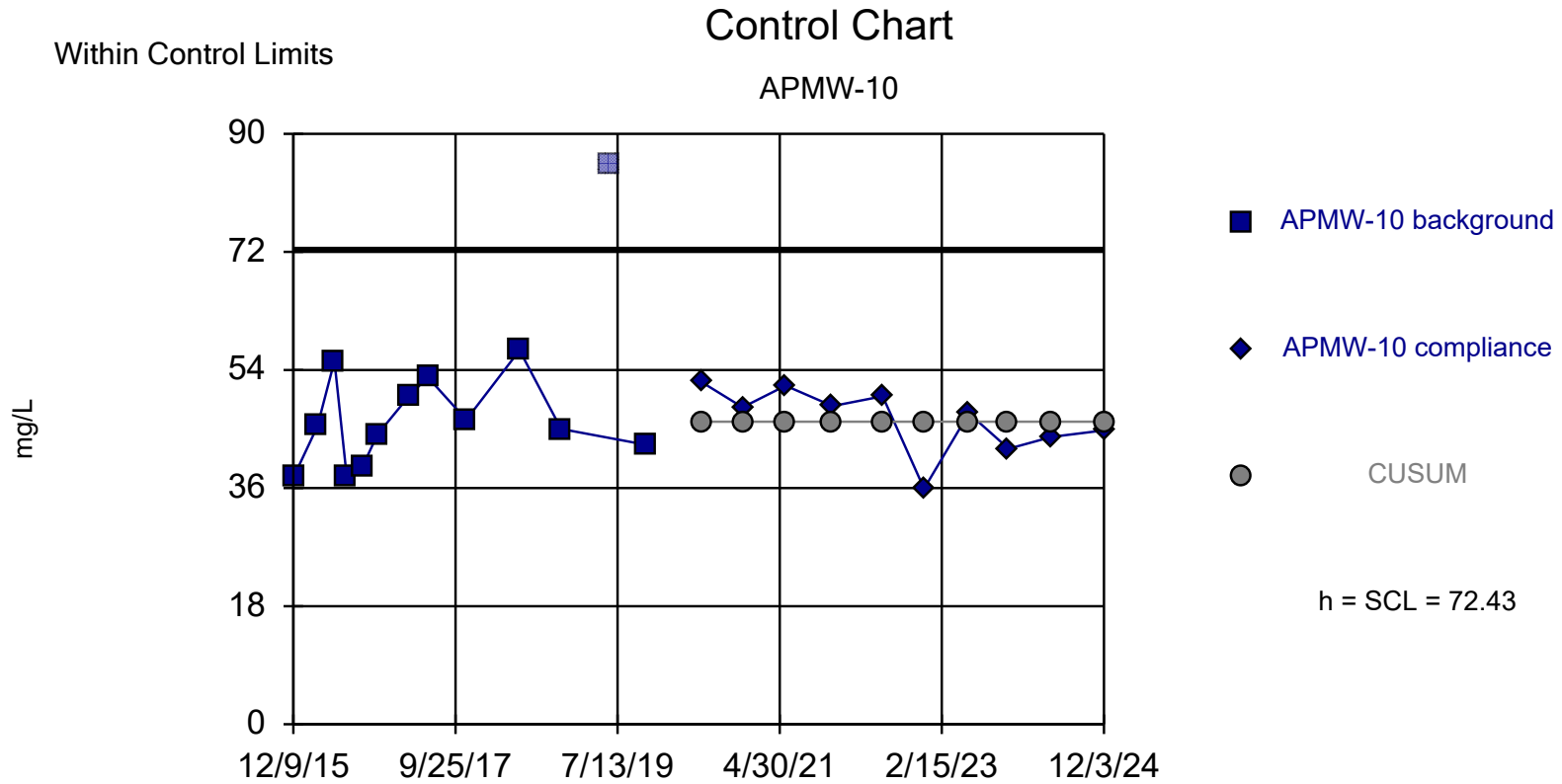
Constituent: Fluoride Analysis Run 1/23/2025 2:00 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.422, Std. Dev.=0.3669, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8842, critical = 0.866. Report alpha = 0.005634. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

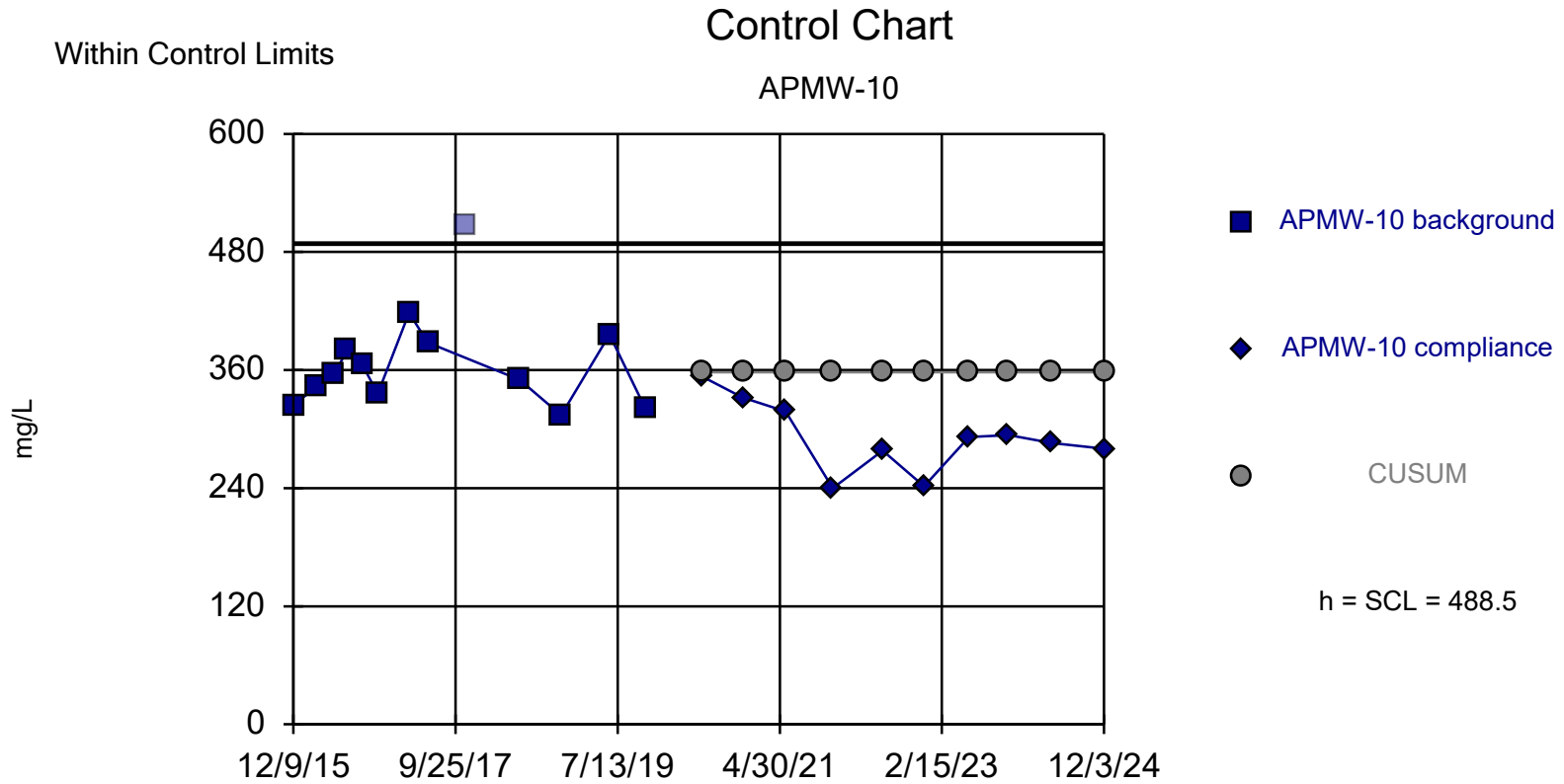
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:08 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=46.11, Std. Dev.=6.58, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9379, critical = 0.859. Report alpha = 0.02539. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:27 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



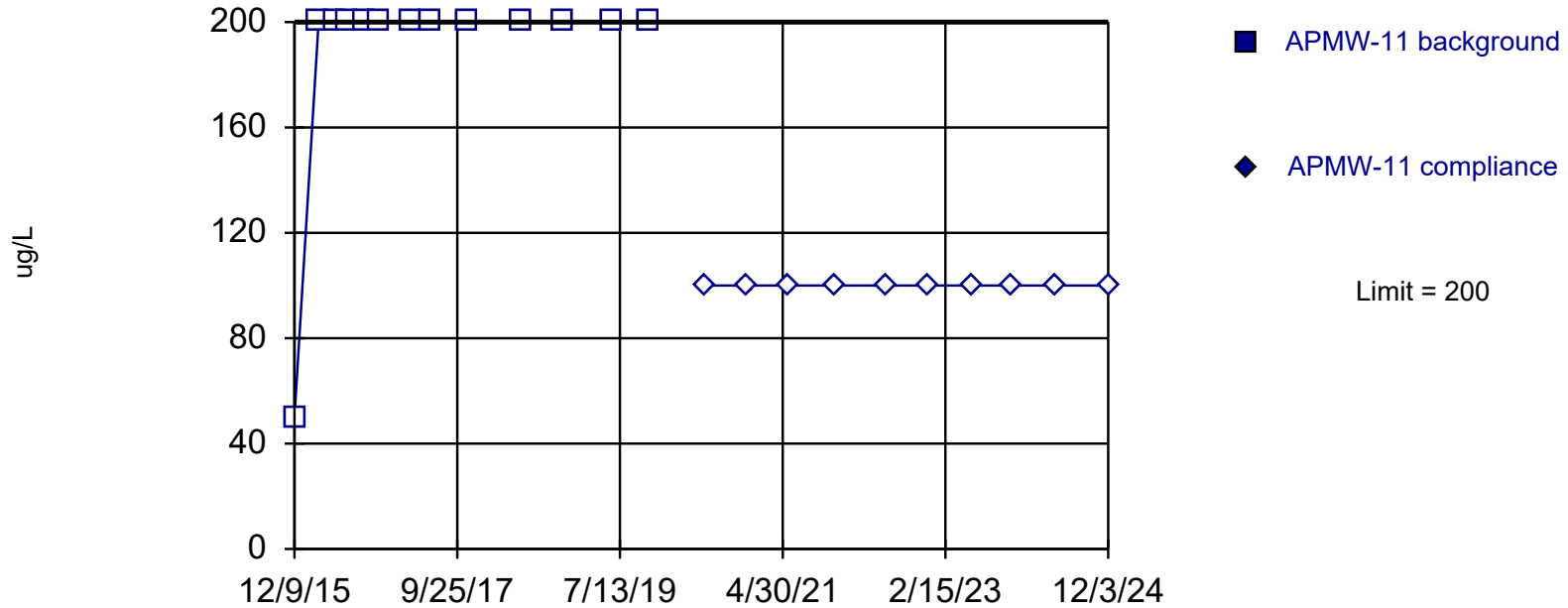
Background Data Summary: Mean=357.7, Std. Dev.=32.72, n=12. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9618, critical = 0.859. Report alpha = 0.006558. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:04 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

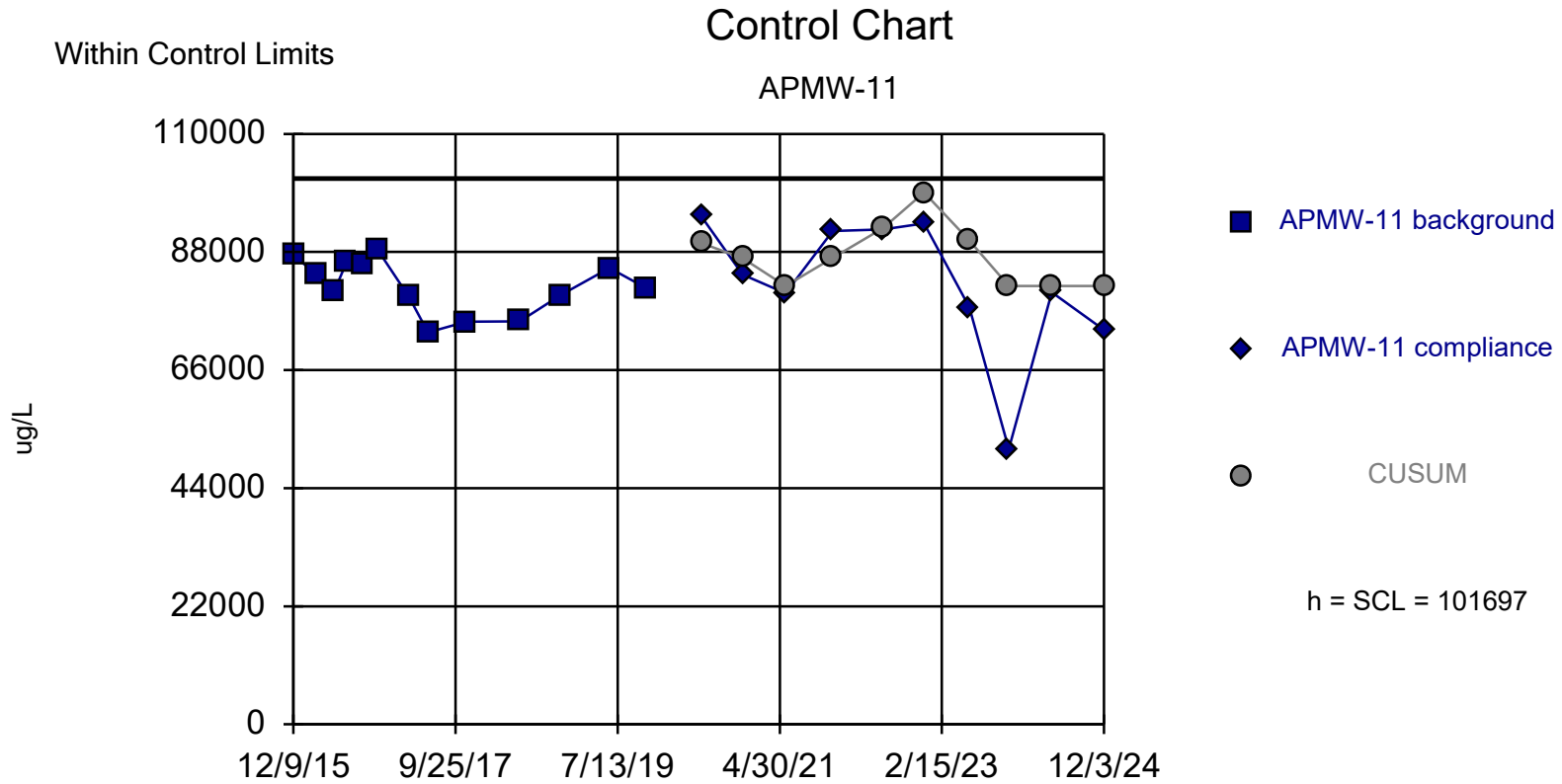
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. All background values (n = 13) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/25/2025 11:30 AM

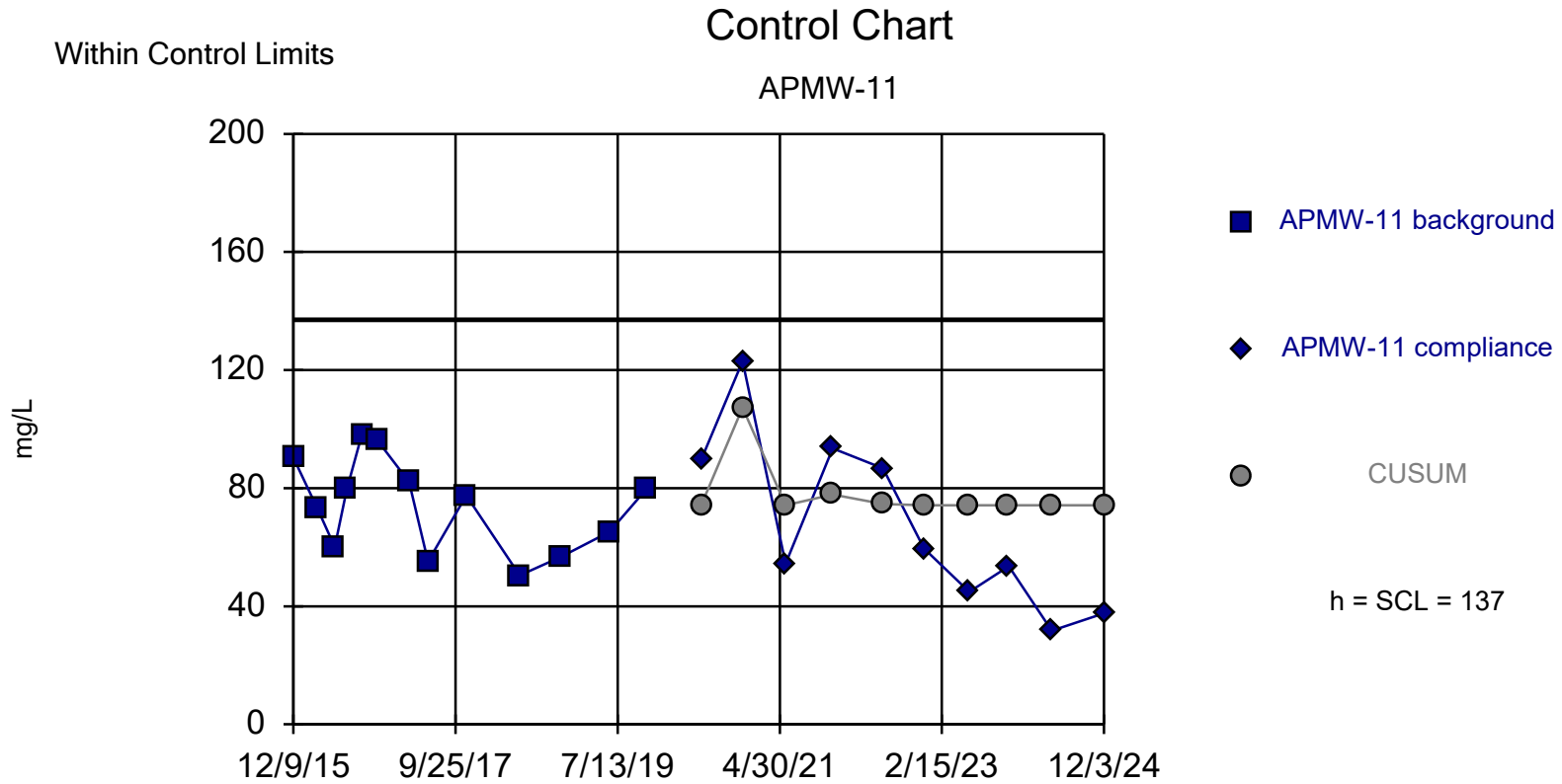
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=81646, Std. Dev.=5013, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9374, critical = 0.866. Report alpha = 0.005598. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 2:12 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



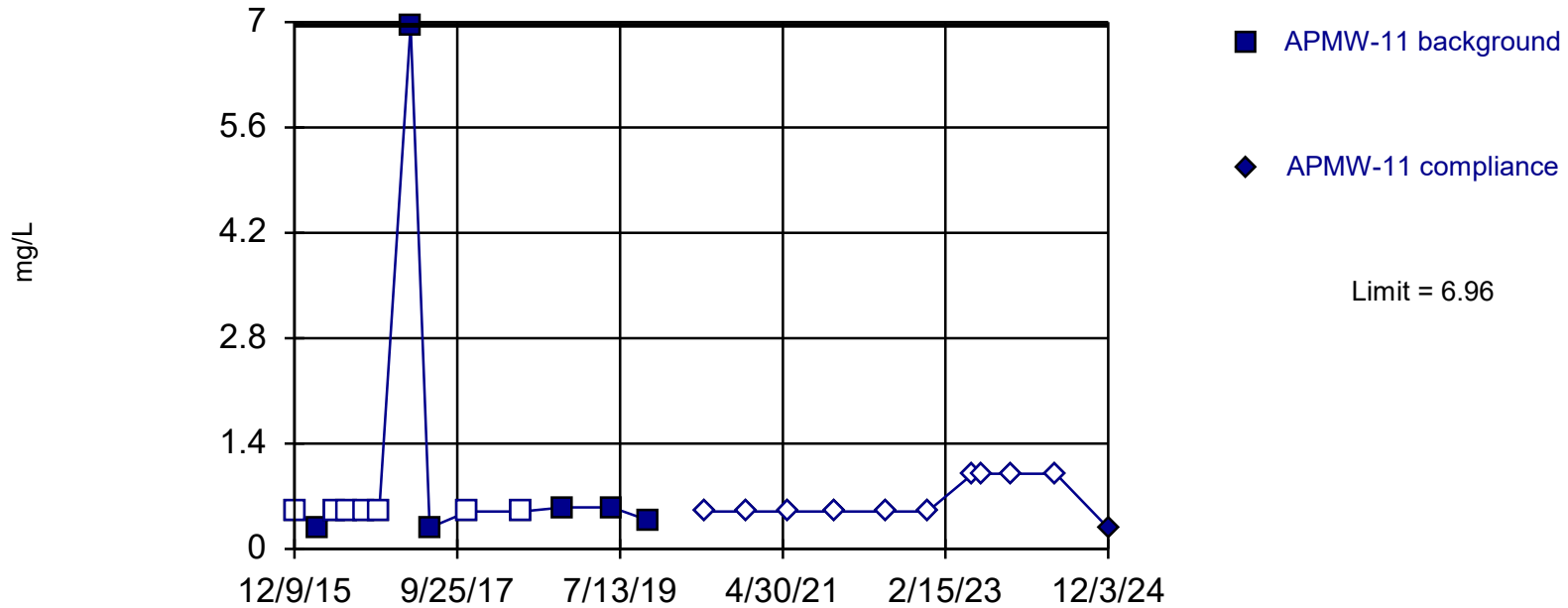
Background Data Summary: Mean=74.16, Std. Dev.=15.7, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9499, critical = 0.866. Report alpha = 0.005598. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Chloride Analysis Run 1/23/2025 2:12 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

### Prediction Limit Intrawell Non-parametric

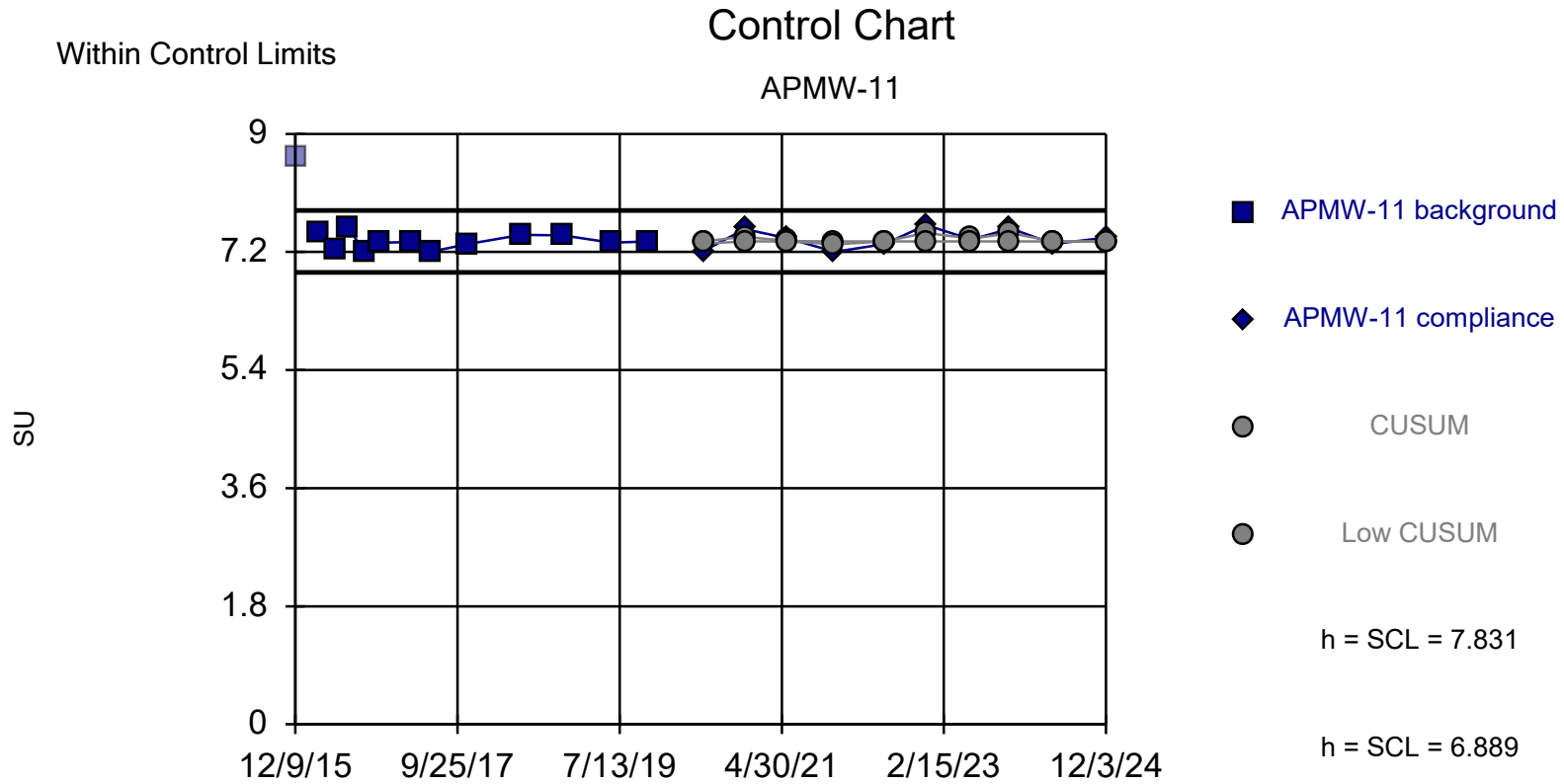


Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 53.85% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 1/23/2025 2:13 PM

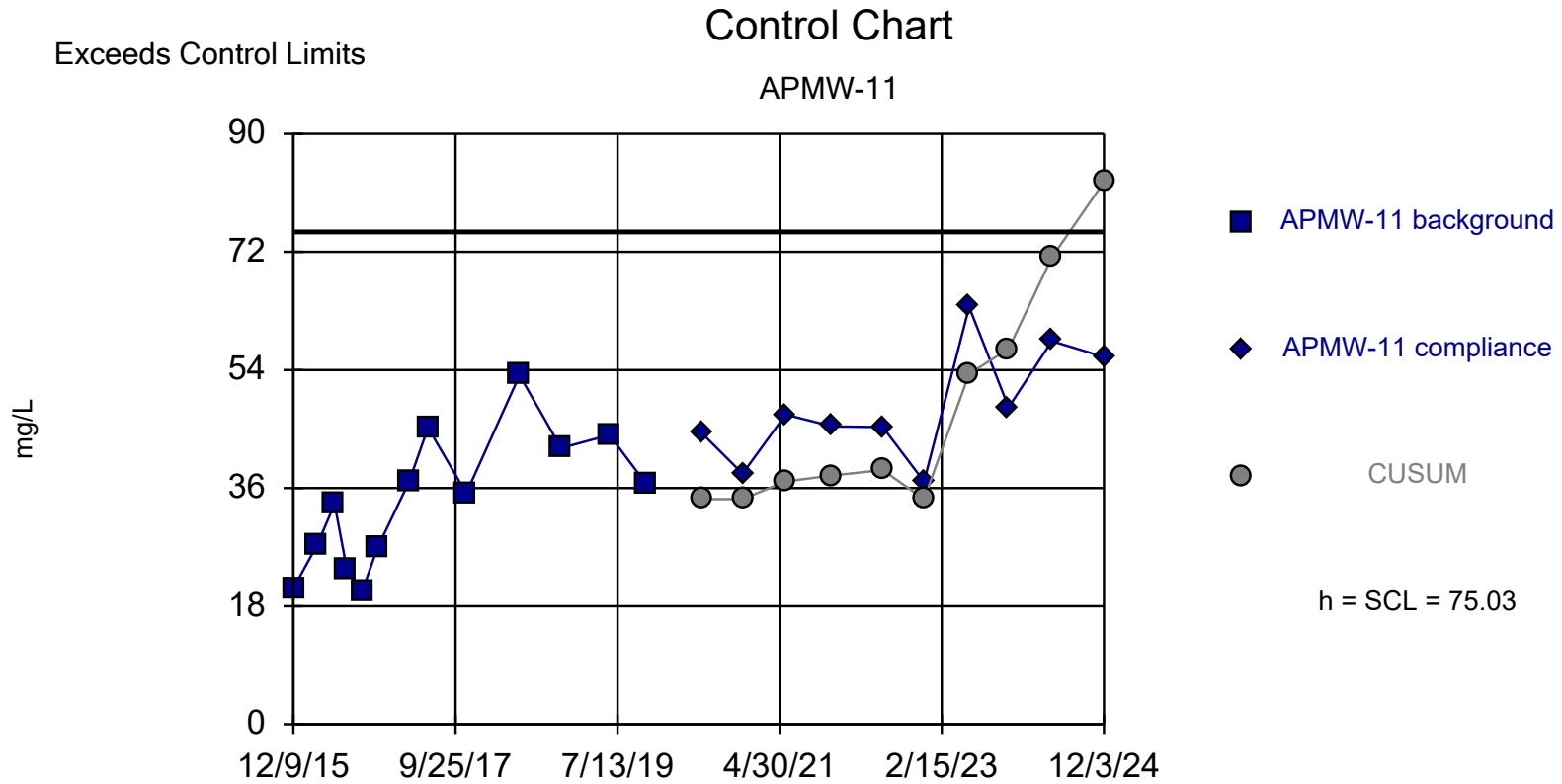
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram





Background Data Summary: Mean=7.36, Std. Dev.=0.1177, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9429, critical = 0.859. Report alpha = 0.0067. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

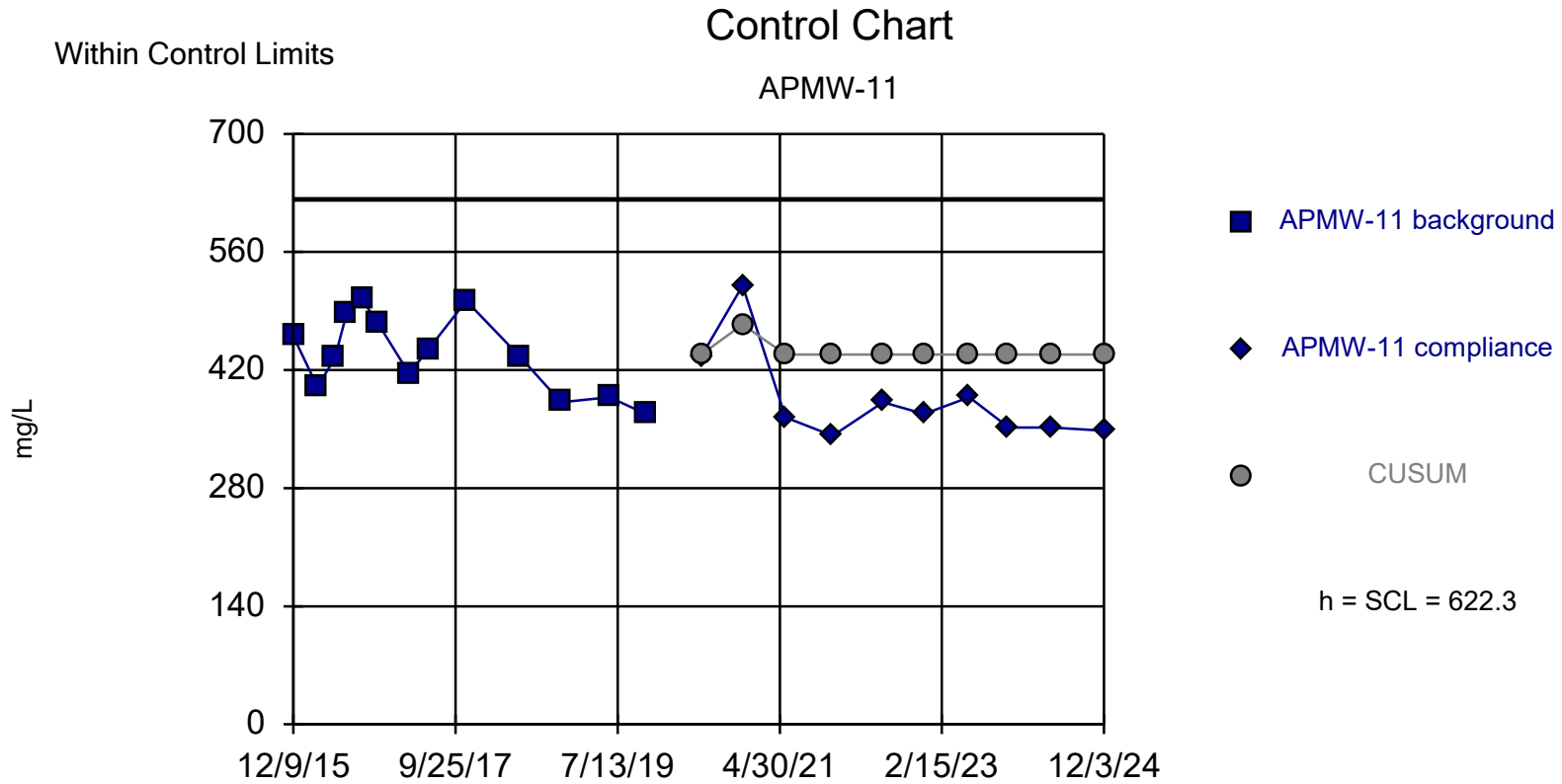
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:09 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

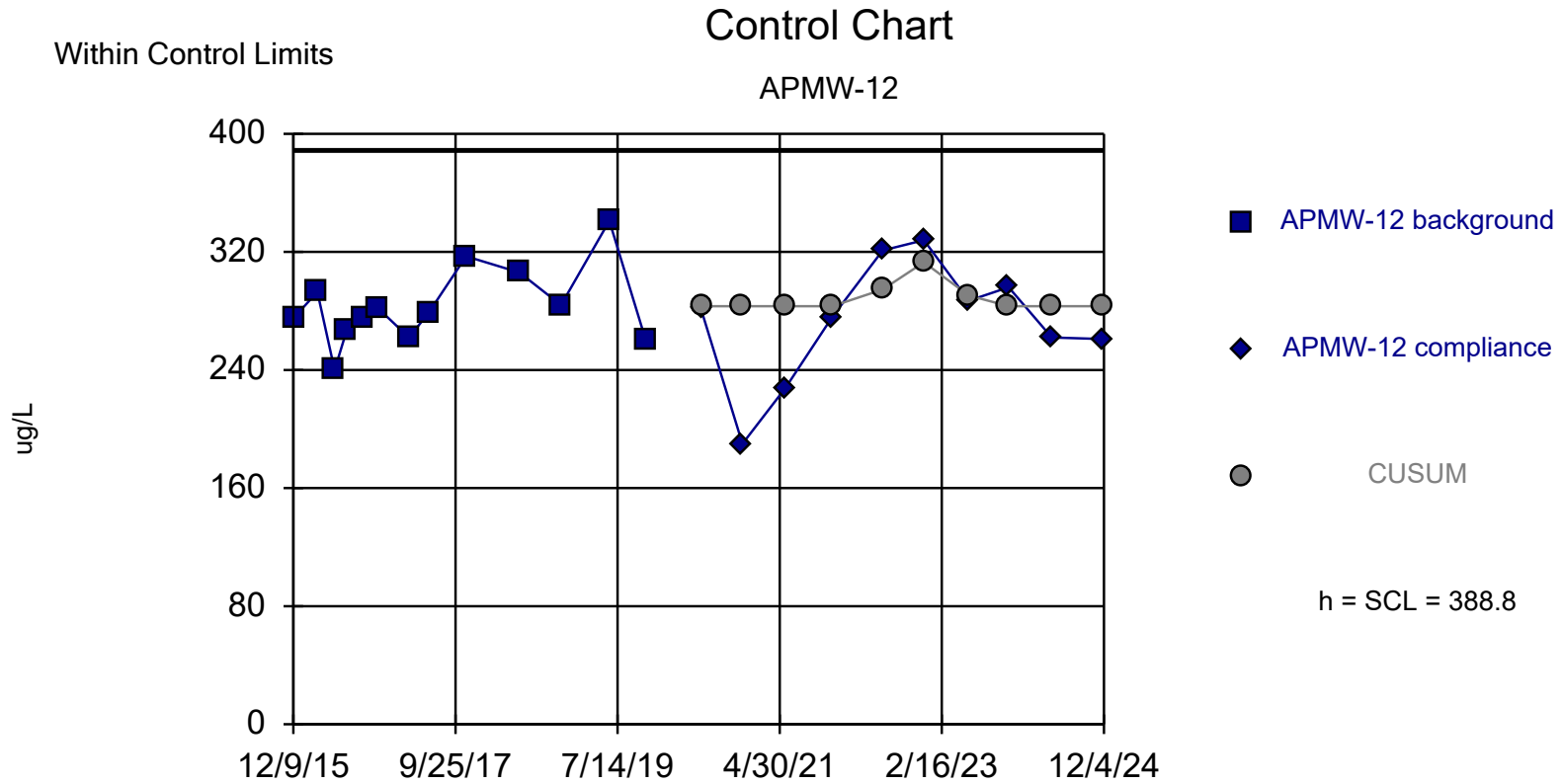


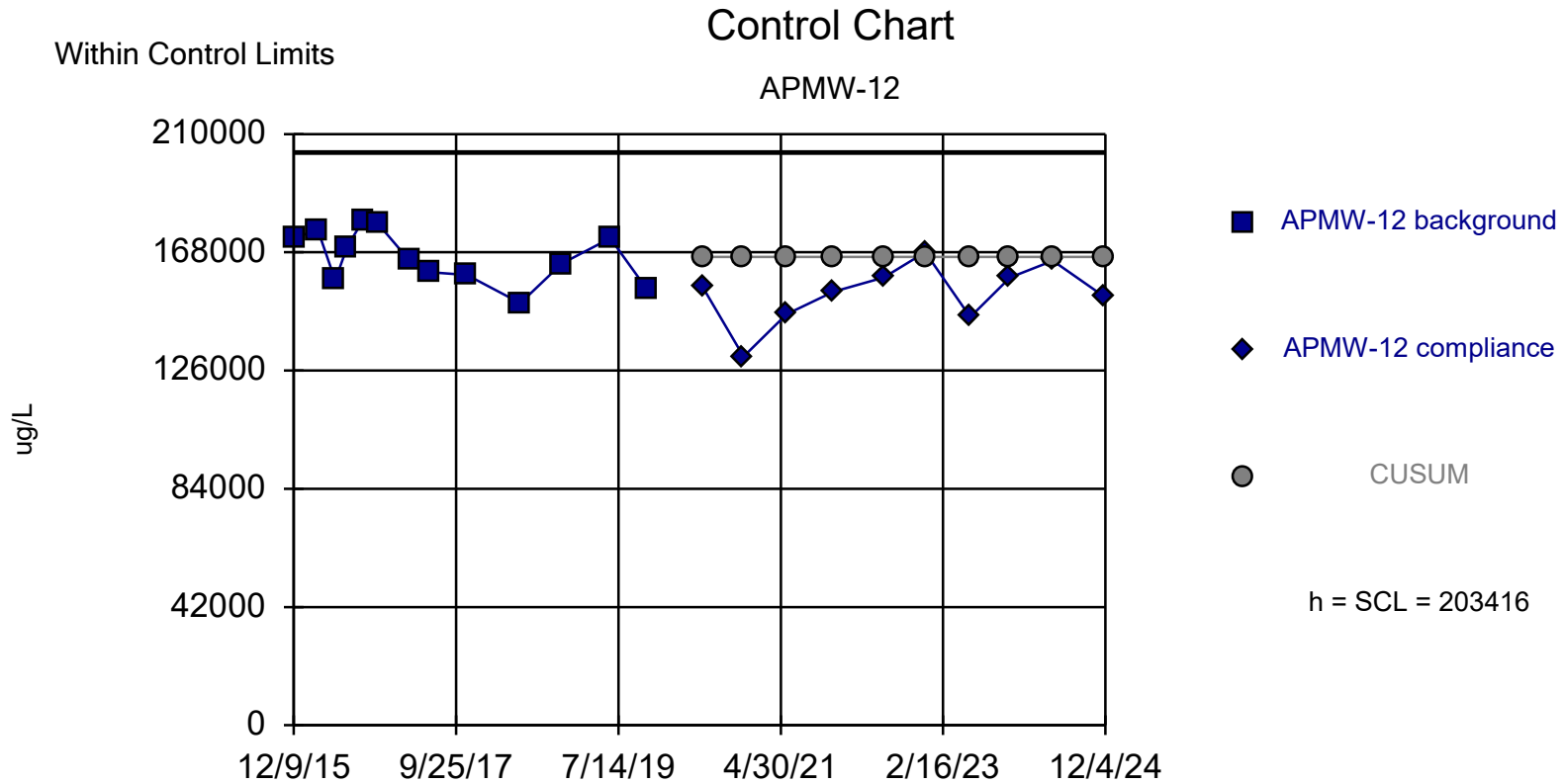
Background Data Summary: Mean=34.31, Std. Dev.=10.18, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9592, critical = 0.866. Report alpha = 0.02199. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

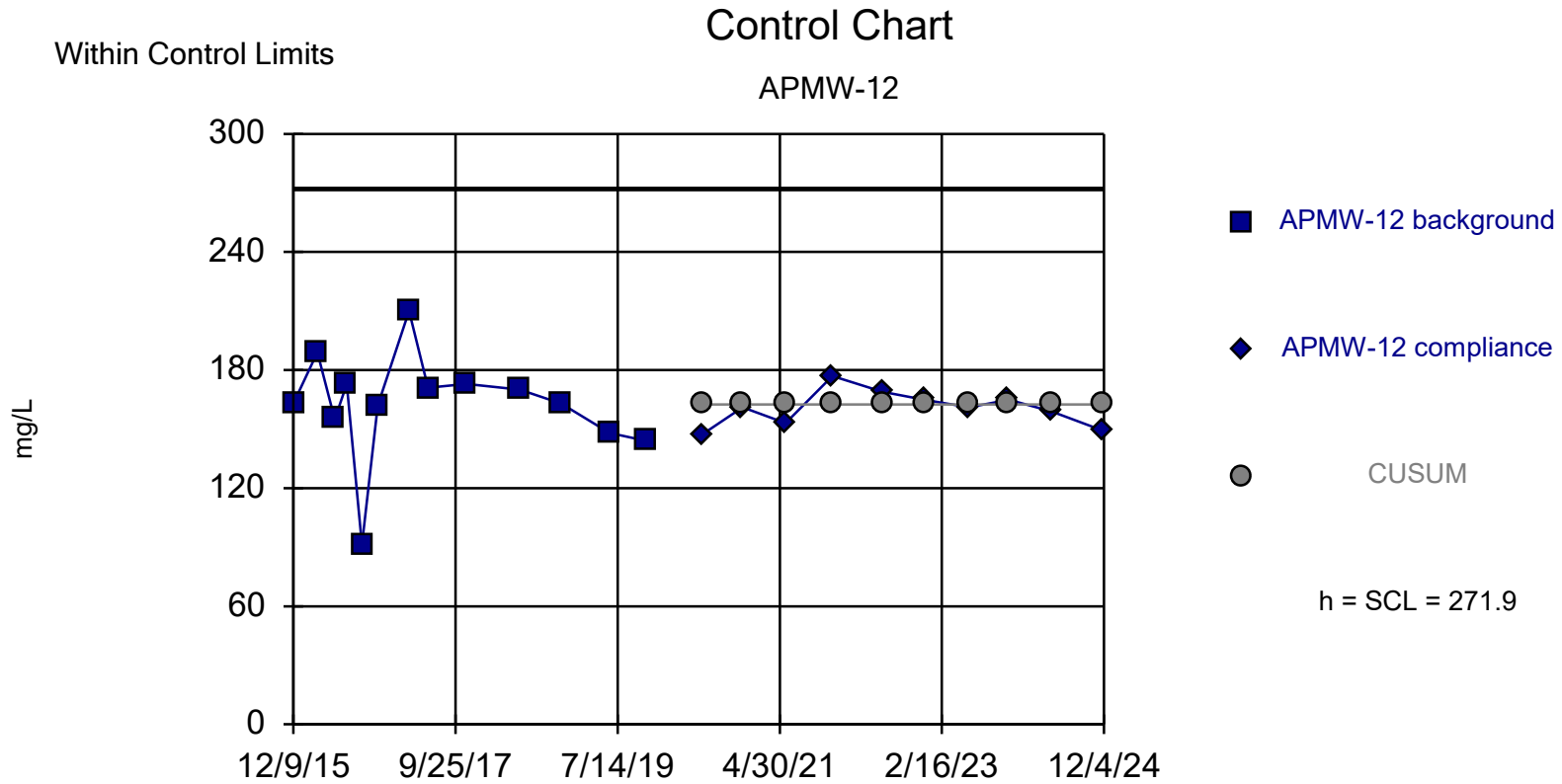
Constituent: Sulfate Analysis Run 1/25/2025 11:31 AM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]





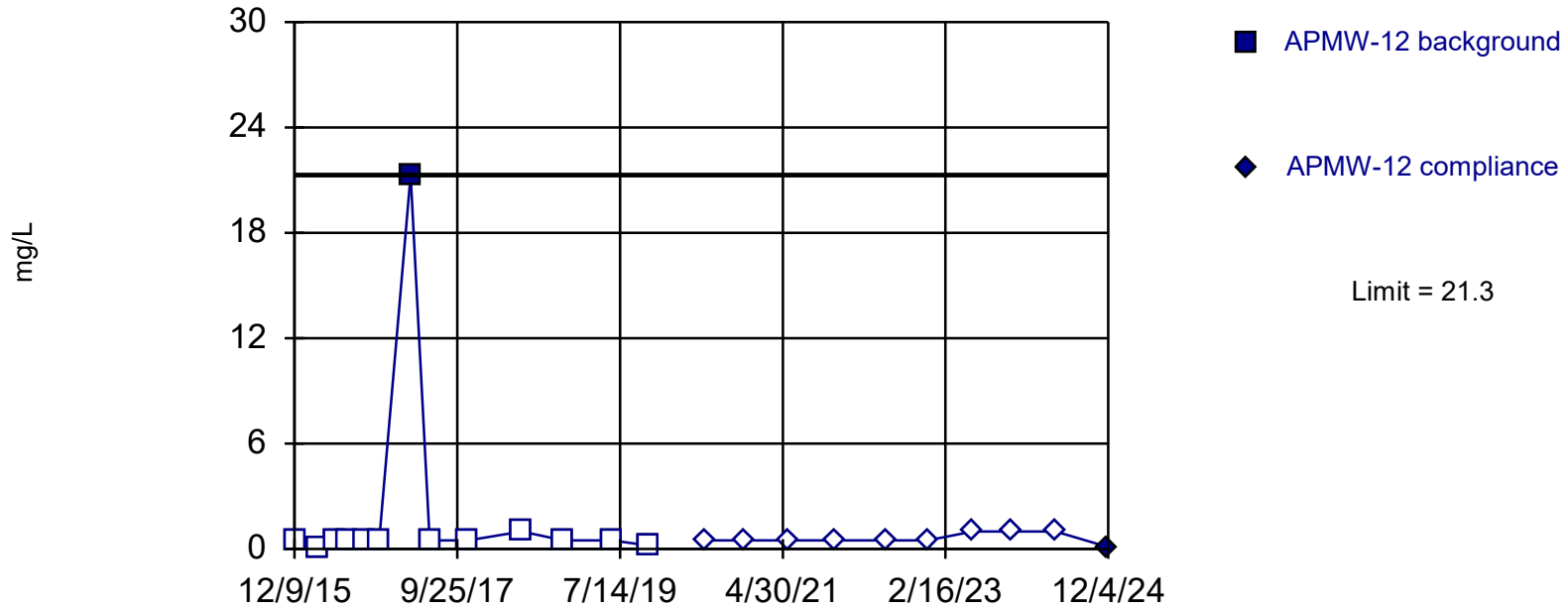




Within Limit

## Prediction Limit

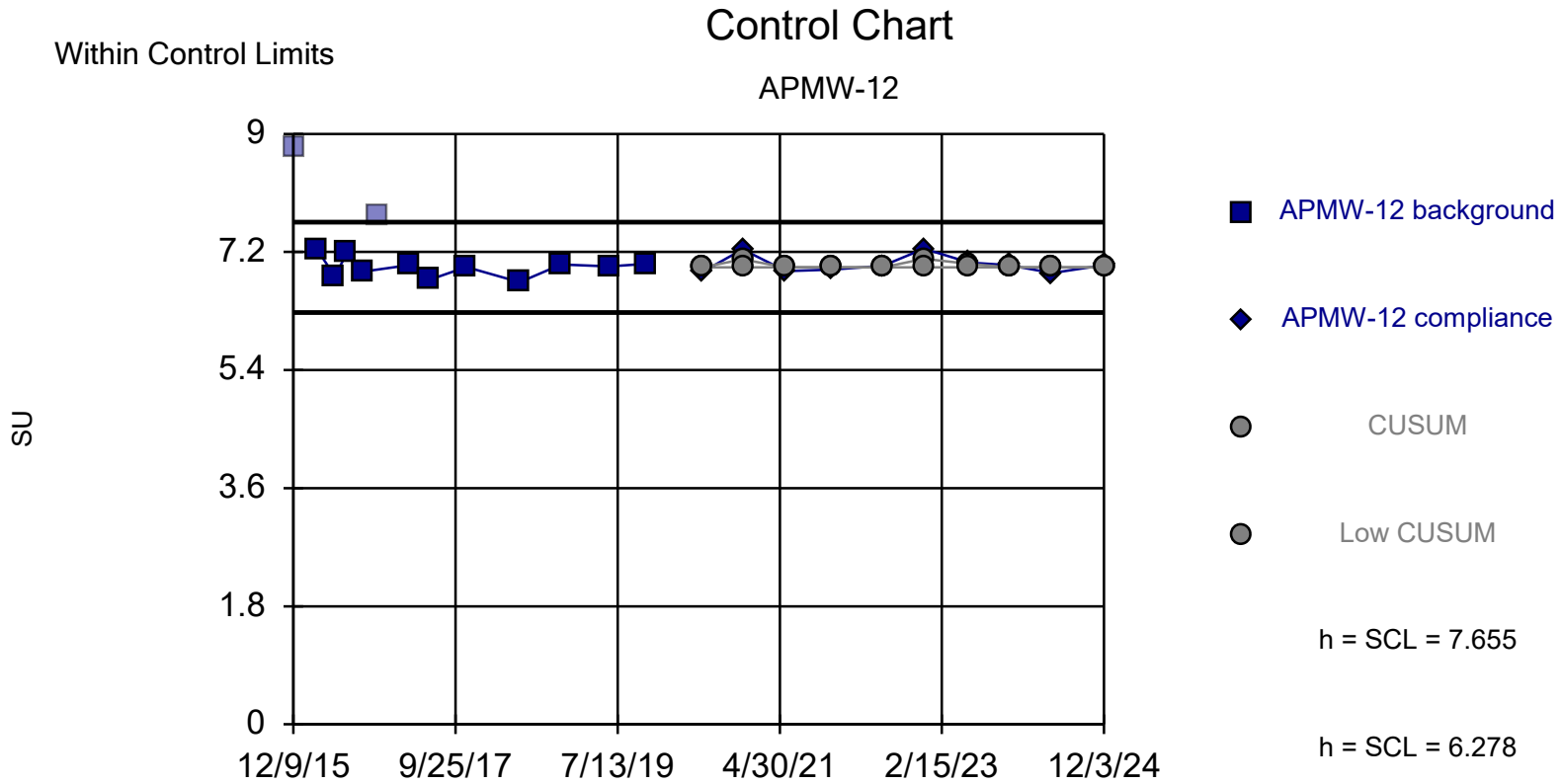
Intrawell Non-parametric



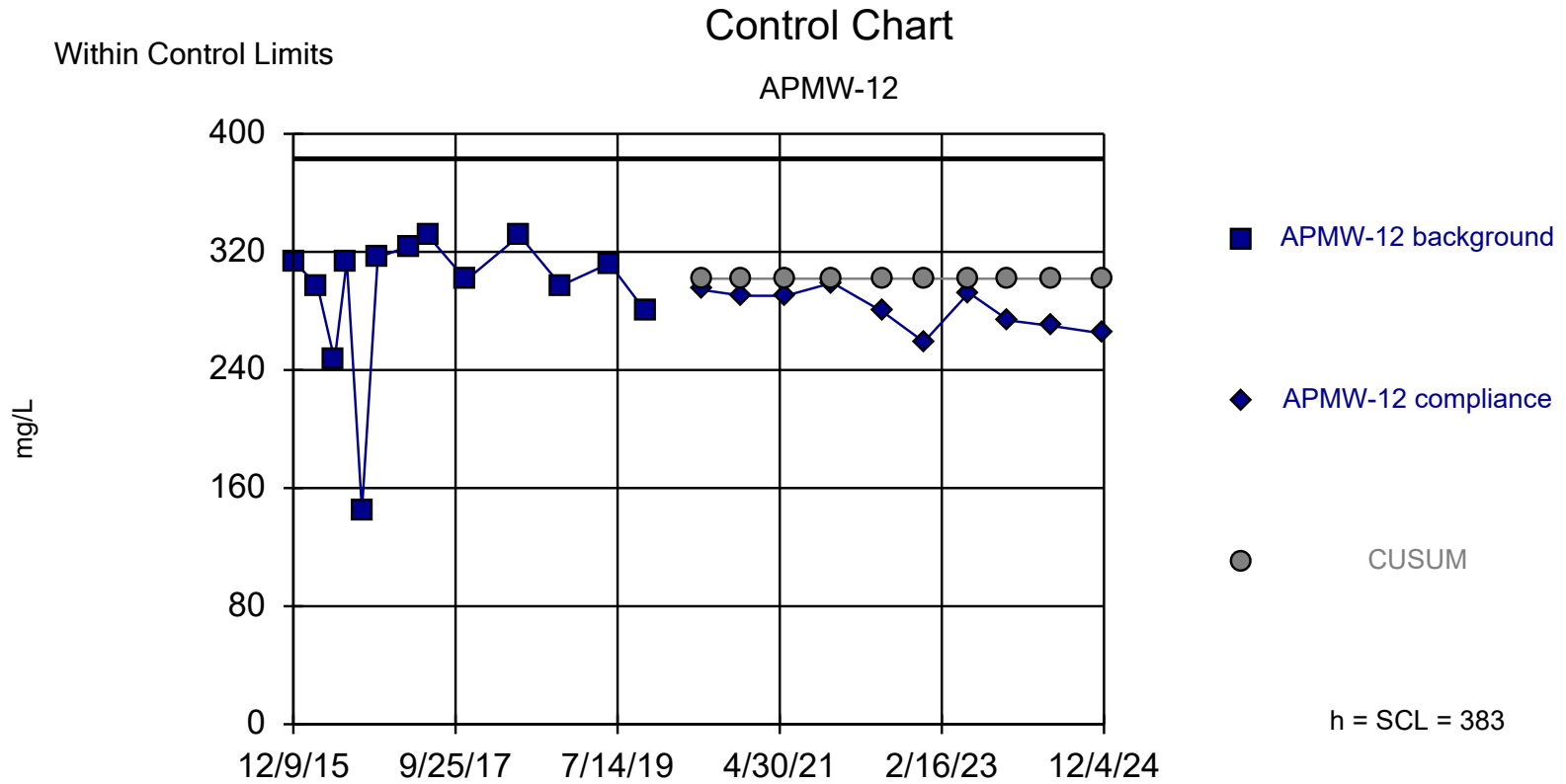
Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

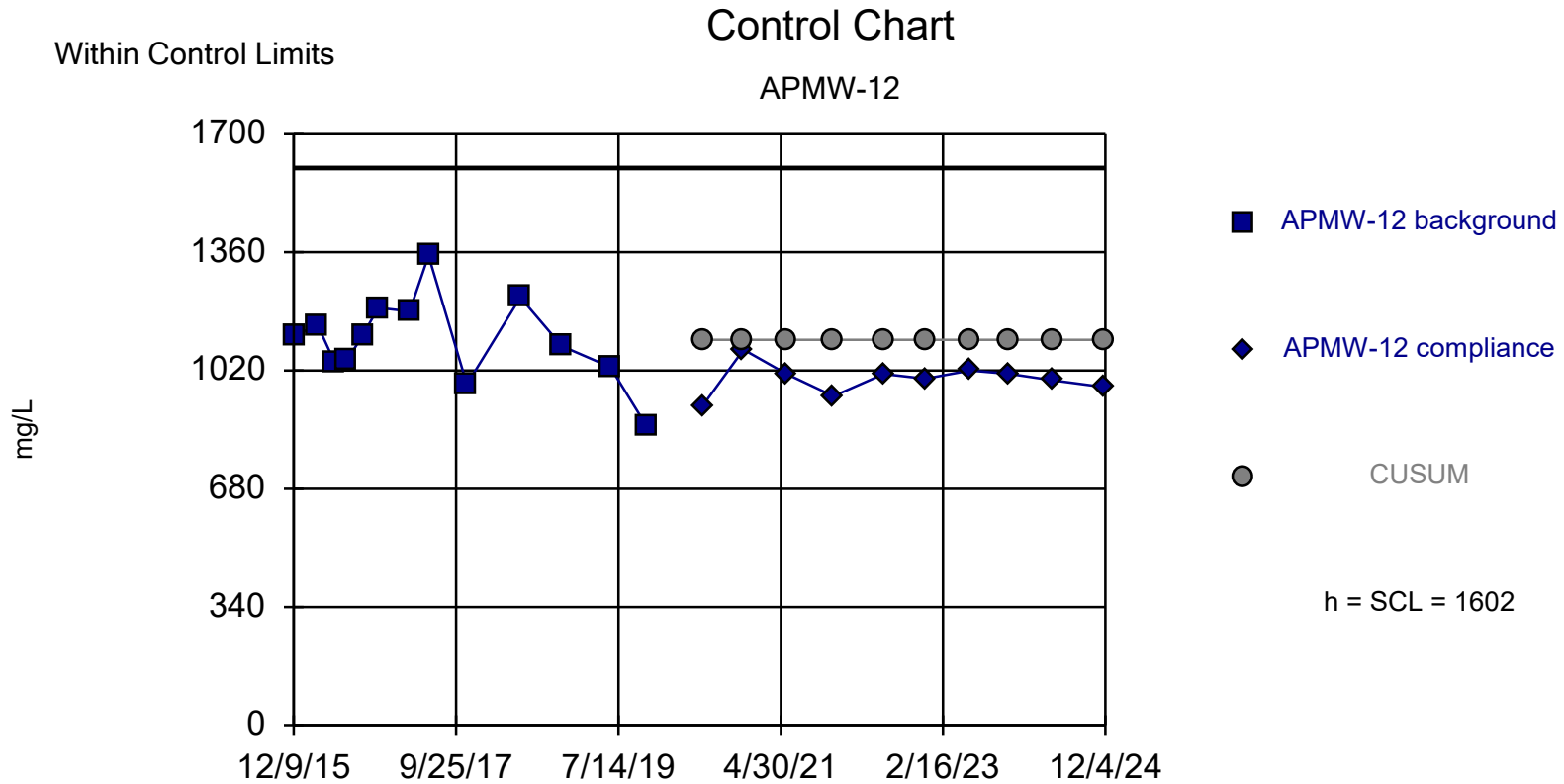
Constituent: Fluoride Analysis Run 1/23/2025 2:20 PM

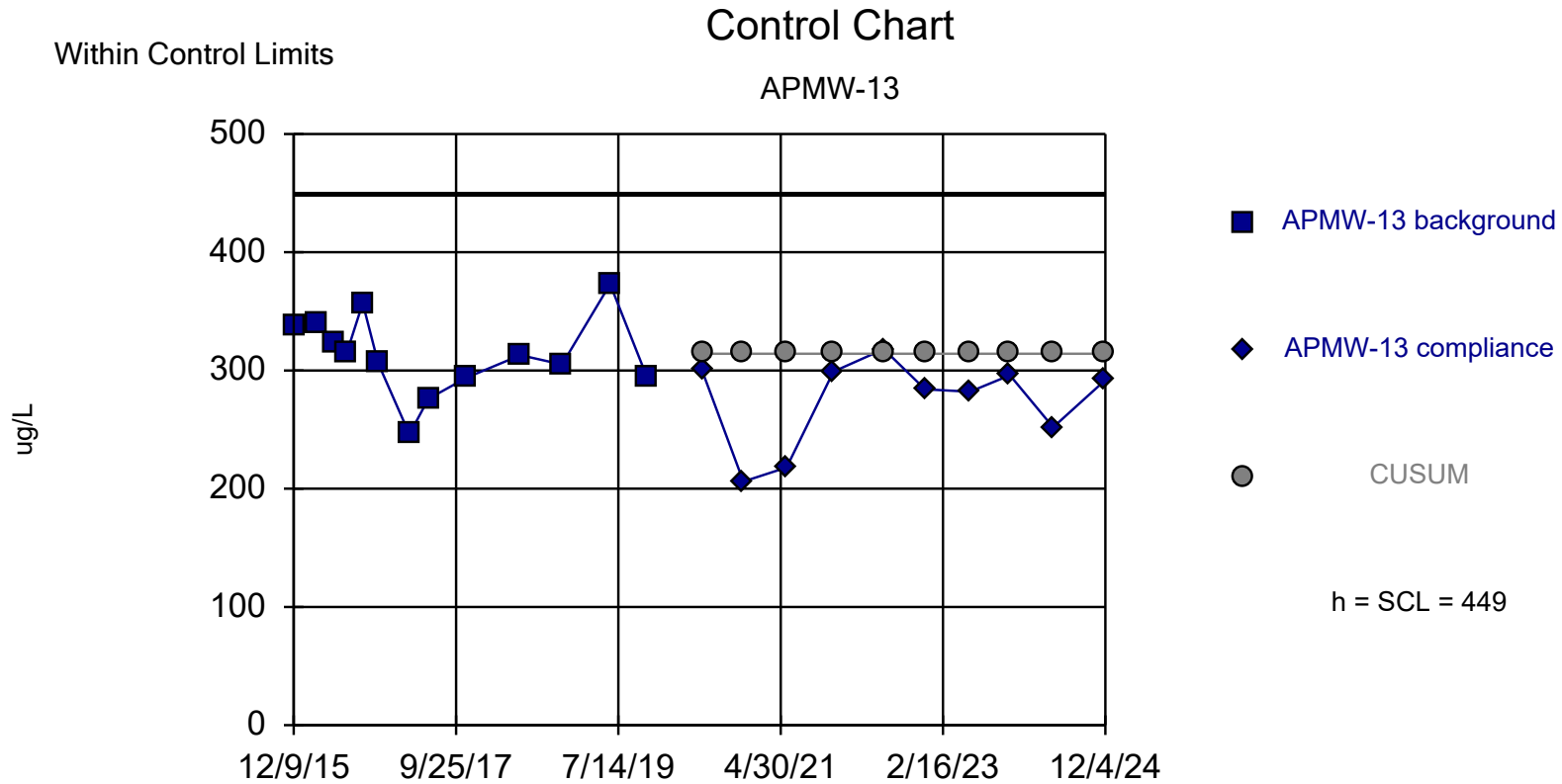
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

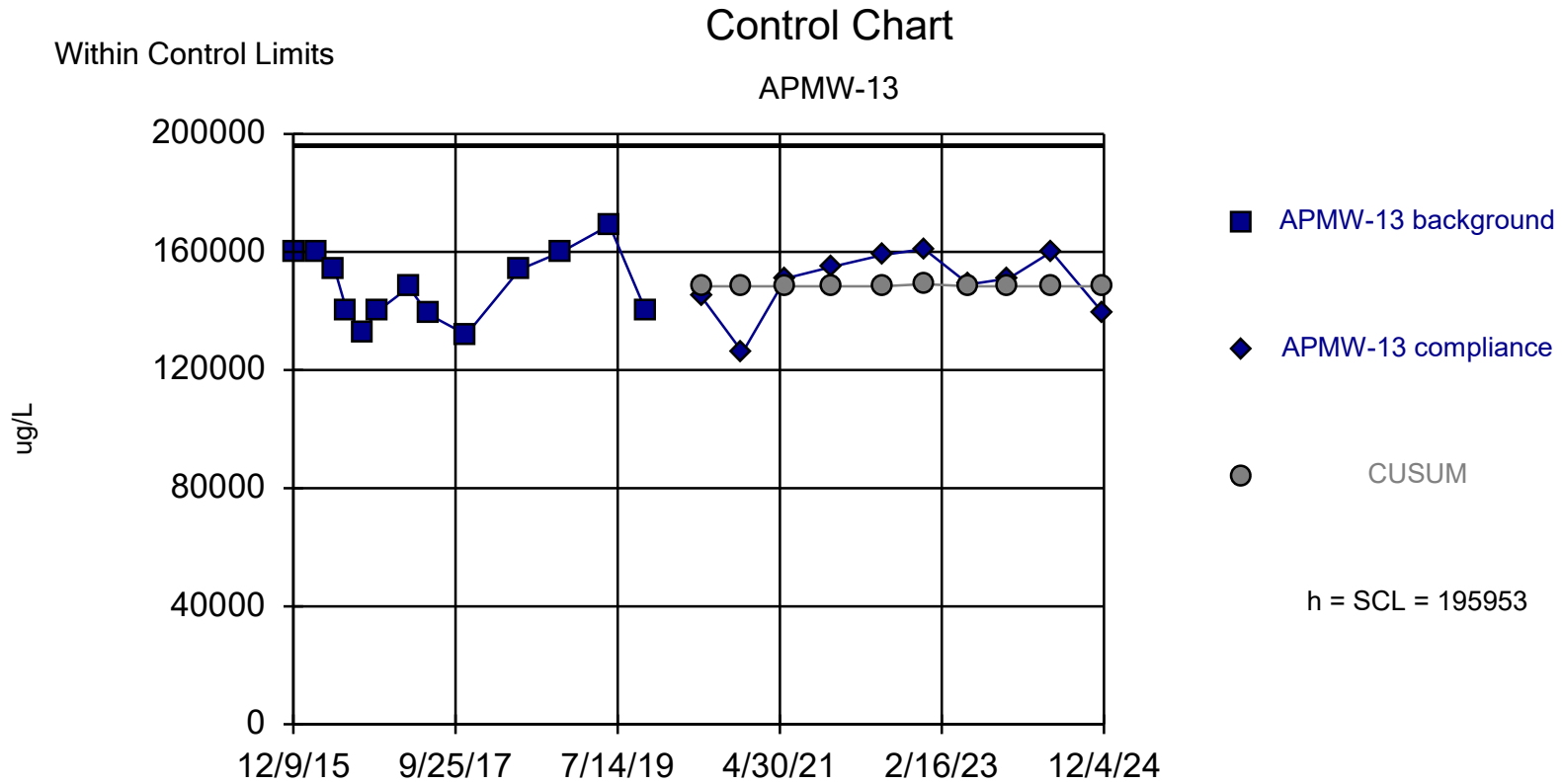


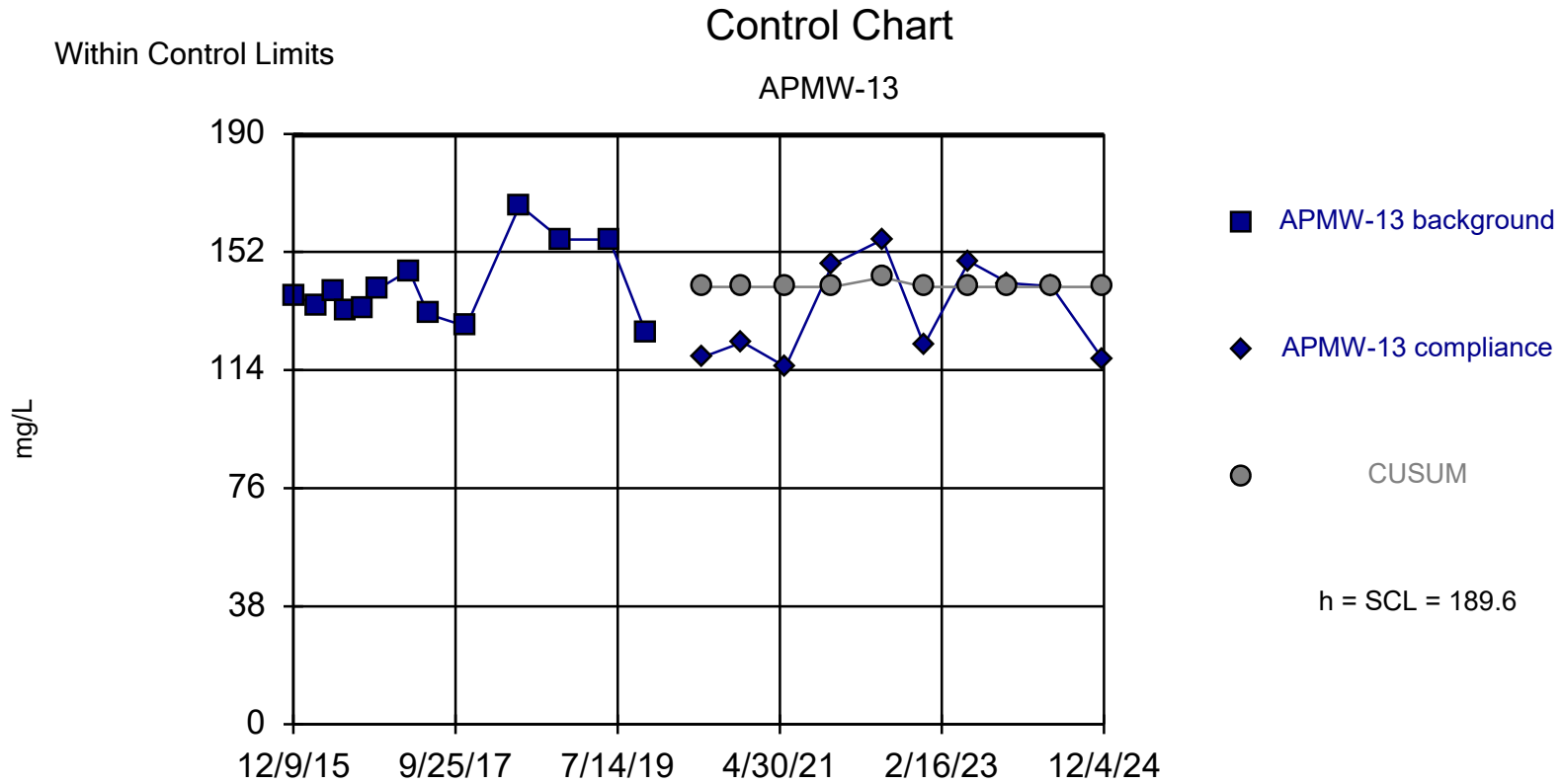












Background Data Summary: Mean=140.8, Std. Dev.=12.21, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9021, critical = 0.866. Report alpha = 0.005664. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

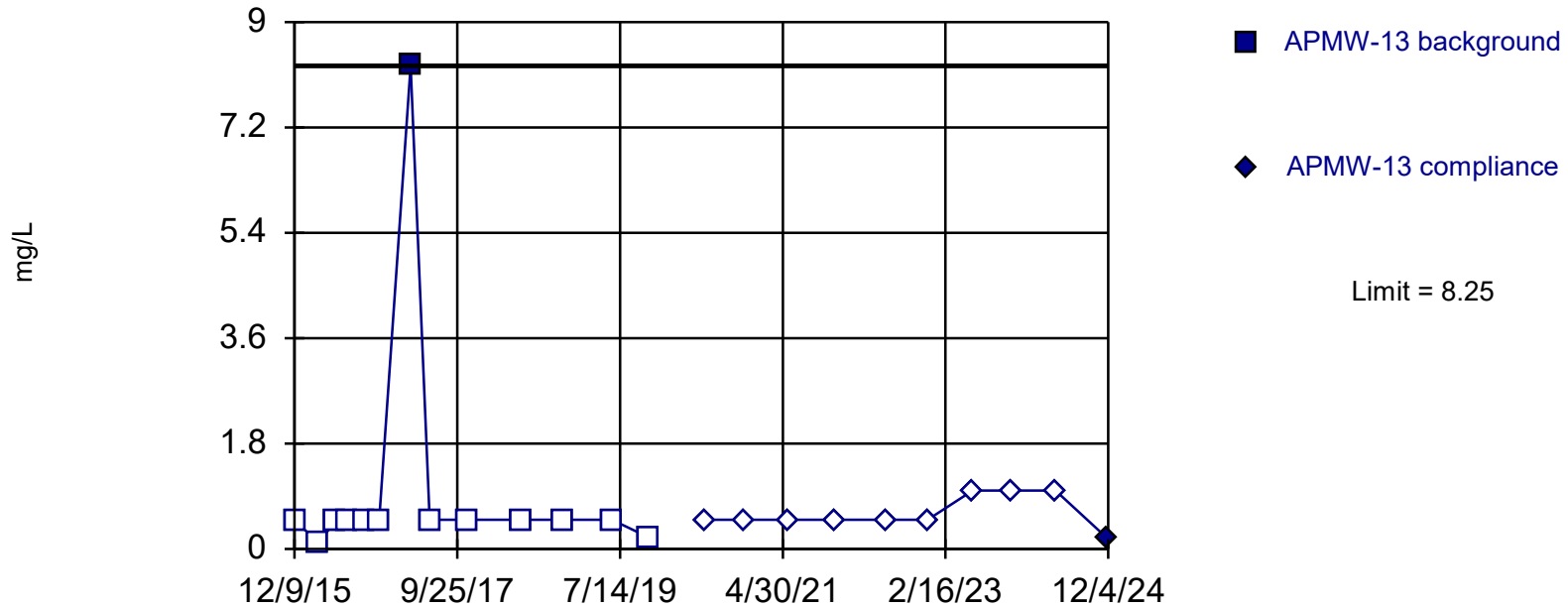
Constituent: Chloride Analysis Run 1/23/2025 2:26 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

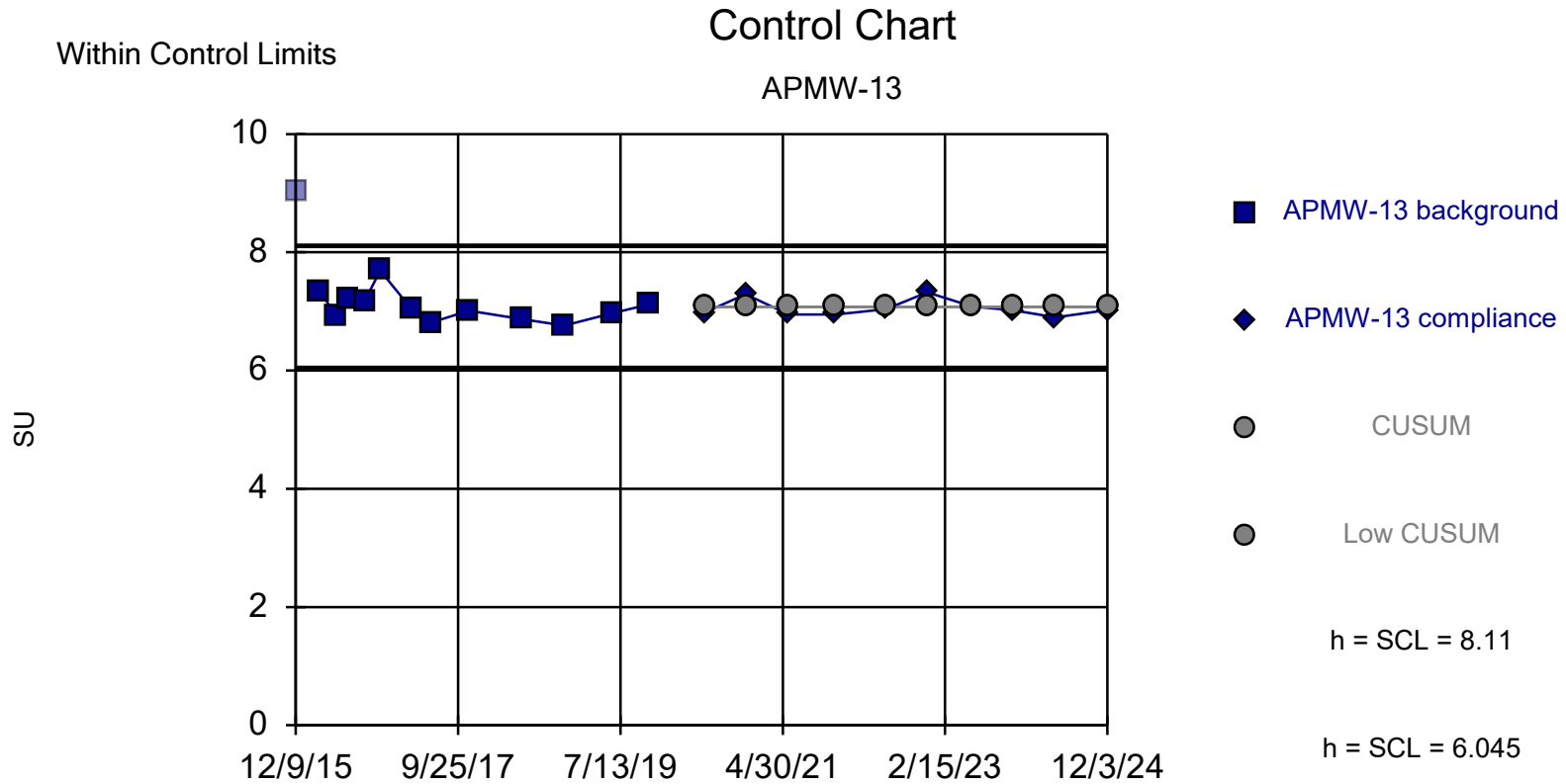
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

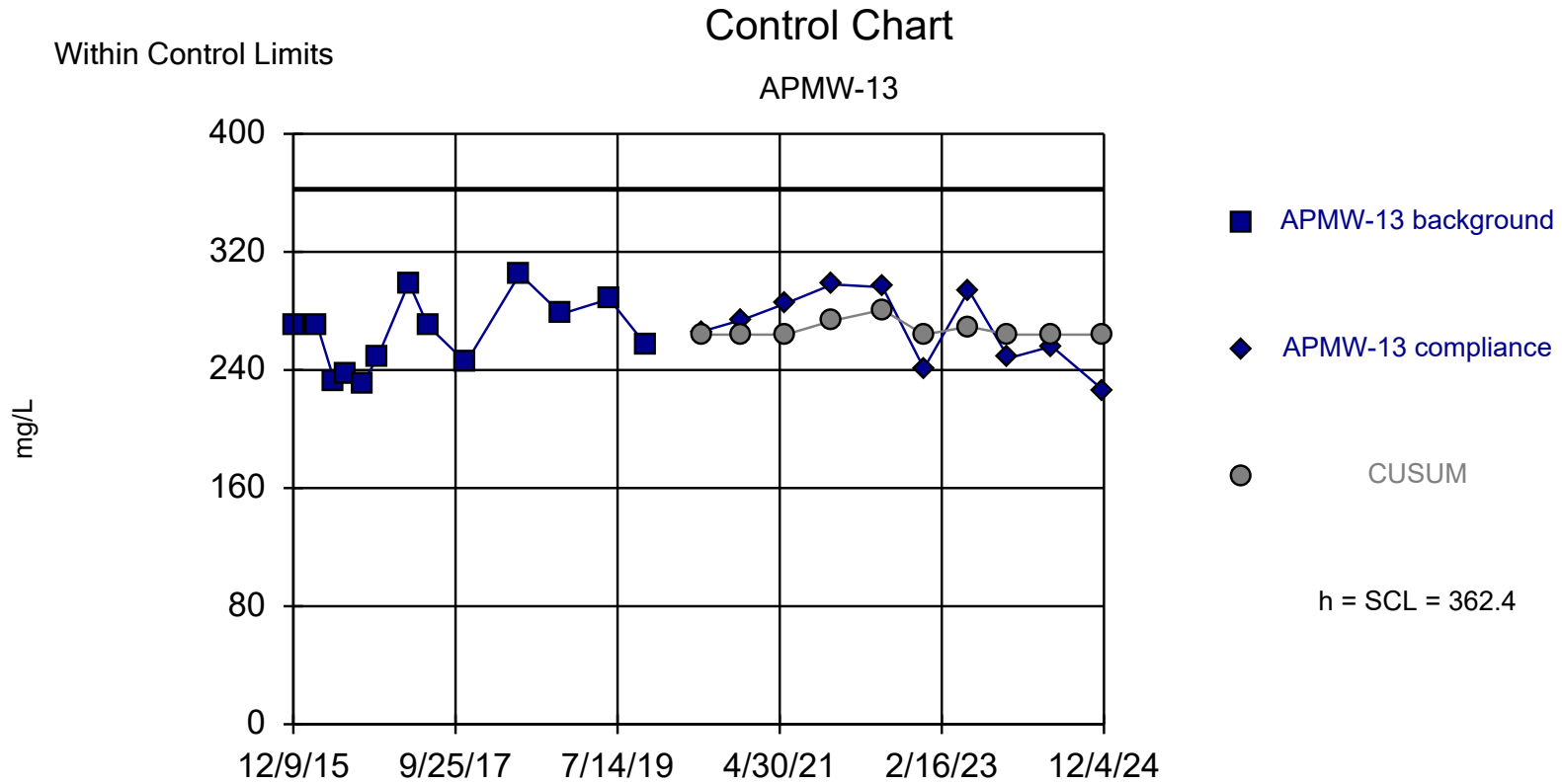
Constituent: Fluoride Analysis Run 1/23/2025 2:26 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=7.078, Std. Dev.=0.258, n=12. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.924, critical = 0.859. Report alpha = 0.0067. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:18 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

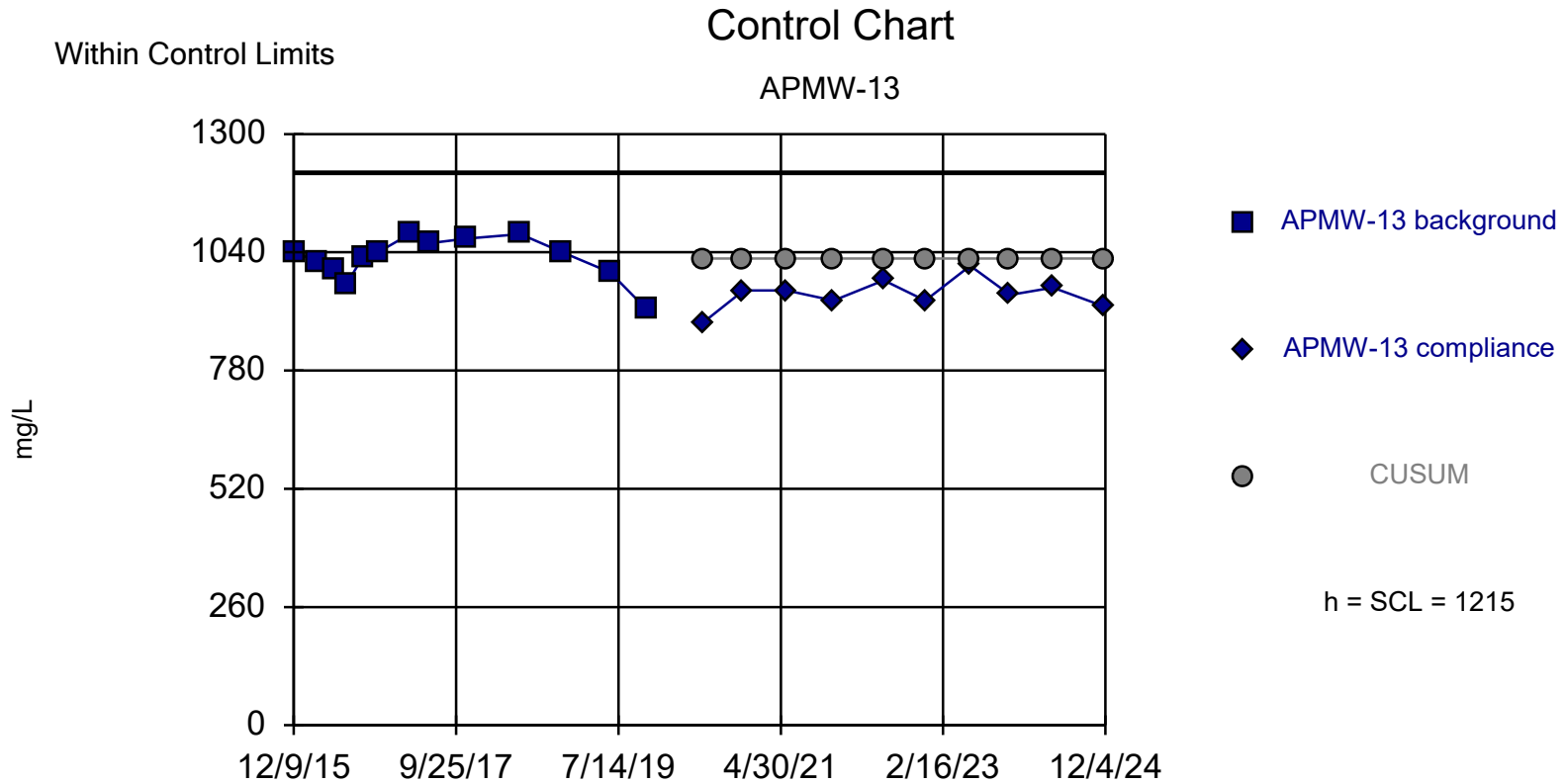


Background Data Summary: Mean=263.9, Std. Dev.=24.63, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9506, critical = 0.866. Report alpha = 0.02231. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 11:56 AM

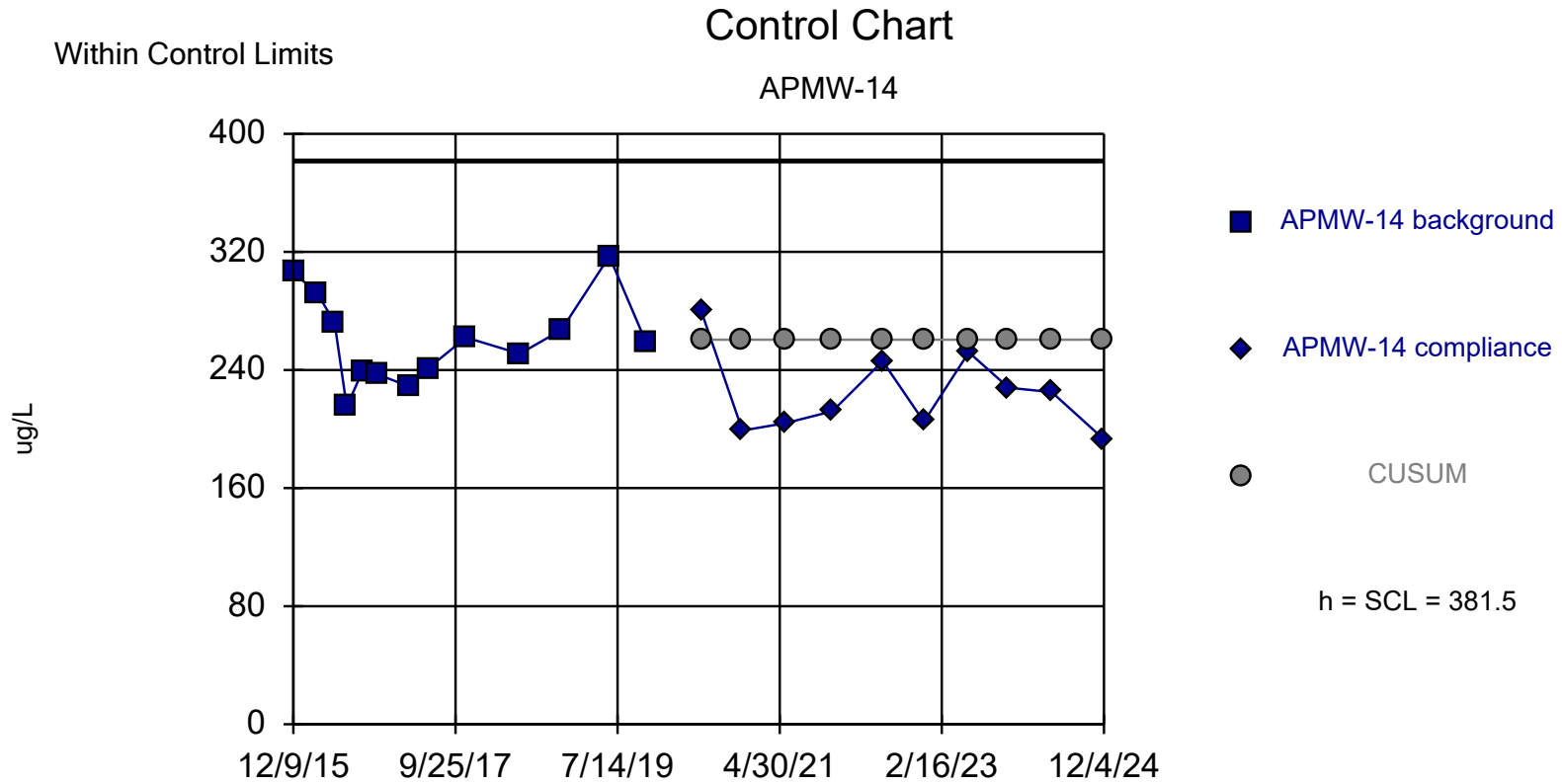
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]





Background Data Summary: Mean=1026, Std. Dev.=47.08, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9114, critical = 0.866. Report alpha = 0.005664. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

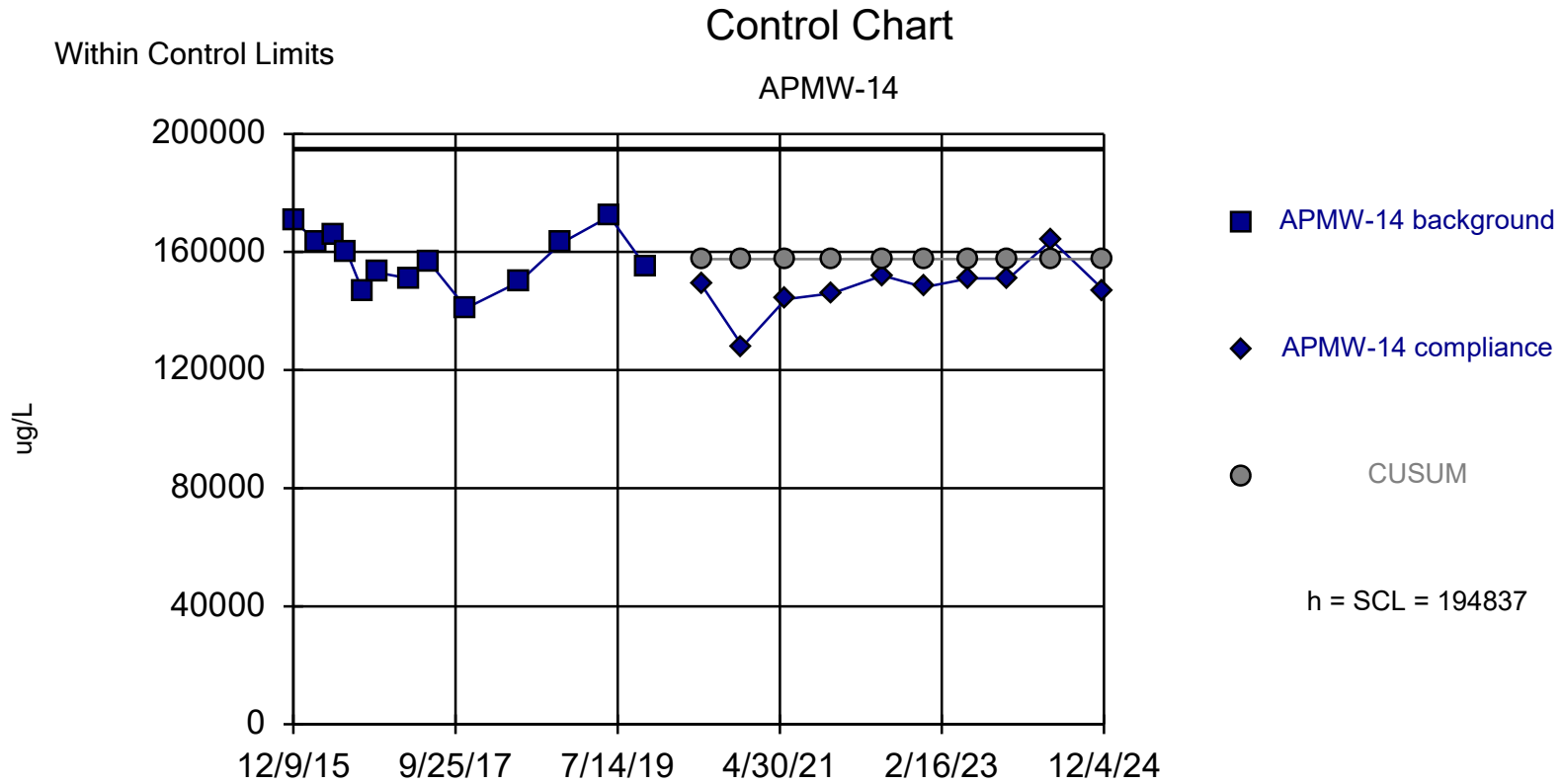
Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:28 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

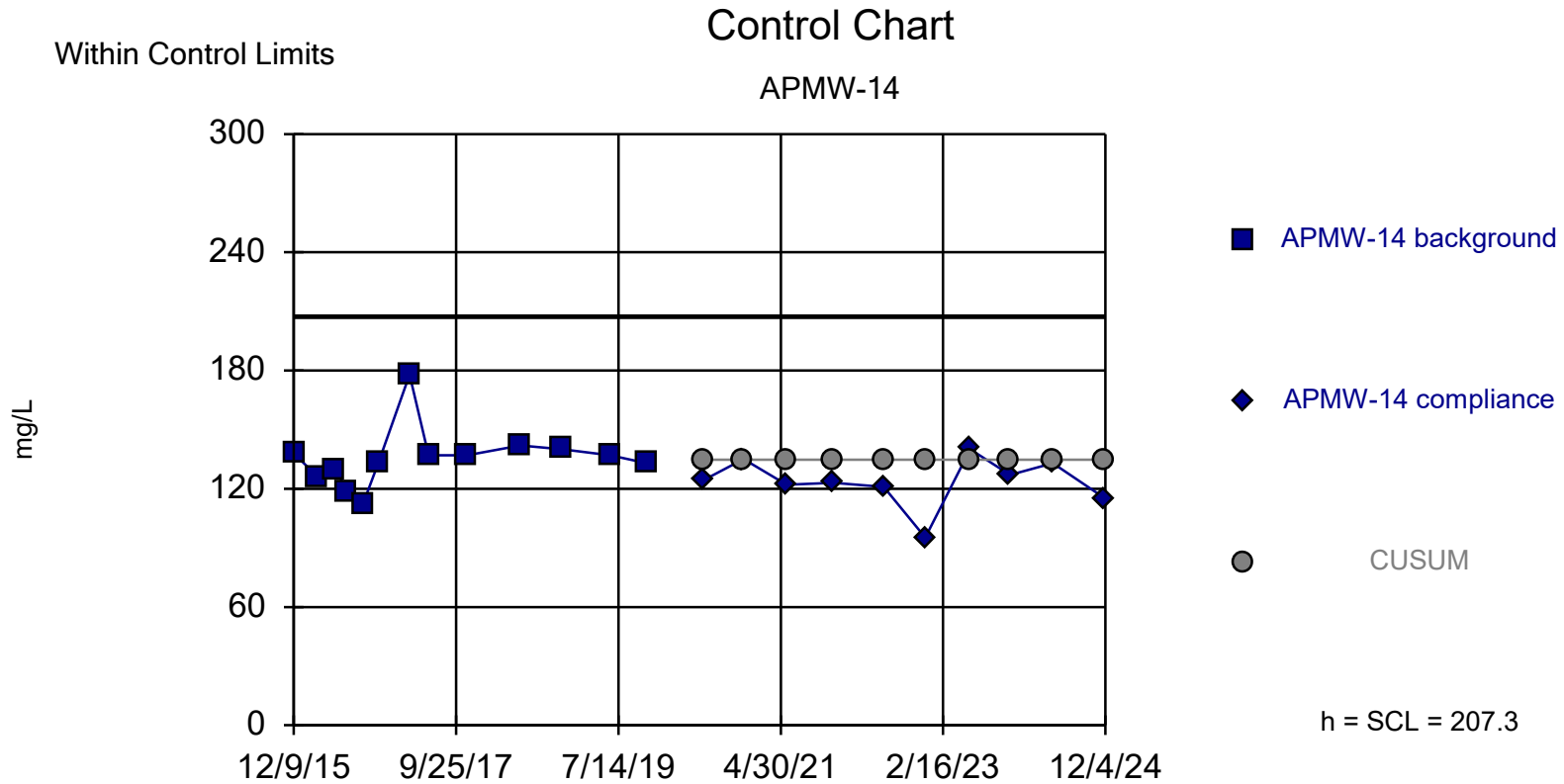


Background Data Summary: Mean=260.5, Std. Dev.=30.25, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9589, critical = 0.866. Report alpha = 0.02218. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

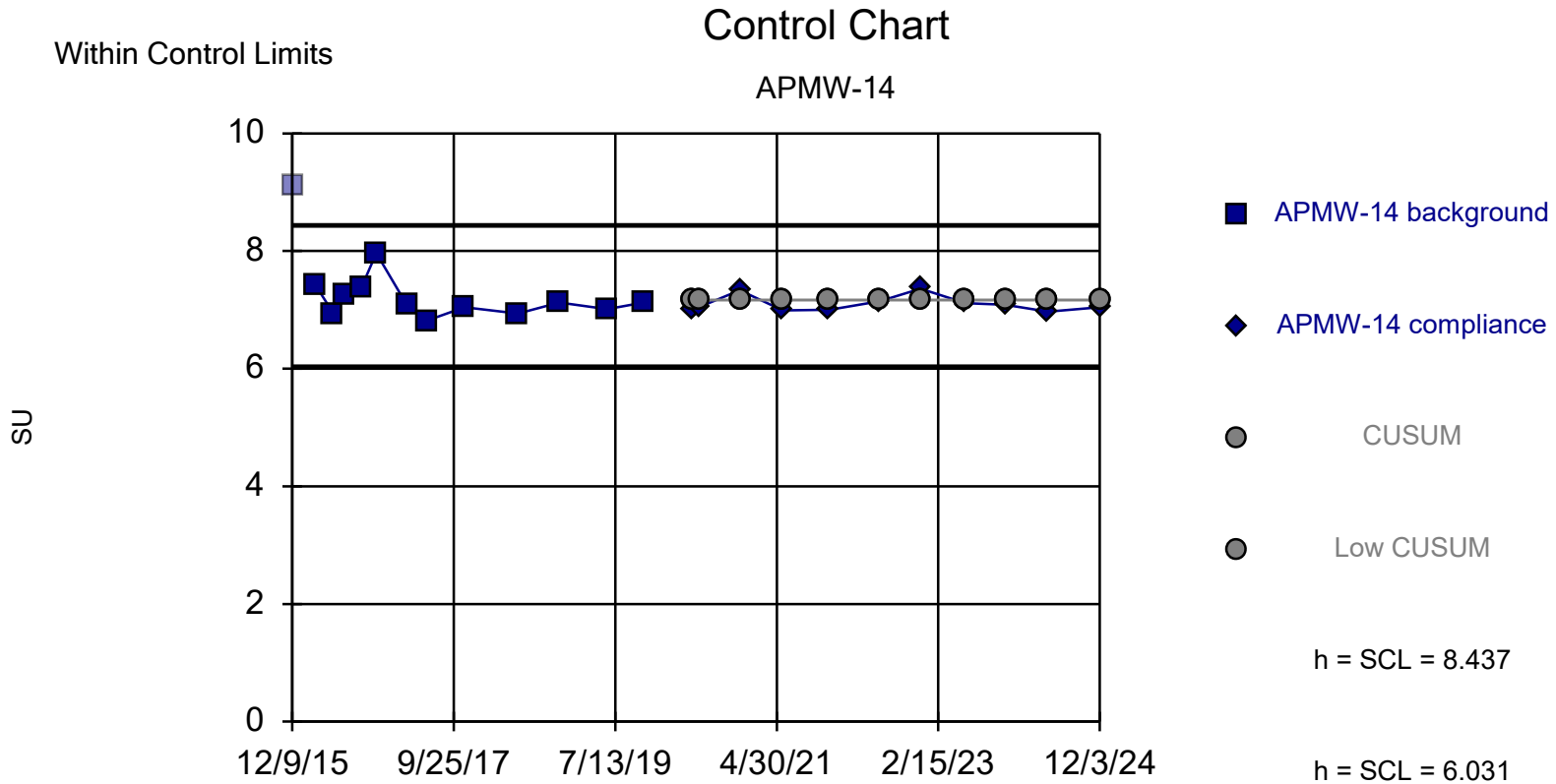
Constituent: Boron Analysis Run 1/25/2025 12:00 PM

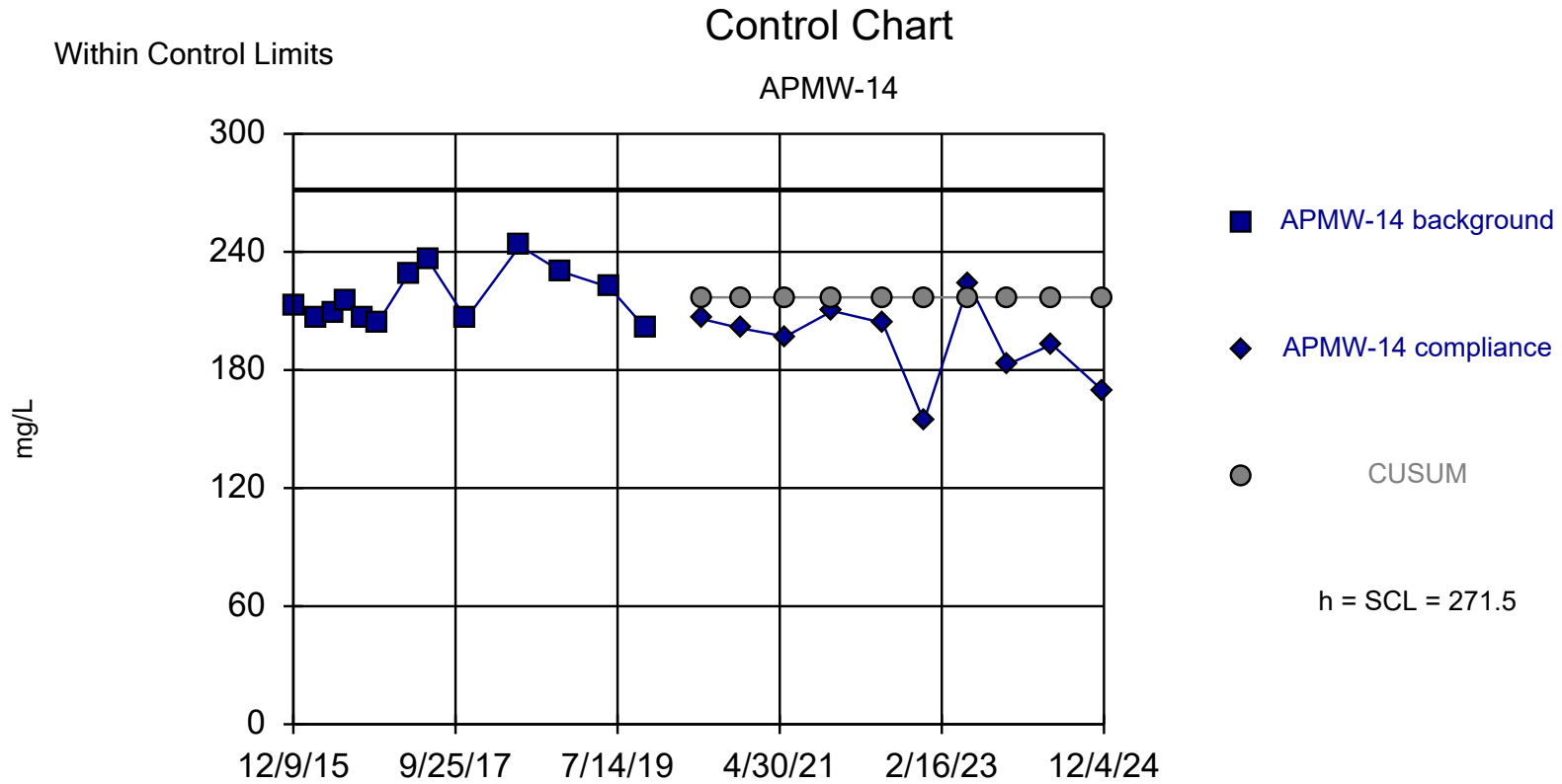
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]







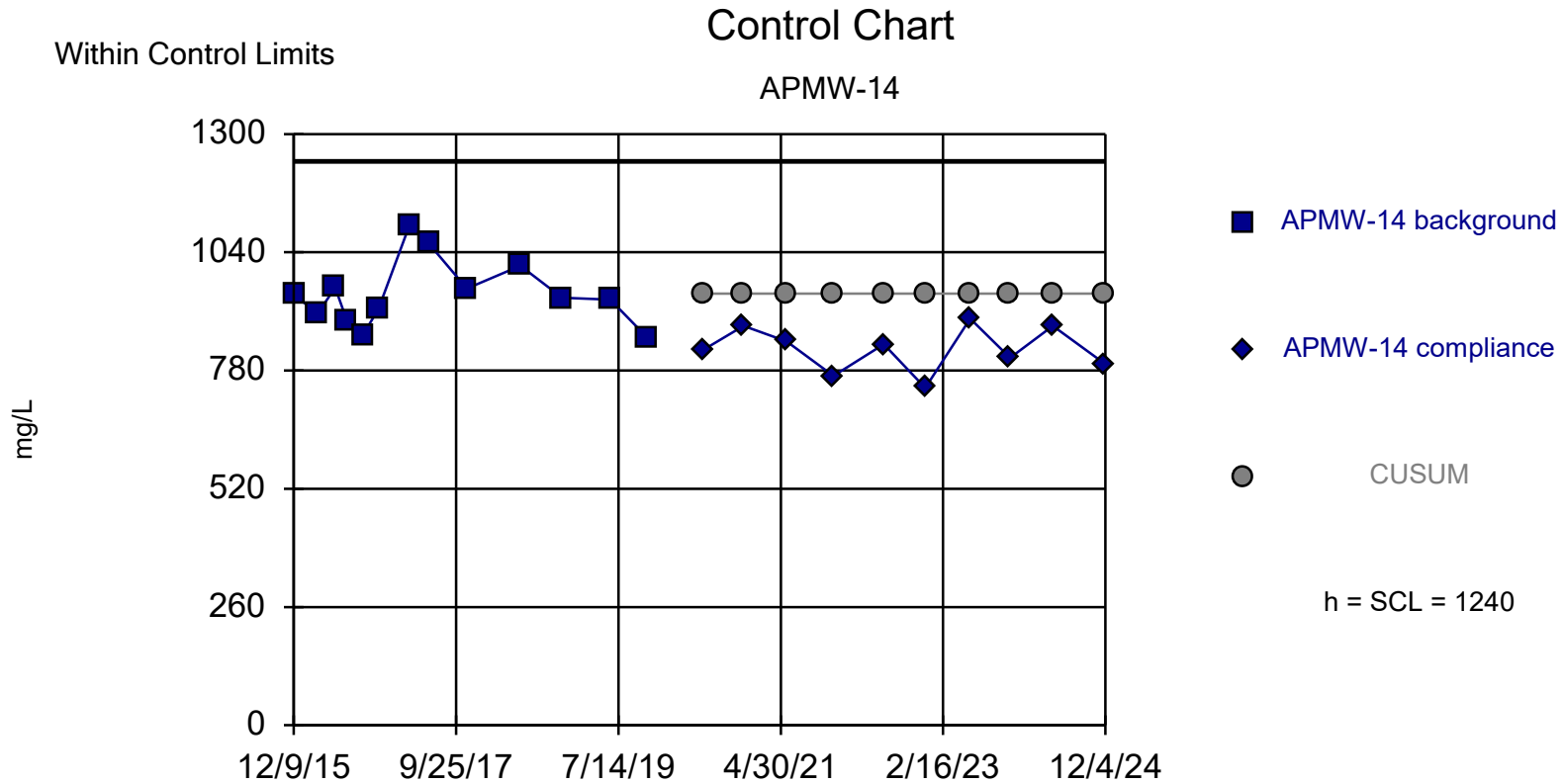




Background Data Summary: Mean=216.9, Std. Dev.=13.65, n=13. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8994, critical = 0.866. Report alpha = 0.02218. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/25/2025 12:01 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024\_CCRParameters (2)[IN USE BY C1DBL33]



Background Data Summary: Mean=948.8, Std. Dev.=72.74, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9344, critical = 0.866. Report alpha = 0.0057. Dates ending 11/6/2019 used for control stats. Standardized h=4, SCL=4.

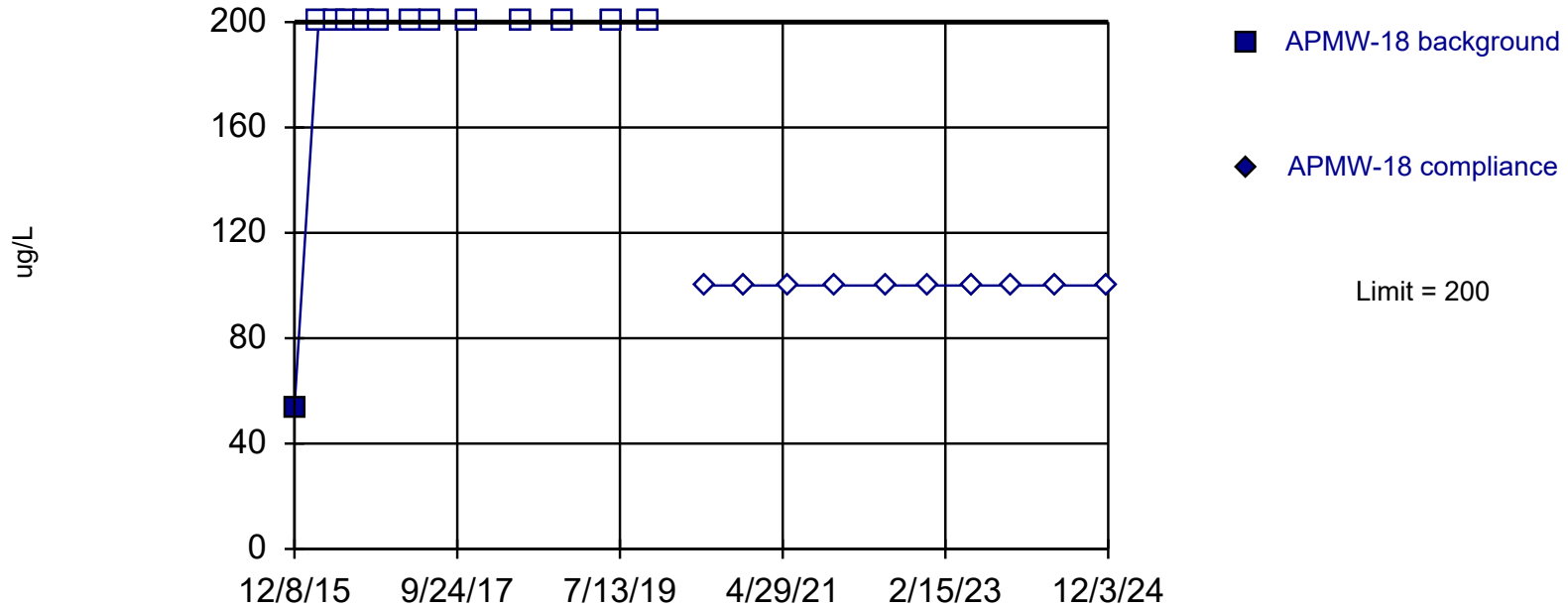
Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:34 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Within Limit

## Prediction Limit

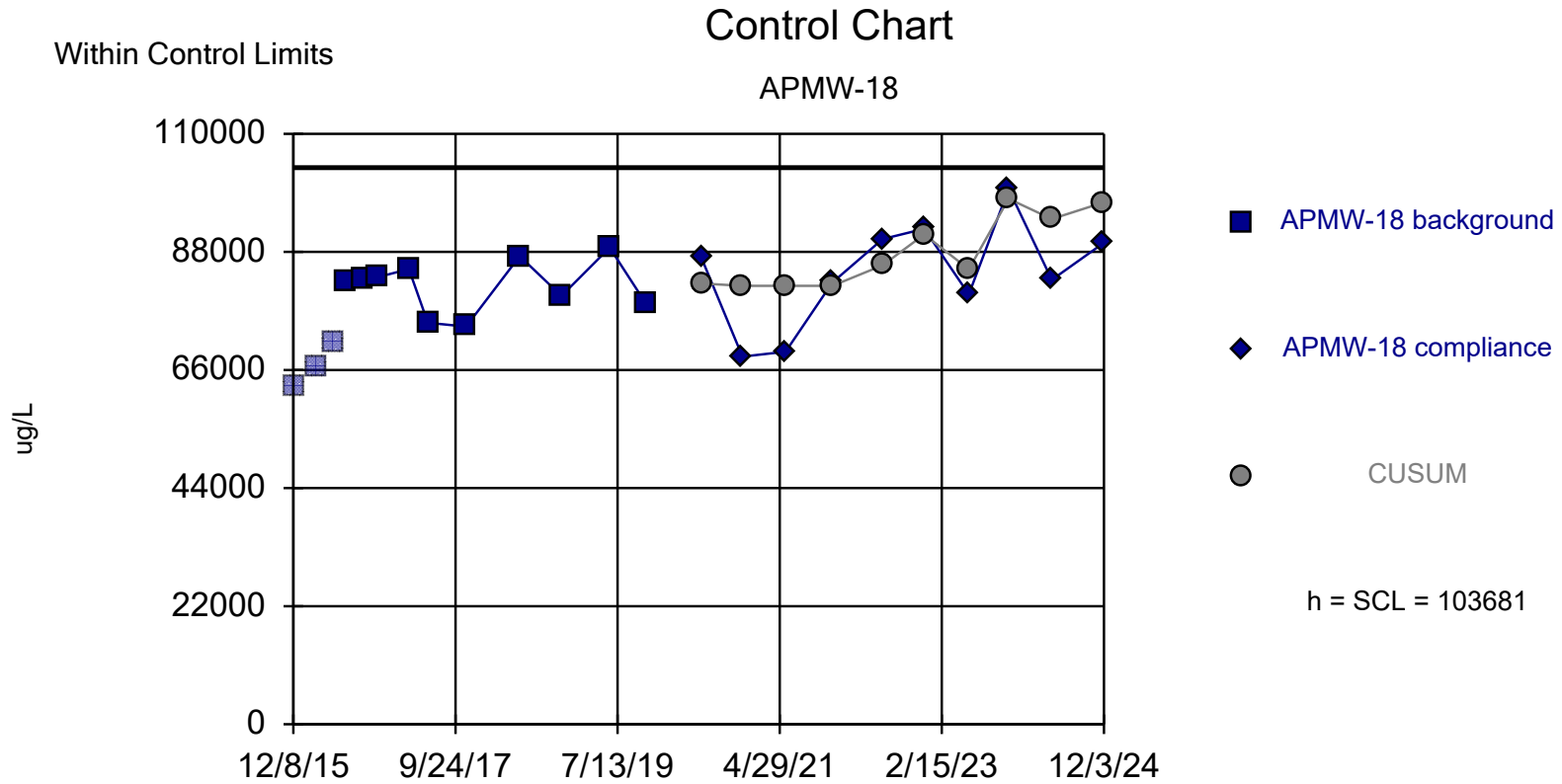
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/24/2025 12:39 PM

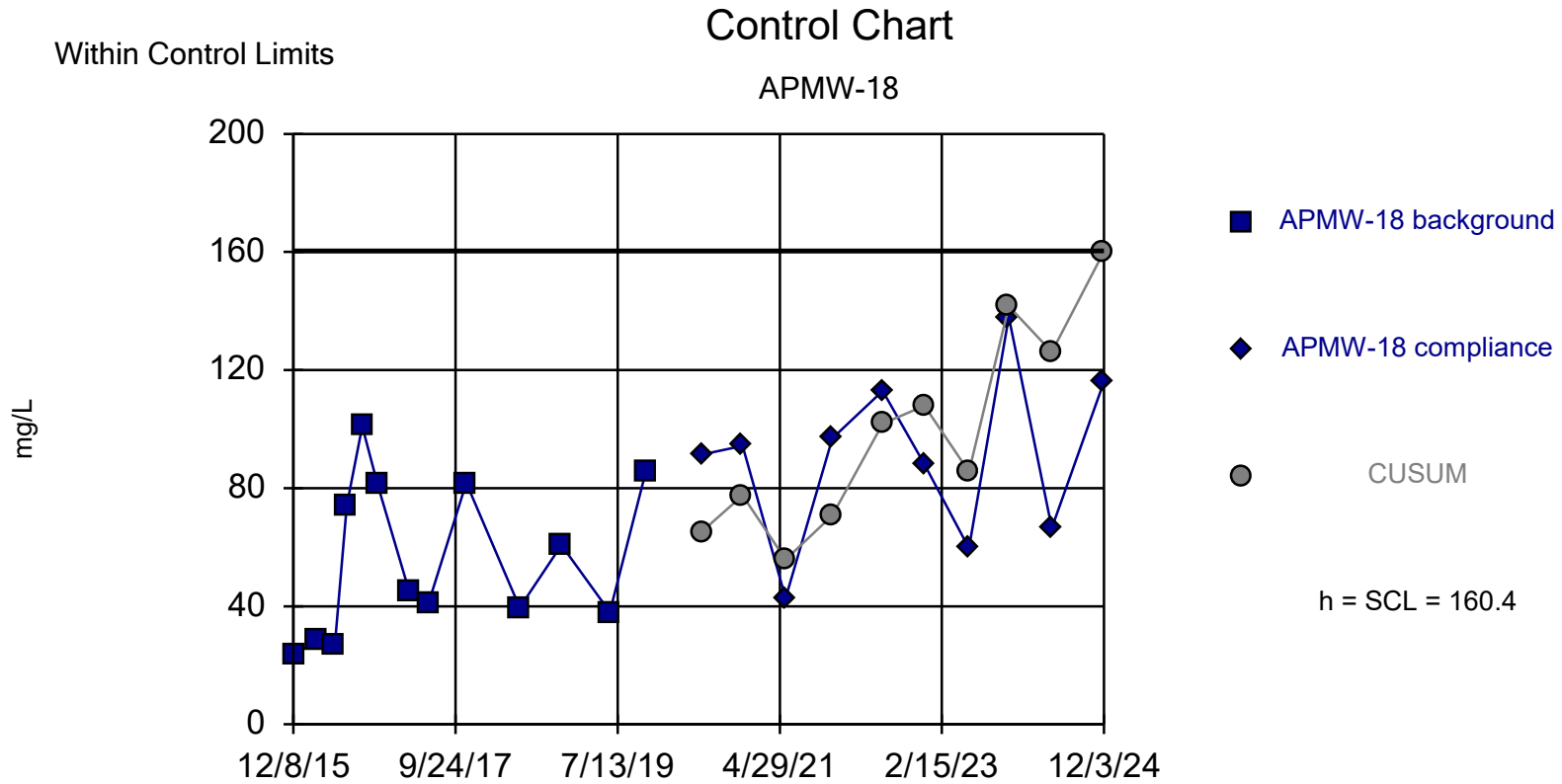
Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=81680, Std. Dev.=4889, n=10. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9537, critical = 0.842. Report alpha = 0.006882. Dates ending 11/5/2019 used for control stats. Standardized h=4.5, SCL=4.5.

Constituent: Calcium Analysis Run 1/24/2025 12:41 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=55.84, Std. Dev.=26.14, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9088, critical = 0.866. Report alpha = 0.005736. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

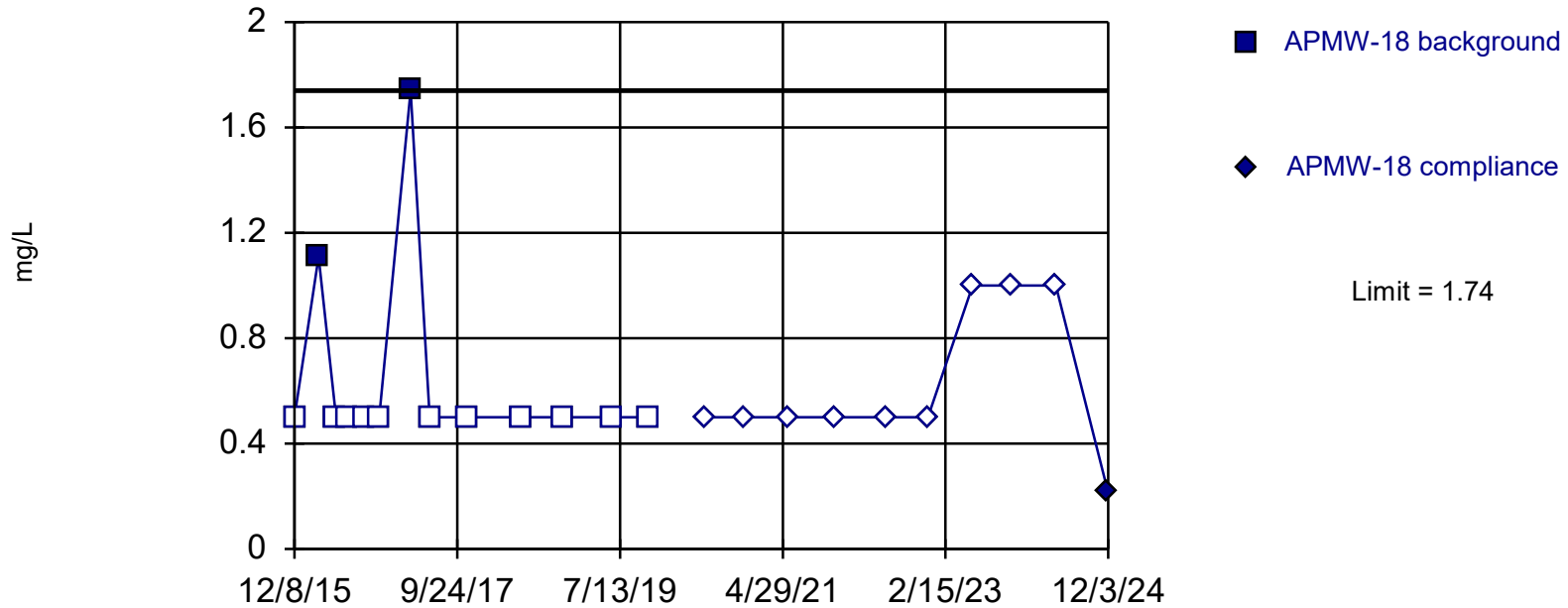
Constituent: Chloride Analysis Run 1/23/2025 2:37 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

Within Limit

## Prediction Limit

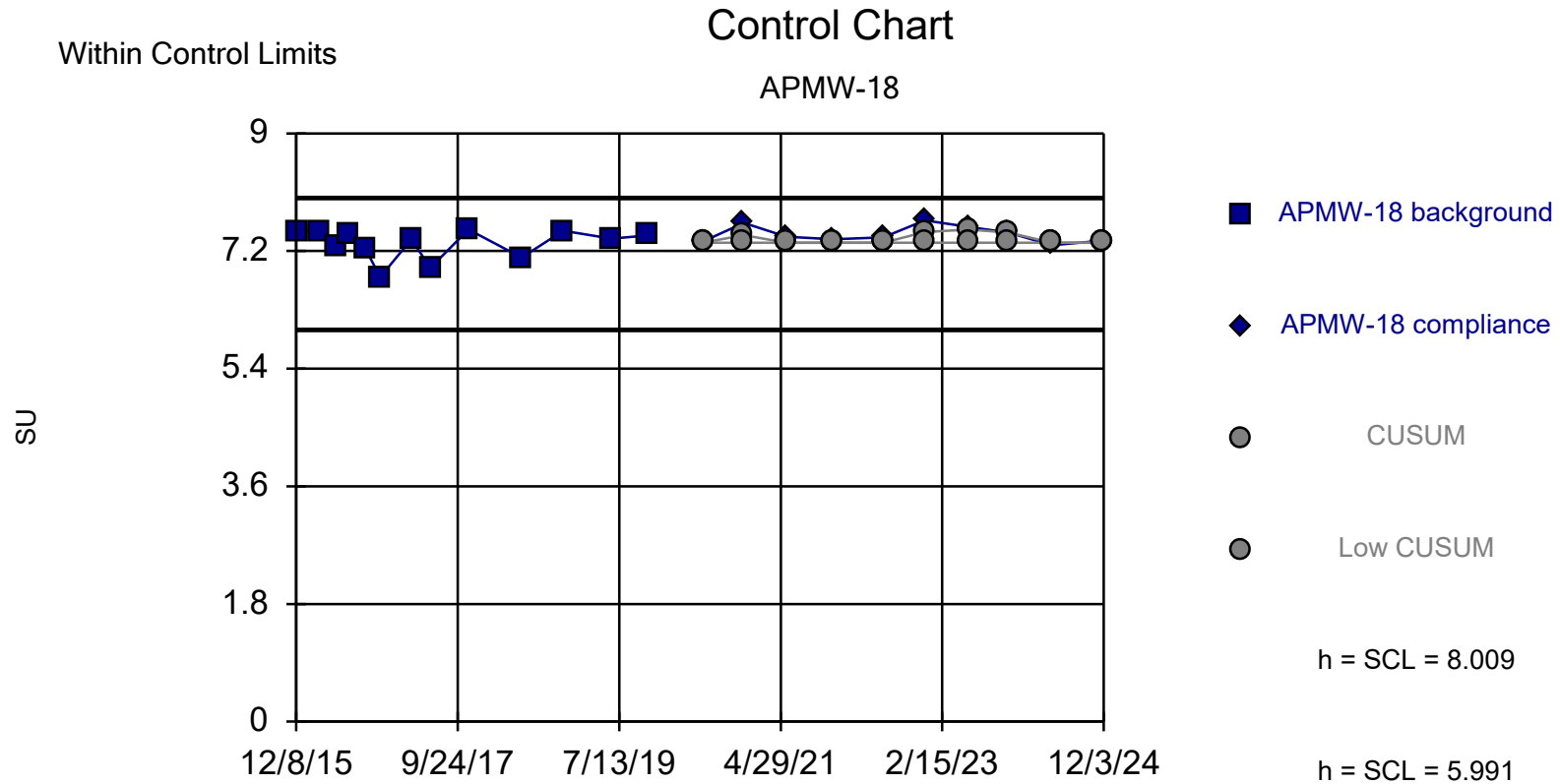
Intrawell Non-parametric



Non-parametric test used in lieu of control chart because non-detects exceed user-adjustable maximum of 50%. Limit is highest of 13 background values. 84.62% NDs. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Most recent point compared to limit. Seasonality was not detected with 95% confidence.

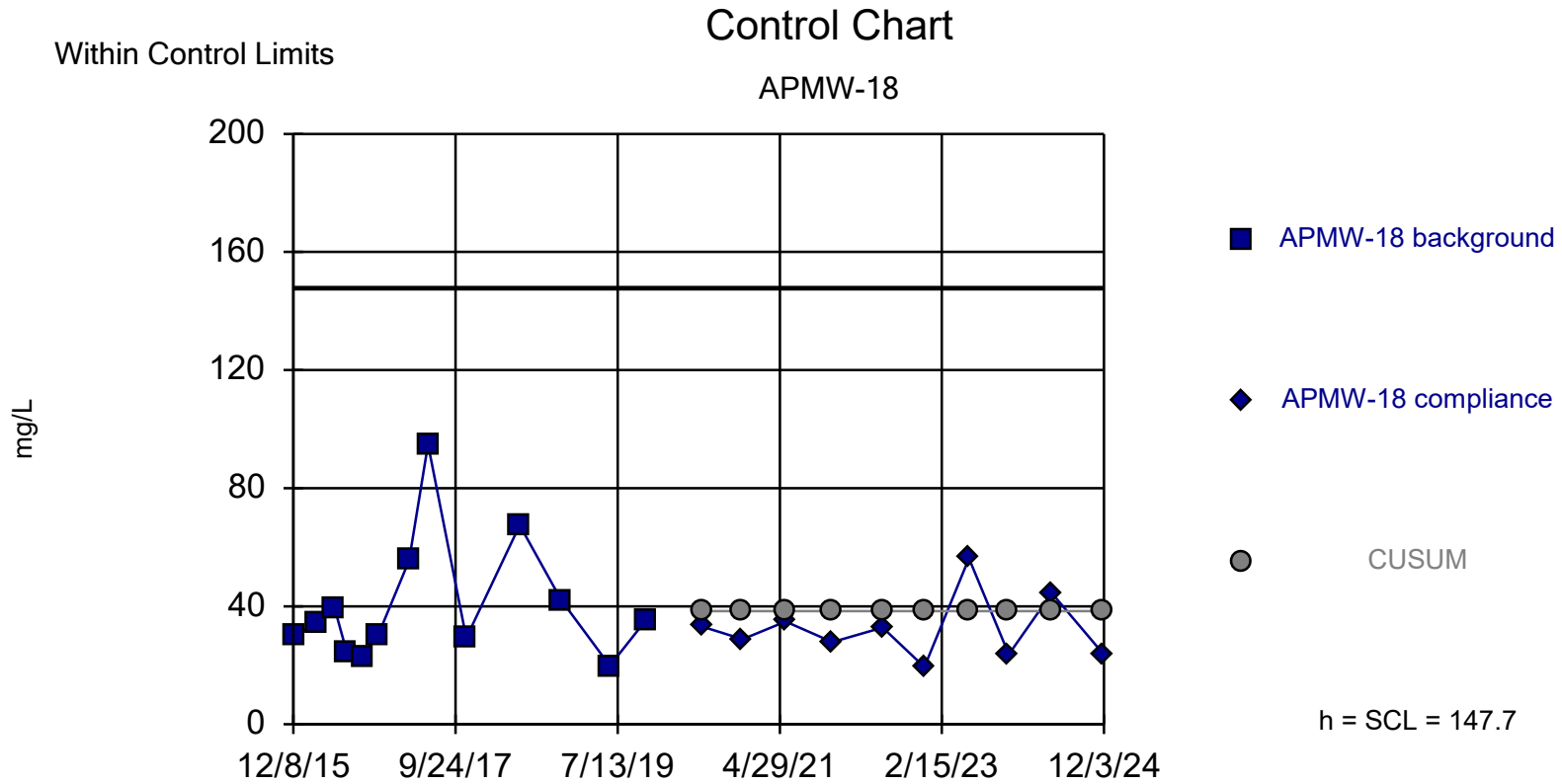
Constituent: Fluoride Analysis Run 1/23/2025 2:38 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (based on  $x^6$  transformation): Mean=155040, Std. Dev.=27197, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8703, critical = 0.866. Report alpha = 0.00567. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

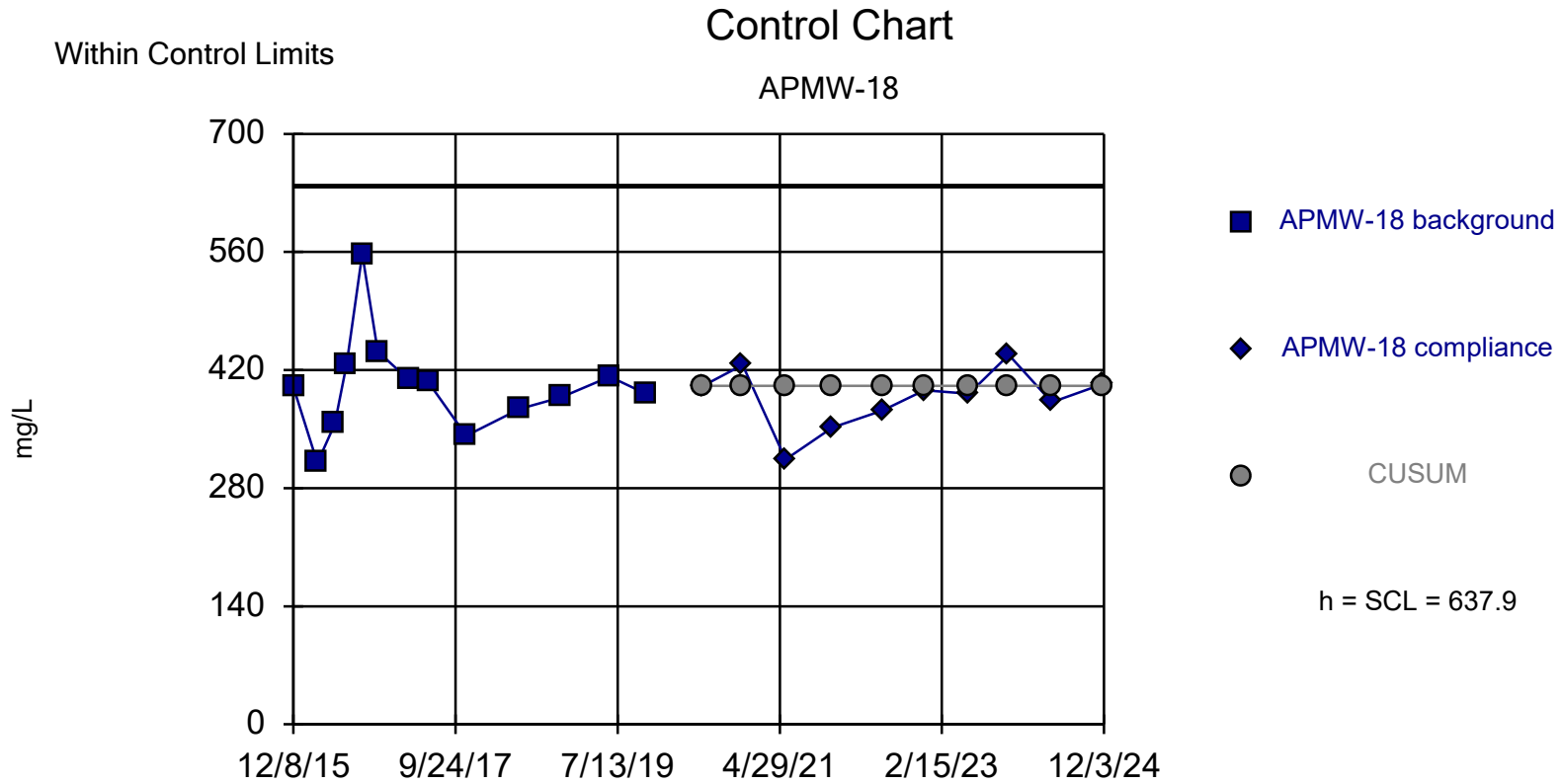
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:22 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary (based on square root transformation): Mean=6.19, Std. Dev.=1.491, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8874, critical = 0.866. Report alpha = 0.005488. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/23/2025 2:39 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



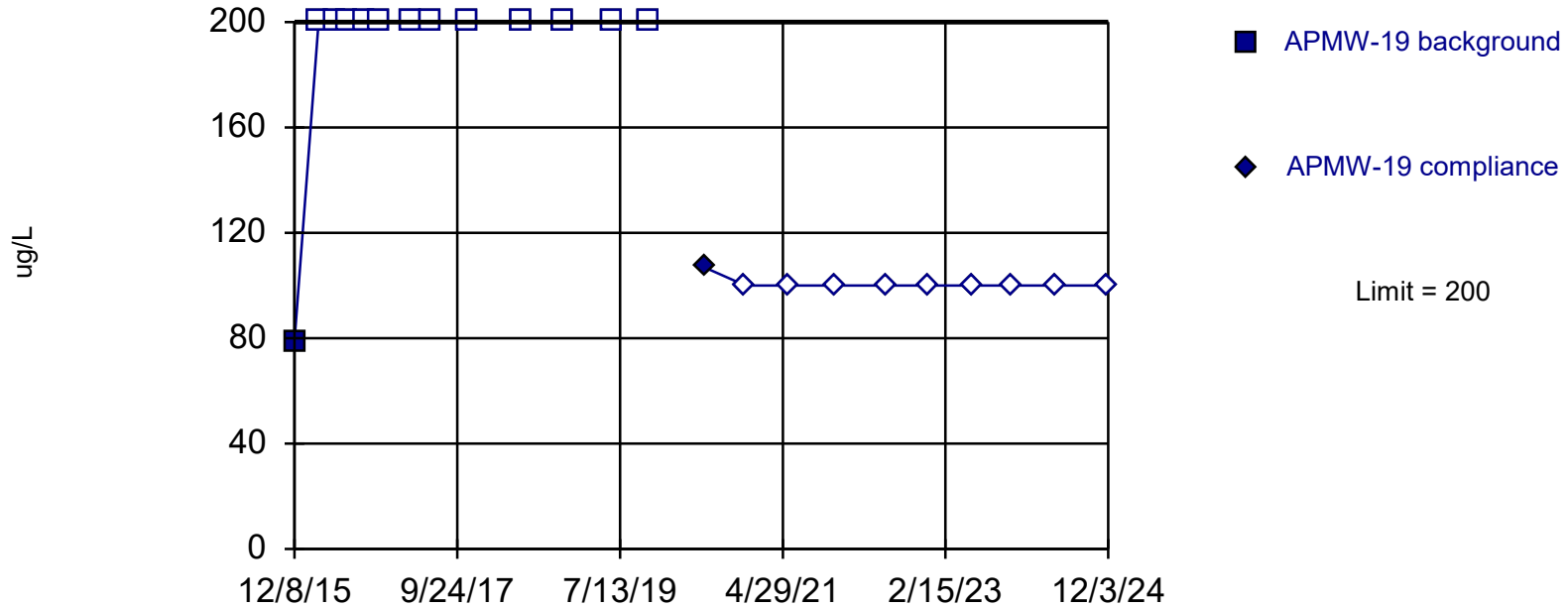
Background Data Summary: Mean=401.2, Std. Dev.=59.18, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8861, critical = 0.866. Report alpha = 0.005488. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:39 PM  
Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

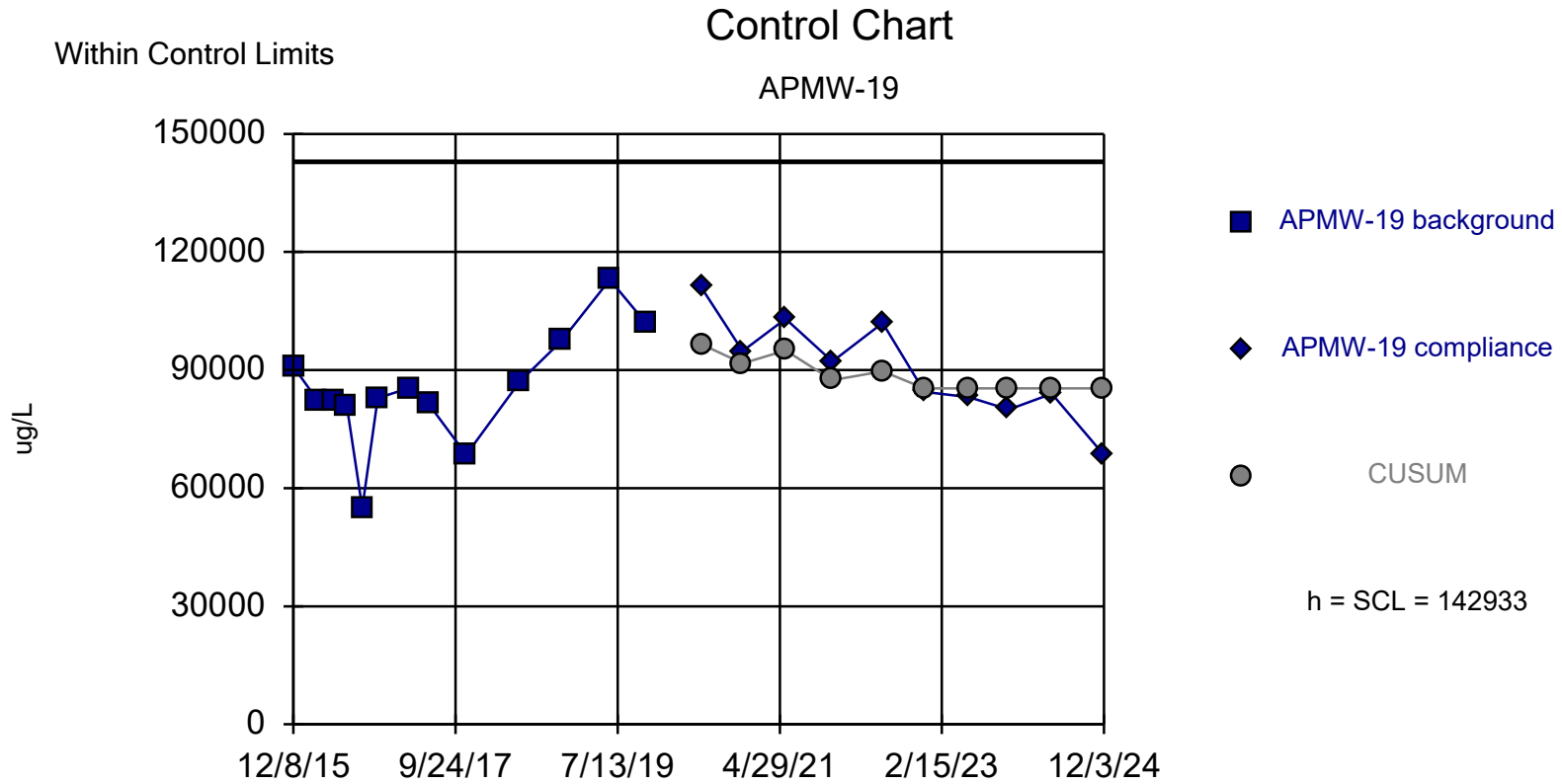
Within Limit

## Prediction Limit

Intrawell Non-parametric



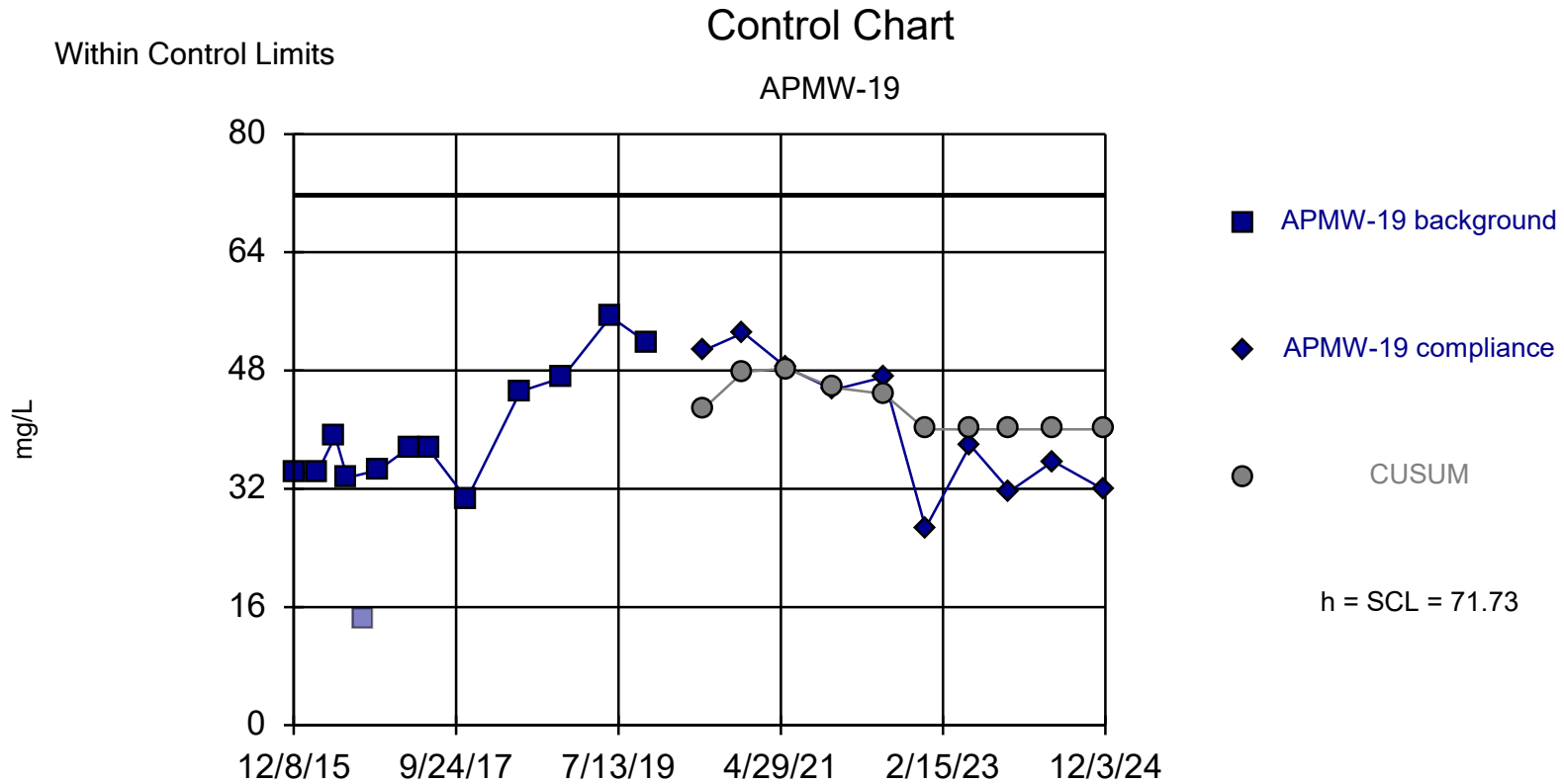




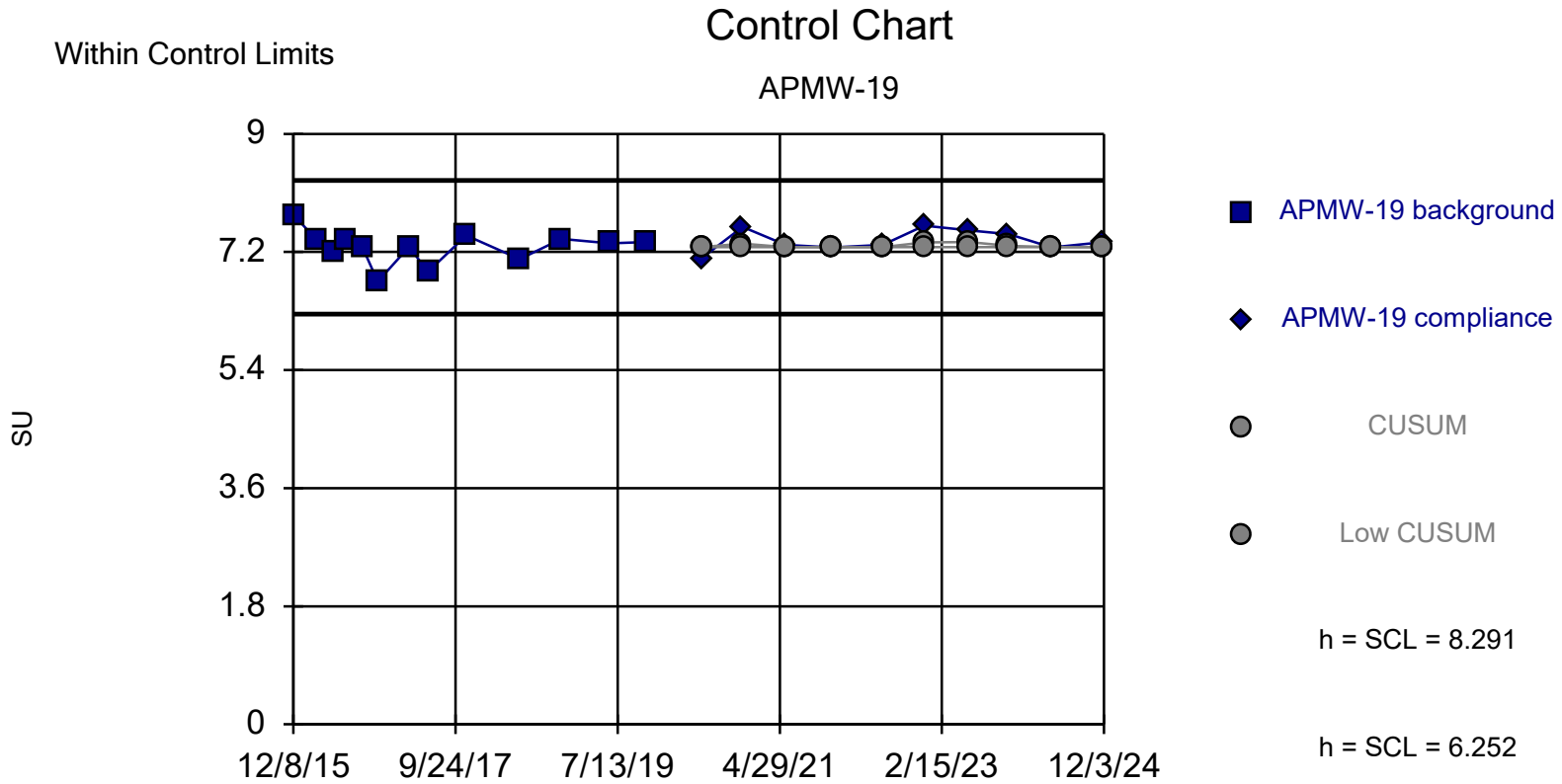
Background Data Summary: Mean=85323, Std. Dev.=14403, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9453, critical = 0.866. Report alpha = 0.005658. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Calcium Analysis Run 1/23/2025 2:42 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram

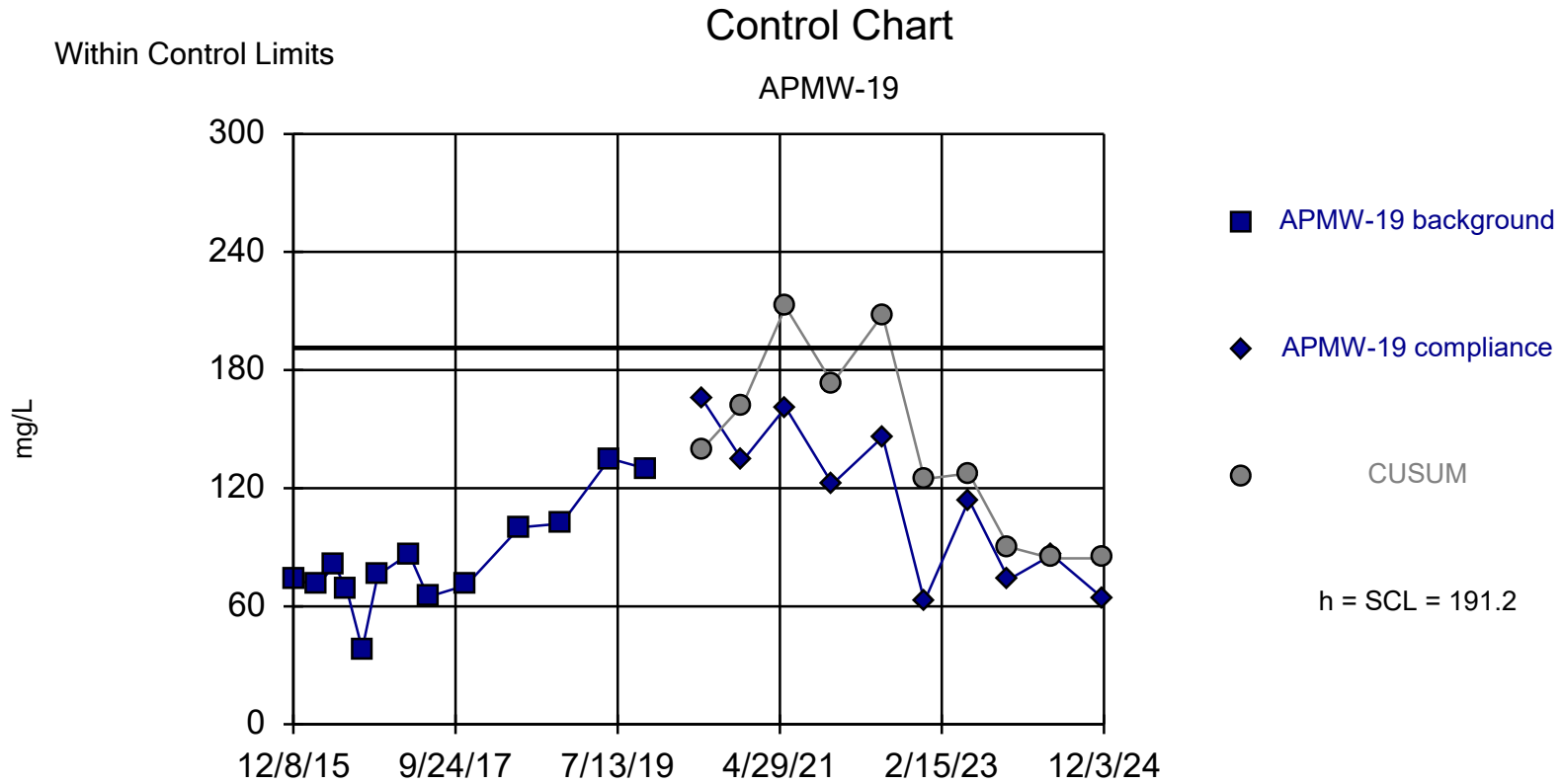






Background Data Summary: Mean=7.272, Std. Dev.=0.2548, n=13. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9316, critical = 0.866. Report alpha = 0.00567. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

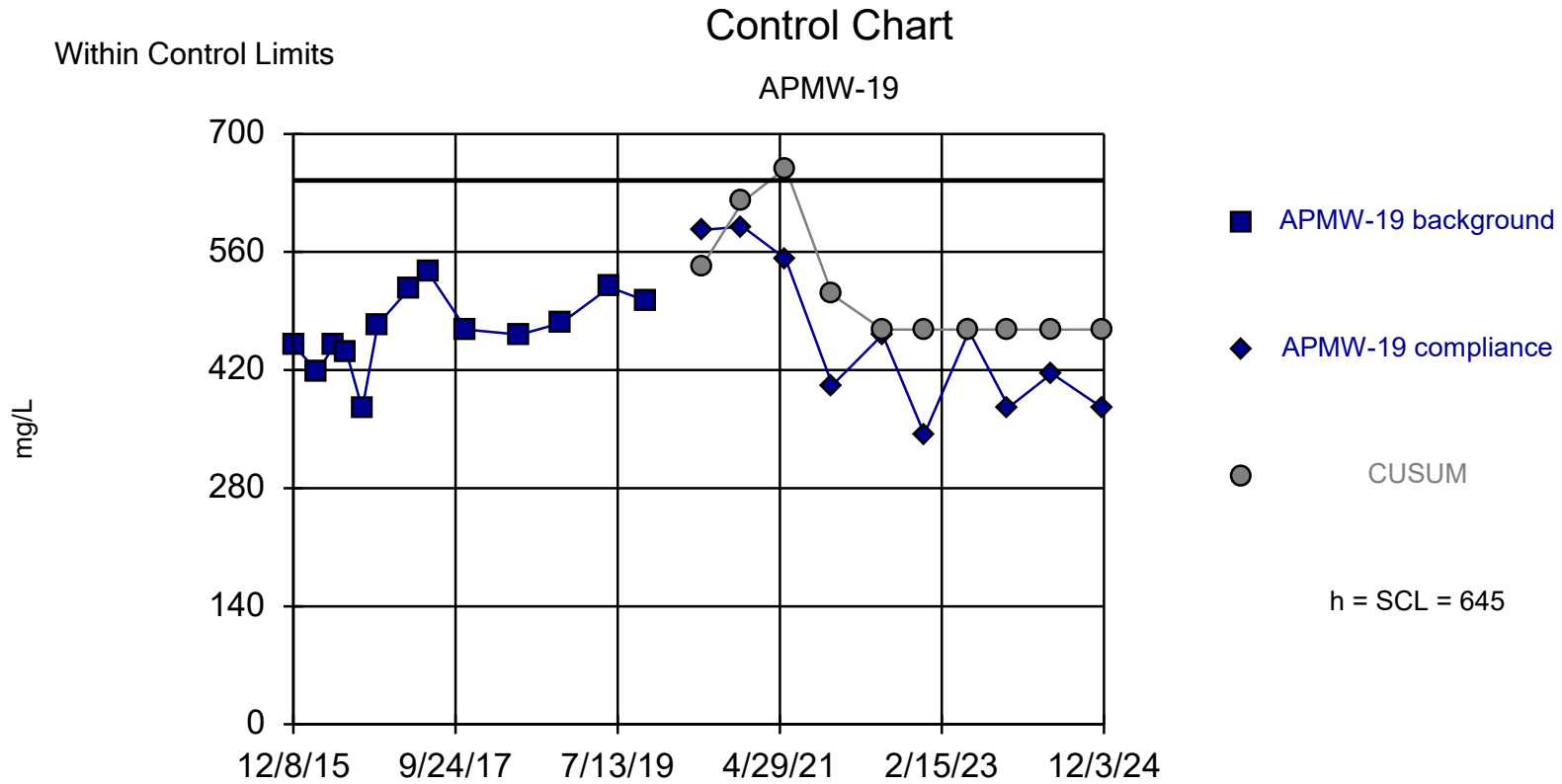
Constituent: pH, Field-Measured    Analysis Run 1/23/2025 5:22 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=84.34, Std. Dev.=26.71, n=13. Exceedance nullified by following point per option settings. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9224, critical = 0.866. Report alpha = 0.005576. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Sulfate Analysis Run 1/23/2025 2:46 PM

Gerald Gentleman Station Client: NPPD Data: NPPD-GGS\_Q22024-NDEEProgram



Background Data Summary: Mean=468, Std. Dev.=44.24, n=13. Exceedance nullified by following point per option settings. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9679, critical = 0.866. Report alpha = 0.005576. Dates ending 11/5/2019 used for control stats. Standardized h=4, SCL=4.

Constituent: Total Dissolved Solids    Analysis Run 1/23/2025 2:47 PM  
 Gerald Gentleman Station    Client: NPPD    Data: NPPD-GGS\_Q22024-NDEEProgram

**APPENDIX C**

**Alternative Source Demonstrations**



**REPORT**

**Alternative Source Demonstration for Chloride at  
APMW-6**

*Nebraska Public Power District*

Submitted to:

**Nebraska Public Power District**

Gerald Gentleman Station,  
6089 South Highway 25,  
Sutherland, Nebraska 69165

Submitted by:

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31404512.000-004-RPT-0

October 26, 2022





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**APPENDICES**

**APPENDIX A**

Historical Concentrations of Appendix III and Selected Appendix IV Analytes

**APPENDIX B**

Eurofins TestAmerica Laboratory Report for Irrigation Water Samples

## 1.0 INTRODUCTION

On behalf of Nebraska Public Power District (NPPD), Golder Associates USA Inc. (Golder), a member of WSP, performed a statistical evaluation of groundwater quality from the second quarter groundwater detection monitoring event in 2022 (Q2 2022) at the Gerald Gentleman Station (GGS or Site) ash landfill (or CCR Unit), located at 6089 South Highway 25, Sutherland, Lincoln County, Nebraska. The statistical evaluation was performed in accordance with the Site Sampling and Analysis Plan (Golder 2019a), which was developed in compliance with applicable provisions of 40 Code of Federal Regulations (CFR) Part 257, "Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities; Final Rule" (CCR Final Rule), as amended, and corresponding regulations under Nebraska Administrative Code (NAC) Title 132, Chapter 7 (Integrated Solid Waste Management Regulations, Groundwater Monitoring and Remedial Action).

Statistical analyses of the Appendix III detection monitoring data for chloride in groundwater at the downgradient monitoring well APMW-6 indicated a potential exceedance of the statistical limit based on the parametric Cumulative Summation analysis (CUSUM) in the Q2 2021 sampling results, which was subsequently verified as evidence of a statistically significant increase (SSI) after the Q4 2021 event and again after the Q2 2022 results. Although determination of an SSI generally indicates that the groundwater monitoring program should transition from detection monitoring to assessment monitoring, both 40 CFR §257.94(e)(2) and NAC Title 132, Ch. 7, 004.03 allow the owner or operator (i.e., NPPD) 90 days from the date of determination (October 26, 2022) to demonstrate a source other than the CCR Unit, or another condition, caused the potential SSI for chloride at APMW-6.

Golder's review of the hydrological and geologic conditions at the Site indicated the potential for the SSI to have resulted from a source other than the CCR Unit. To assess potential chloride sources and the natural variability of chloride concentrations in groundwater, Golder reviewed analytical results of previously collected CCR-impacted water samples from the ash landfills, evaporation pond, surface water from the Sutherland Reservoir, surface waters from nearby agricultural areas, and groundwater samples. Based upon this assessment and in accordance with provisions of the CCR Final Rule, the NAC, and the site SAP (Golder 2019a), Golder prepared this Alternative Source Demonstration (ASD) for the CCR Unit. This ASD includes an evaluation of geological, hydrogeological, and chemical information regarding ash, surface water, and groundwater obtained from surface waters and monitoring wells installed within and adjacent to the CCR Unit.

This ASD conforms to the requirements of 40 CFR §257.94(e)(2) and NAC Title 132, Ch.7, 004.03 and provides the basis for concluding that the apparent SSI for chloride in groundwater at APMW-6 are not a result of a release from the CCR unit. The following sections provide a summary of the GGS CCR Unit, analytical and geochemical assessment results, a conceptual site model, and lines of evidence demonstrating an alternative source is responsible for the chloride SSI in groundwater at APMW-6.

## 2.0 BACKGROUND

### 2.1 Description of Waste Disposal Area

The ash landfill at GGS is located southwest of the plant's generation facility, in the northern one-half of Section 30, Township 13N, Range 33W. The ash disposal facility consists of Ash Landfill Nos. 1, 2, 3, and 4 and the bottom ash landfill. Ash Landfill Nos. 1 and 2 are closed, and Ash Landfill Nos. 3 and 4 are active (Figure 1). The bottom ash landfill was closed in October 2018.

Fly ash is currently disposed at Ash Landfill No. 4 and in the east cell of Ash Landfill No. 3. The liner design at Ash Landfill No. 4 consists of a 60-mil high density polyethylene (HDPE) geomembrane over compacted subgrade. Prior to geomembrane installation, the existing subgrade was scored to a depth of at least 6 inches and compacted to 95 percent of its maximum dry density (standard Proctor). Smooth HDPE geomembrane was placed on the bottom of the ash landfill and textured HDPE geomembrane was placed on the side slopes. Construction quality assurance for the geomembrane installation was performed by Golder Construction Services and completed on November 15, 1994. There is no leachate collection system (LCS) at Ash Landfill No. 4.

The original liner at Ash Landfill No. 3 consisted of 2 feet of soil compacted to 95 percent of the standard Proctor maximum dry density. The average permeability of the liner was  $1.2 \times 10^{-8}$  centimeters per second (cm/sec). Ash Landfill No. 3 was previously closed in 1995 with 2.0 to 7.5 feet of soil cover. This cover was removed and the historically placed CCR was covered with a new liner in 2015. The new liner system at Ash Landfill No. 3 consists of a prepared subgrade overlain by a geosynthetic clay liner and 60-mil linear low-density polyethylene (LLDPE) geomembrane. Ash Landfill No. 3 also has a 1-foot LCS sand layer that reports to two sumps. Construction of the new Ash Landfill No. 3 liner system was completed in November 2015.

To the east of the ash landfill, plant process water, such as boiler blowdown, is managed in a 50-acre evaporation pond, as shown in Figure 1. CCR materials are not stored within the evaporation pond, and the facility is not regulated under the CCR rule. The bottom of the approximately 8 to 10 feet deep evaporation pond consists of re-compacted native soils.

## 2.2 Site Geology

The geologic sequence near the ash landfill was summarized by Woodward-Clyde in 1991. In the report, soil boring data from nine boreholes (APMW-1, APMW-2, APMW-3, APMW-4, APMW-5, EPMW-1, EPMW-2, EPMW-3, and EPMW-4) were used to characterize the Site geology. The geologic sequence, from top to bottom, was described as follows:

- 4 to 5 feet of topsoil and/or fill
- 20 to 35 feet of eolian silty sands
- 8 to 10 feet of silty clay paleosol at the top of the Ogallala Formation
- 25 to 35 feet of Ogallala Formation silts
- approximately 50 feet of Ogallala Formation sands or Ogallala Formation silts and clays, to the bottoms of the boreholes

The topsoil layer consists of stiff, dark brown, low to medium plasticity silty clay directly overlying the eolian silts and sands. Thickness of topsoil ranges from 0 to 4 feet. The fill material consists of stiff, dark brown, low plasticity sandy silty clay with trace gravel and other debris. Fill thickness ranges from 0 to 5 feet.

The eolian silts and sands (Quaternary Period) consist of loose to medium dense, tan, very fine-grained, well-rounded, and well-sorted sandy silts and silty sands. The thickness of this unit ranges from 17 feet (APMW-5) to 34 feet (EPMW-2). Materials with a bimodal texture (two distinct grain sizes) are present in the lower part of this unit. The eolian silts and sands are interpreted as wind-blown dune sand deposits.

The Ogallala Formation (Tertiary Period) was encountered in each of the nine boreholes at a depth beginning at 16 to 38 feet below ground surface (ft bgs) and extending to the bottom of the boreholes (109 to 133 ft bgs). The Ogallala Formation near the ash landfill may be separated into three general stratigraphic units:

- upper silty clay paleosol unit
- middle clayey or sandy silt unit
- lower unit of either predominantly sand and gravel or an equivalent unit of predominantly silt and clay

The top of the Ogallala Formation is represented by a widespread paleosol (a previous soil horizon) that consists of a very stiff, reddish-brown to buff, low plasticity, silty clay to clayey silt with abundant calcareous nodules, calcareous matrix, and interbedded layers of caliche up to 1-foot thick. The thickness of the initial paleosol is about 8 to 10 feet, but the presence of interbedded caliche layers continues into the middle and lower Ogallala units.

The middle Ogallala Formation unit consists of a stiff to very stiff, buff-white to reddish-brown, low plasticity, clayey silt to sandy silt with abundant calcareous nodules, matrix, and caliche layers. Scattered occurrences of calcareously cemented siltstone layers from 0.5- to 1-foot thick are present in the lower part of this unit. The thickness of this middle unit ranges from about 25 to 35 feet. The clayey silts and sandy silts of this unit were possibly deposited as overbank or floodplain deposits in an alluvial depositional system.

There are two distinct lithofacies recognized in the lower Ogallala Formation unit. This unit is present for about 45 to 50 feet in the borings. One lithofacies consists of dense to very dense, reddish-brown, fine-grained silty sands grading into medium- and coarse-grained, poorly-graded sands with some fine gravels and some calcareously cemented sandstone beds (0.5- to 1-foot thick). This lithofacies was primarily encountered in borings on the northern side of the ash landfill (APMW-1, APMW-2, APMW-5, and EPMW-1; Woodward-Clyde 1991).

The second lithofacies recognized in the lower unit consists of stiff to hard, reddish-brown, low plasticity clayey or sandy silts with some calcareously-cemented siltstone beds. This lithofacies was encountered in borings on the southern side of the ash landfill (APMW-3, APMW-4, EPMW-2, EPMW-3, and EPMW-4; Woodward-Clyde 1991).

The lithologic differences and areal distribution of the two lower units suggest that the units were deposited in two separate facies of an alluvial system. The sand and gravel unit are possibly a series of longitudinal bars, channels, and channel-fill deposits, while the silt and clay unit is possibly a series of upper channel fills, overbank, or floodplain deposits (Woodward-Clyde 1991).

## 2.3 Site Hydrogeology

Based on observations made during logging of soil borings and findings of the Nebraska Water Survey Paper No. 70 (Goeke et al. 1992), the unsaturated geologic units underlying the ash landfill area consist of topsoil (0 to 4 feet thick), eolian silts and sands (15 to 25 feet thick), Ogallala Formation silts (40 to 50 feet thick), and Ogallala Formation sands and gravels (unsaturated portion of this unit is approximately 20 to 25 feet thick). Beneath these units lies 10 feet or more of saturated Ogallala Formation sands and gravels. Based on the Site observations, the thickness of the vadose zone ranges from approximately 90 to 100 feet.

The saturated geologic units underlying the ash landfill area consist of Ogallala Formation silts and sands that extend to the bottom of the aquifer. The Ogallala Formation is underlain by the White River Group, which is composed of the Brule and Chadron formations. The bedrock formations of the White River Group are not considered to be an important potential source of water, and therefore their surface is considered to form the base

of the aquifer and is regarded as the lower drilling limit for irrigation wells in the agricultural region near the Site. Underlying the White River Group is the impermeable Pierre Shale (Goeke et al. 1992).

Available groundwater elevation data indicate that groundwater beneath GGS flows from north to south (Figure 1). The groundwater gradient is controlled by the Sutherland Reservoir, an approximately 3,200-acre open water body located 1.5 miles north of the ash landfill that is used as a source of condenser cooling water for GGS (McMahon et al. 2010). Since groundwater level monitoring began in 1996, regular water level fluctuations have been observed in the monitoring wells located around the ash landfill. These fluctuations are attributed to seasonal trends in water consumption or recharge and precipitation patterns. From the time-series plot of historical water levels in each monitoring well (Figure 2), long-term changes in water levels between 1996 and 2022 are apparent. In general, water levels rose approximately 1.5 feet between 1996 and 2000 before declining between 9 to 10 feet between 2000 and 2009. The cause of the decline is not clear, but possible explanations include a regional response to the drought being experienced by parts of the western United States and/or a change in the amount of groundwater used for irrigation in the area around the Site. Between 2009 and 2022 water levels have continued to show seasonal variability, with seasonal maximums occurring in the spring and seasonal minimums occurring in the fall with no apparent long-term increasing or decreasing trend.

Groundwater flow velocity ranges from  $5.0 \times 10^{-4}$  to  $6.7 \times 10^{-2}$  per day (ft/day) and was estimated based on the following site-specific hydrogeologic data:

- estimated site hydraulic conductivities range from 0.14 ft/day to 19 ft/day (Woodward-Clyde 1991)
- an average horizontal hydraulic gradient of 0.00091 feet per foot (ft/ft) from the potentiometric surface shown in Figure 1
- an average effective porosity for Ogallala Formation sands and silts of 25 percent (Fetter 1994)

Two agricultural fields are present immediately to the south of the ash landfills. Historical aerial imagery (Figure 3) showed that there was no center-pivot irrigation system prior to 2004. By 2006, a center-pivot irrigation system was installed, and aerial images from 2006, 2012, and 2020 indicate that irrigation water from that center-pivot was crossing the property boundary of GGS, as delineated by the greener foliage compared to the unirrigated land. The greener foliage along the southern edge of the ash landfills also indicates that the irrigation runoff discharges north towards GGS, into the ditch at that location.

Photographs of the southern property boundary indicate taken August 2, 2022, indicate two drainages are present from the agricultural area onto GGS property (Figure 4A and 4B), though no runoff was observed in the drainages. On August 11, 2022, NPPD observed irrigation water from the center pivot spraying across the property boundary (Figure 4C).

## 2.4 Groundwater Monitoring Network

Design of the ash landfill groundwater monitoring program considered the size, disposal and operational history, anticipated groundwater flow direction, and saturated thickness of the uppermost aquifer. Based on these factors, a monitoring well network that consists of four upgradient (background) monitoring wells and ten downgradient monitoring wells was installed around the ash landfill. The monitoring wells are listed in Table 1 and presented in Figure 1.

**Table 1: Monitoring Well Network**

Location	Upgradient (Background) Monitoring Wells	Downgradient Monitoring Wells
Ash Landfill	APMW-5, APMW-15, APMW-16A, APMW-17	APMW-4, APMW-6, APMW-8A, APMW-10, APMW-11, APMW-12, APMW-13, APMW-14, APMW-18, APMW-19

The four upgradient monitoring wells included in the groundwater monitoring program are used to represent the background groundwater quality, including potential variability. The ten downgradient wells were installed along the western, southern, and eastern boundaries of the active ash landfill. The depths of the monitoring wells were selected such that the monitoring wells are screened in the Ogallala Formation to yield groundwater samples that are representative of water quality in the uppermost water-bearing zone.

## 2.5 Groundwater Monitoring Program

Between March 1996 and December 2015, groundwater samples were collected for arsenic, selenium, and sulfate measurement twice a year from the 10 GGS monitoring wells administered under the Nebraska Department of Environment and Energy (NDEE) monitoring program (APMW-5, APMW-15, APMW-4, APMW-6, APMW-8A, APMW-10, APMW-11, APMW-12, APMW-13, and APMW-14). In June 2005, boron measurements were added to the analyte list. In 2015, four additional monitoring wells were installed to support the federal CCR monitoring program (APMW-16A, APMW-17, APMW-18, and APMW-19) and have been incorporated into the NDEE monitoring program.

For APMW-6, the current baseline for chloride was calculated using 13 independent groundwater samples collected between December 2015 and November 2019. Statistically valid baseline values were developed for each constituent at each monitoring well (Golder 2017 and Golder 2019a).

### 2.5.1 Chloride Concentration Trends

Chloride concentrations in the upgradient and downgradient groundwater are shown in Appendix A, Figure A4. Chloride concentrations in upgradient groundwater (from the four upgradient monitoring wells) ranged from less than 5.0 to 93.8 milligrams per liter (mg/L) between December 2015 and June 2022. Chloride concentrations varied between 7.02 to 210 mg/L in downgradient groundwater wells (based on the 10 downgradient monitoring wells) over the same period.

During the current baseline dates for APMW-6 (December 2015 to November 2019), chloride concentrations in groundwater at APMW-6 remained relatively steady compared to other downgradient wells, with values ranging between 7.0 and 15.5 mg/L in the 13 samples representing the current baseline period. A concentration of 20.4 mg/L was calculated as the parametric CUSUM statistical limit for chloride at APMW-6.

The Q2 2021 detection monitoring event reported a chloride concentration of 25.8 mg/L in groundwater at APMW-6 with a parametric CUSUM value of 31.7 mg/L, both exceeding the statistical limit of 20.4 mg/L. The exceedance was verified in Q4 2021 when the reported chloride concentration was 17.6 mg/L with a parametric CUSUM value of 36.6 mg/L exceeded the statistical allowance of 20.4 mg/L. A successful alternative source demonstration report was prepared for the elevated chloride at APMW-6 and submitted to NDEE on April 28, 2022 (Golder 2022) and accepted by NDEE on July 8, 2022 (NDEE 2022).

The Q2 2022 detection monitoring event reported a chloride concentration of 17.0 mg/L, which resulted in a parametric CUSUM value of 40.8 mg/L, which continued to exceed the statistical allowance of 20.4 mg/L.

## 2.6 Review of Sampling and Laboratory Testing Procedures

As part of the ASD, a review was conducted of the sampling and laboratory testing procedures used throughout baseline monitoring and detection monitoring to date, along with the collected results. Golder found that the analytical methodologies used were consistent with the stated objectives of the sampling program. No anomalies were found within the sampling and laboratory testing procedures and the collected results are considered valid.

Additionally, a review of the statistical assessment methods and associated results found the procedures followed during baseline and detection monitoring to be consistent with the stated procedures listed in the published Groundwater Monitoring Statistical Methods Certification (Golder 2017). Calculated limits were found to be consistent with the chosen statistical procedures as described in the Sampling and Analysis Plan (Golder 2019a) and recommended methodology found within the Unified Guidance (Environmental Protection Agency [EPA] 2009).

## 3.0 DATA SOURCES USED IN ALTERNATIVE SOURCE REVIEW

To assess groundwater downgradient of the GGS CCR facilities, Golder reviewed previously collected data and performed supplemental assessment activities. The following sections summarize the supplemental assessment activities.

### 3.1 Groundwater

#### 3.1.1 On-site Groundwater Monitoring Data

NPPD GGS field personnel routinely collect groundwater samples from 14 monitoring wells around the ash landfill at GGS and submit them for chemical analysis. The following datasets were available to characterize the groundwater in the vicinity of the ash landfills:

- **NDEE and CCR monitoring programs:** As described in Section 2.5, the ongoing groundwater monitoring samples were collected between 1996 and 2022, and analyzed for field parameters, major cations, major anions, and select dissolved metals.
- **Supplemental sampling in First Quarter (Q1) 2019:** In February 2019, an additional set of groundwater samples were collected from eight of the 14 wells (APMW-5, APMW-17, APMW-4, APMW-8A, APMW-18, APMW-19, APMW-12, and APMW-14) to support the Q4 2018 ASD for fluoride at APMW-19 (Golder 2019b). These samples were analyzed for field parameters, major cations, major anions, and select dissolved metals. In addition, detection monitoring groundwater samples collected in Q4 2019 and Q2 2021 also had an expanded analyte list, including field parameters, major cations, major anions, and select dissolved metals.

#### 3.1.2 Upgradient Off-site Monitoring Data

As discussed in Section 2.3, upgradient groundwater is sourced from the Sutherland Reservoir, which is fed by the Sutherland Canal with water from North Platte and South Platte Rivers. The following data sources were used to constrain the range of potential water qualities upgradient of GGS and the ash landfill:

- **North Platte and South Platte Rivers:** The United States Geological Survey (USGS) monitored South Platte River chemistry at Roscoe, Nebraska between 1975 and 2013 (USGS 2016a). The monitoring



location at Roscoe, Nebraska is less than one mile downstream of where South Platte River water is diverted into the Sutherland Canal. The USGS also characterized North Platte River water between 1972 and 2011 at Keystone, Nebraska, immediately downstream of Lake Ogallala, where North Platte River water is diverted into the Sutherland Canal (USGS 2016b).

- **Sutherland Reservoir and Canal:** Surface water samples were collected from the Sutherland Reservoir and Sutherland Canal on October 28, 2019, to assess the source of regional groundwater at the site. These samples were analyzed for field parameters, major cations, major anions, and select dissolved metals (Golder 2019b). In addition to samples collected by NPPD personnel, seven water samples were collected from the center of the Sutherland Reservoir by the USGS between August 2005 and December 2006 (USGS 2016c and USGS 2016d).
- **Shallow Groundwater around the Sutherland Reservoir:** Between September 2005 and May 2007, the USGS collected 14 shallow groundwater samples from 12 wells less than one mile from the perimeter of Sutherland Reservoir (USGS 2016e).
- **Upgradient Wells:** In Q2 2021, NPPD personnel collected groundwater samples from wells north and east of GGS to characterize the regional groundwater. The wells included potable water wells (PW #1, PW #2, and PW #3), livestock watering wells (livestock well), and operating wells (OW-20, OW-21, OW-22, OW-23, OW-24, OW-25, and OW-36, as shown in Figure 5. The samples were analyzed for field parameters, major cations, major anions, and select dissolved metals.

## 3.2 Irrigation Water

Two types of irrigation water are identified as potentially important: center pivot spray and irrigation runoff. Center pivot spray is irrigation water that is sprayed directly onto GGS property without touching agricultural soil by the irrigation system near the southern property boundary (Figure 4c). Historical aerial imagery indicates that this irrigation system was installed in 2006 (Figure 3). NPPD was able to collect two samples of center pivot spray on August 11, 2022, with one sample collected from a tire depression in the ground and one sample caught directly in a bucket as the water sprayed onto the Site. Samples were sent to Eurofins Cedar Fall for water quality analysis, including field parameters, major cations, major anions, and select dissolved metals (Results in Appendix B). These samples were collected to characterize the water quality of the center pivot spray as it flows and infiltrates on the ground in the area of APMW-6.

Irrigation water runoff is surface water that flows through agricultural soils prior to traveling onto the Site through drainages into the ditch immediately south of the CCR unit and immediately upgradient of multiple downgradient monitoring wells, including APMW-4, APMW-6, APMW-8A, APMW-10, and APMW-11. Three indications that irrigation runoff is occurring include:

- 1) Historical aerial images from 2012 and 2020 showing green vegetation in the ditch outside of the range of the center pivot spray.
- 2) Deep drainages at low points between the agricultural fields and the ditch south of the CCR unit (Figure 4A and 4B).
- 3) Corn shucks in the ditch on NPPD property (Figure 4C).

NPPD field personnel monitored the drainages and ditch for irrigation water runoff to characterize the water quality of this flow. Unfortunately, no irrigation water runoff was observed in the drainages and ditch. Ongoing monitoring will continue until irrigation water runoff samples can be collected.

### 3.3 Evaporation Pond

In Q1 2019 and Q4 2020, surface water samples were collected from the evaporation pond. The samples were analyzed for field parameters, major cations, major anions, and select dissolved metals.

### 3.4 Coal Combustion Residuals Contact Water

To characterize the potential for the material in the ash landfill to release contaminants, NPPD GGS field personnel retrieved sump water from the Ash Landfill No. 3 LCS, and pond water in direct contact with CCR materials in Ash Landfill No.4 on October 28, 2019. These sample were analyzed for the same suite of parameters as the groundwater: field parameters, major cations, major anions, and select dissolved metals (Golder 2019b).

### 3.5 Geochemical Methods

The geochemical analysis of groundwater and surface water samples included field parameters, major cations and anions, and dissolved metals. Conductivity, pH, and temperature were measured in the field using a handheld meter. The pH of each sample was also measured in the laboratory. Major anions analyzed included chloride, sulfate, and bicarbonate and major cations included calcium, magnesium, potassium, and sodium.

The laboratory analyzed the ash landfill pond and sump water, onsite and off-site groundwater, and surface water (evaporation pond, Sutherland Reservoir, and Sutherland Canal) samples using the following methods:

- pH following SM 4500 H+ B (2017)
- alkalinity following Standard Method (SM) 2320B Alkalinity by Titration (2005)
- chloride, fluoride, and sulfate following USEPA SW846 9056A Determination of Inorganic Anions by Ion Chromatography Revision 1 (February 2007)
- ammonia following USEPA 350.1 Determination of Ammonia Nitrogen by Automated Colorimetry, Revision 2 (August 1993)
- total Kjeldahl nitrogen following USEPA 351.2 Determination of Total Kjeldahl Nitrogen by Semi-Automated Colorimetry, Revision 2 (August 1993)
- total nitrate-nitrite nitrogen following USEPA 353.2 Determination of Nitrate-Nitrite Nitrogen by Automated Colorimetry, Revision 2 (August 1993)
- antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, lead, lithium, magnesium, molybdenum, potassium, selenium, sodium, and thallium following USEPA SW-846 6020A (November 2004)

## 4.0 DATA EVALUATION

Historical concentrations of Appendix III analytes and selected Appendix IV analytes in groundwater at GGS, including analytes that are typically indicators of potential CCR seepage (e.g., arsenic, barium, molybdenum, and selenium), are presented in time series plots in Appendix A. The plots include the results of the supplemental samples that were collected in Q1 2019 to support the Q4 2018 ASD for fluoride at APMW-19 (Golder 2019b).

Sampling for the Appendix IV analytes concluded with the end of baseline monitoring in Q2 2017, which means there is a gap of six quarters in the data plots until the supplemental sampling results are shown in Q1 2019.

Figure 6 presents a Piper diagram with relative major ion chemistry for the monitoring well groundwater samples (only for samples analyzed for all major cations and anions; Q4 2017, Q1 2019, Q4 2019, and Q2 2021), offsite upgradient groundwater (NPPD and USGS sampled wells), regional groundwater sources (Sutherland Reservoir, Sutherland Canal, and North and South Platte River), irrigation waters from the center pivot spray, evaporation pond water, and coal ash impacted waters (Ash Landfill No. 3 sump water and Ash Landfill No. 4 surface pond water). The groundwater at the upgradient monitoring wells was dominated by calcium and bicarbonate. Samples from the downgradient monitoring wells were also majority calcium and bicarbonate ions, with the exception of a single sample (Q1 2019) from APMW-12 that was dominated by calcium and sulfate. The Sutherland Reservoir and Canal water, along with the average North and South Platte River waters are generally dominated by calcium, sodium, bicarbonate, and sulfate. Irrigation waters from the center pivot spray were dominated by calcium and bicarbonate. The evaporation pond water contained majority sodium and sulfate ions. The Ash Landfill No. 3 sump water sample was primarily sodium and bicarbonate, while the Ash Landfill No. 4 pond water was dominated by sodium and sulfate.

## 4.1 Potential Chloride Sources

Several potential sources, other than the active CCR Units, can contribute chloride to local groundwater at GGS, including outflows from the Sutherland Reservoir into regional groundwater, irrigation water runoff and center pivot spray from across southern property boundary, seepage from the evaporation pond, and seepage from historical deposits of fly ash that remain at GGS. These four potential sources of chloride to groundwater are described in this section.

### 4.1.1 Regional Groundwater from Sutherland Reservoir

As described in Section 2.3, the groundwater gradient in the area around the ash landfill shows groundwater flows from north to south, rather than from south to north in the direction of the South Platte River. The groundwater flow direction appears to be based on both the groundwater recharge provided by the Sutherland Reservoir to the north of GGS and groundwater extraction by irrigation wells located south of GGS that are pumped seasonally and used to support local agriculture. The Sutherland Reservoir is fed by the Sutherland Canal, which delivers water from both the North and South Platte Rivers for use as condenser cooling water at GGS.

The USGS collected 37 samples for chloride concentration analysis from the South Platte River at Roscoe, Nebraska between 1975 and 2013 (USGS 2016a). Chloride concentrations in the South Platte River ranged from 28 to 140 mg/L. The USGS collected 26 samples for chloride concentration analysis from the North Platte River at Keystone, Nebraska between 1972 and 2011 (USGS 2016b). Chloride concentrations in the North Platte River ranged from 16 to 24 mg/L.

The chloride concentrations of the Sutherland Reservoir and Sutherland Canal samples collected by NPPD field staff in October 2019 were 21.9 and 20.9 mg/L, respectively (Section 3.1.2). The six Sutherland Reservoir samples the USGS collected between August 2005 and December 2006 had chloride concentrations that ranged from 23.4 to 27.2 mg/L (USGS 2016c and USGS 2016d). The chloride concentrations in the Sutherland Reservoir and Sutherland Canal at the times of sampling (2005, 2006, and 2019) were more similar to concentrations observed in the North Platte River and lower than concentrations observed in the South Platte River.

Chloride concentrations in the North Platte River, South Platte River, and Sutherland Reservoir were sufficiently high enough to be regarded as a source of the elevated concentrations measured in groundwater at the upgradient monitoring wells at the Site and the elevated concentrations measured in downgradient groundwater at APMW-6, APMW-8A, and APMW-18. The groundwater from APMW-6 has the lowest chloride concentrations of any upgradient or downgradient CCR monitoring well (Figure 7 and Appendix A Figure A4). While the small increases in chloride concentrations at APMW-6 were only observed during detection monitoring (25.8 mg/L in Q2 2021, 17.6 mg/L in Q4 2021 which triggered the SSI, and 17.0 in Q2 2022), elevated concentrations at APMW-8A (56.3 mg/L to 124 mg/L) and APMW-18 (23.7 mg/L to 101 mg/L) were observed during the baseline and detection monitoring periods. The groundwater samples collected by the USGS and NPPD immediately around the Sutherland Reservoir (less than 1 mile) also support the hypothesis that the reservoir is the source of the elevated chloride concentrations at the Site (USGS 2016e). These shallow groundwater samples (10 collected by the USGS and 11 samples collected by NPPD) had chloride concentrations of between 21.9 and 36.1 mg/L, which is similar to the 5 to 93.8 mg/L chloride concentration range measured in groundwater at the GGS upgradient monitoring wells (APMW-5, APMW-15, APMW-16A, and APMW-17) between December 2015 and June 2022.

Figure 7 displays a box and whisker plot of the chloride concentrations from the GGS monitoring well network and samples of possible chloride sources at the Site. The plot indicates that groundwater-containing elevated chloride concentrations has been traveling across the Site, including past the upgradient monitoring wells, and has only recently started reaching downgradient monitoring wells.

McMahon et al. (2010) details the southerly flow of surface water from the Sutherland Canal and Sutherland Reservoir to the surrounding groundwater near GGS. Their analysis indicated that the front “edge” of Sutherland Reservoir water was in the approximate area of the CCR landfills, though the low density of wells sampled around the CCR landfills limited the resolution in that area.

#### **4.1.2 Irrigation Water**

As discussed in Section 2.3, historical ariel imagery (Figure 3) and site photographs (Figure 4) indicate that irrigation water runoff and center pivot spray are crossing the southern property boundary at GGS and flowing into the ditch immediately south of Ash Landfill No. 3 and No. 4. Pondered water in that ditch could infiltrate to groundwater and would have the potential to impact the wells located south of the ash landfills (APMW-4, APMW-6, APMW-8A, APMW-10, and APMW-11).

Chloride concentrations in center pivot irrigation water samples (Section 3.2) were elevated over concentrations recently observed in APMW-6 (17.0 to 25.8 mg/L between Q2 2021 and Q2 2022). On the piper diagram (Figure 6), groundwater from APMW-6 does have a similar signature (calcium bicarbonate dominant) to irrigation waters.

While two samples were collected and analyzed to represent center pivot spray water quality, NPPD field personnel did not observe irrigation water runoff to sample during the spring and summer of 2022.

#### **4.1.3 Evaporation Pond**

Although the evaporation pond is located to the east of APMW-6, and side-gradient in terms of groundwater flow (i.e., seepage from the evaporation pond would be unlikely to impact groundwater at monitoring well APMW-6), evaporation pond water quality was evaluated as a potential source in this section as it contains water related to GGS plant operations.

Groundwater quality at the three downgradient monitoring wells located around the evaporation pond (i.e., APMW-12, APMW-13, and APMW-14) indicates that process water discharged from the GGS plant and stored in the evaporation pond has migrated to groundwater. Historical monitoring results show that elevated concentrations of boron (Figure A2), chloride (Figure A4), sulfate (Figure A8), and TDS (Figure A9), which are elements that are typically associated with CCR, were detected in groundwater at these three monitoring wells closest to the evaporation pond compared to the upgradient monitoring wells.

Based on the slight differences in water quality between the groundwater at the monitoring wells APMW-12, APMW-13 and APMW-14 and the evaporation pond, mixing between the evaporation pond water and the upgradient groundwater likely occurs and groundwater at the monitoring wells is not entirely composed of seepage from the evaporation pond. This mixing reaction is supported by the Piper diagram in Figure 6, which shows samples from monitoring wells APMW-12 and APMW-14 plot on a mixing line between the evaporation pond and upgradient groundwater end-member data points.

During the Q4 2020 sampling of the evaporation pond surface water, the chloride concentration was 259 mg/L. Based on the similarities in water quality between the evaporation pond and adjacent groundwater monitoring wells (APMW-12, APMW-13, and APMW-14), the evaporation pond is considered a potential source of chloride to groundwater at GGS. However, it is unlikely the evaporation pond influenced groundwater quality at APMW-6, which is side gradient to groundwater flow underneath the evaporation pond (Figure 1).

#### 4.1.4 Historical Ash Landfills

Historical deposits of fly ash present at GGS in the closed soil-lined Ash Landfills Nos. 1 and 2 may release soluble constituents to groundwater as the seepage generated by infiltrating precipitation interacts with the ash. While it was not feasible to collect a sample of seepage from Ash Landfills Nos. 1 and 2 directly, ash-impacted waters collected from Ash Landfill No. 3 sump and Ash Landfill No. 4 pond (Section 3.4) had chloride concentrations of 69 and 463 mg/L, respectively, and are assumed to represent potential ash impacted waters from closed ash landfills. At these concentrations, ash impacted seepage has the potential to increase chloride concentrations in downgradient wells, including APMW-6.

A ternary plot comparing sodium, potassium, and sulfate (Figure 8) reveals that ash impacted waters (i.e., contact water) have higher relative sodium abundances and lower relative potassium and sulfate abundances compared to the upgradient and downgradient groundwater. If infiltrating precipitation was leaching chloride from the closed fly ash storage facilities, the relative concentrations of sodium would increase considerably in the groundwater and would be more similar to the ash impacted waters, but this elevated sodium signature was not observed in any of the samples collected from the downgradient groundwater monitoring wells.

In addition to the elevated levels of chloride in the ash-impacted waters, boron was also identified as a primary CCR indicator based on high concentrations in sump water from Ash Landfill No. 3 (18.3 mg/L) and pond water from Ash Landfill No.4 (13.8 mg/L). Boron concentrations in groundwater at the upgradient and downgradient CCR Unit monitoring wells are presented in Appendix A, Figure A2. All upgradient and downgradient CCR Unit monitoring wells, with the exception of monitoring wells near the evaporation pond that may be influenced by process waters, have boron concentrations below the practical quantitation limit (PQL) (typically less than 0.2 mg/L). If seepage from the ash landfills were impacting groundwater and causing the chloride SSI, boron concentrations would be expected to be increasing.

## 5.0 EVIDENCE OF AN ALTERNATIVE SOURCE

Based on the testing results and list of potential alternate sources of chloride presented in this report, primary lines of evidence and conclusions drawn from the evidence used to support this ASD are provided in Table 2.

**Table 2: Primary Lines of Evidence and Supporting ASD Analysis**

Key Line of Evidence	Supporting Evidence	Description
Lack of Primary CCR Indicators	Boron concentrations in groundwater	Boron (Figure A2) is a primary CCR indicator based on high concentrations in sump water from Ash Landfill No. 3 (18.3 mg/L) and pond water from Ash Landfill No.4 (13.8 mg/L). All upgradient and downgradient CCR unit monitoring wells, with the exception of monitoring wells near the evaporation pond that may be influenced by process waters, have boron concentrations below the PQL (typically <0.2 mg/L).
	Sodium concentrations in CCR impacted waters	The relative abundance of sodium in CCR impacted waters would indicate that high sodium concentrations would also be expected in groundwater if chloride was from CCR materials (Figure 8). Relative increases in sodium were not observed in monitoring wells at the Site, suggesting an alternative source of elevated chloride in groundwater at APMW-6
Groundwater Geochemistry	Elevated and variable chloride concentrations in upgradient monitoring wells	Chloride concentrations in groundwater at upgradient monitoring wells APMW-5, APMW-16A, and APMW-17 were elevated compared to chloride concentrations at monitoring well APMW-6 throughout the baseline monitoring period. Since the CCR unit cannot influence the chloride groundwater concentration in the upgradient wells, the only explanation is that there is an alternate source of chloride present in groundwater across the Site.
	Relative ion abundances in groundwater differs from ash landfill water	As presented in the Piper plot (Figure 6), relative differences in major ion concentrations show a distinct dissimilarity between the ash-impacted sump and pond waters and the downgradient groundwater samples, including from APMW-6. The geochemical properties of the downgradient groundwater samples are not consistent with seepage from the CCR unit.
Engineering Controls	Both Active CCR Landfill are Lined	The liner system at Ash Landfill No. 3 consists of a prepared subgrade overlain by a geosynthetic clay liner and 60-mil linear low-density polyethylene (LLDPE) geomembrane. Ash Landfill No. 3 also has a 1-foot LCS sand layer that reports to two sumps.  The liner design at Ash Landfill No. 4 consists of a 60-mil high density polyethylene (HDPE) geomembrane over compacted subgrade.

Key Line of Evidence	Supporting Evidence	Description
		Liner system are less likely to release seepage and impact groundwater.
Local Sources of Chloride	Hydrogeology	The North and South Platte Rivers, which are ultimately the source of groundwater recharge that occurs from the Sutherland Reservoir located approximately 1.5 miles north of the ash landfill, have chloride concentrations between 16 and 140 mg/L. Samples from shallow wells near the Sutherland Reservoir and upgradient wells (Figures 6 and 7) indicate that groundwater with elevated chloride is migrating south through the Site (McMahon et al. 2010). Chloride concentrations in groundwater at APMW-6 were lower than other nearby wells, indicating that APMW-6 is the last of the downgradient monitoring wells to be affected by the higher chloride groundwater migrating south (Figure 7 and Appendix A Figure A4).
	Drainages from agricultural lands flow into the ditch immediately upgradient of APMW-6	Irrigation waters spraying directly onto GGS property near APMW-6 had sufficiently elevated chloride concentrations (32 to 34 mg/L) to be a potential source of chloride in groundwater downgradient of the ash landfills. Additional study is needed to understand the water quality, frequency, and magnitude of irrigation water runoff events.

## 6.0 CONCEPTUAL SITE MODEL

Golder developed a conceptual site model (CSM) that is presented graphically in Figure 9 to frame and support the ASD assessment approach. The CSM presents the GGS site layout, a summary of the geologic and hydrogeologic information, and a discussion of groundwater monitoring data, which together lays the groundwork for consideration and development of the ASD. Additionally, the CSM summarizes the findings of literature research that suggest certain naturally occurring groundwater conditions observed in Nebraska are present at the Site and may contribute to naturally elevated chloride concentrations in groundwater around the ash landfill.

## 7.0 CONCLUSIONS

In accordance with §257.95(g)(3) and NAC Title 132, Ch.7, 004.03, this ASD has been prepared in response the identification of an SSI for chloride at monitoring well APMW-6 following the Q2 2022 sampling event for the ash landfill at Gerald Gentleman Station.

A review of historical analytical results indicates that the elevated chloride concentrations in groundwater at APMW-6 were not the result of seepage from the ash landfill but can be attributed to chloride in regional groundwater from the Sutherland Reservoir or in infiltrating surficial flows of irrigation water from agricultural lands immediately to the south of the GGS property. Therefore, no further action (i.e., transition to Assessment Monitoring) is warranted, and the Gerald Gentleman Station ash landfill will remain in detection monitoring.

# Signature Page

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[https://golderassociates.sharepoint.com/sites/141322/project files/6 deliverables/reports/4-r-asd\\_chloride\\_apmw6/4-r-0/31404512.000-004-rpt-0-chloride\\_asd\\_apmw6\\_26oct22.docx](https://golderassociates.sharepoint.com/sites/141322/project%20files/6%20deliverables/reports/4-r-asd_chloride_apmw6/4-r-0/31404512.000-004-rpt-0-chloride_asd_apmw6_26oct22.docx)



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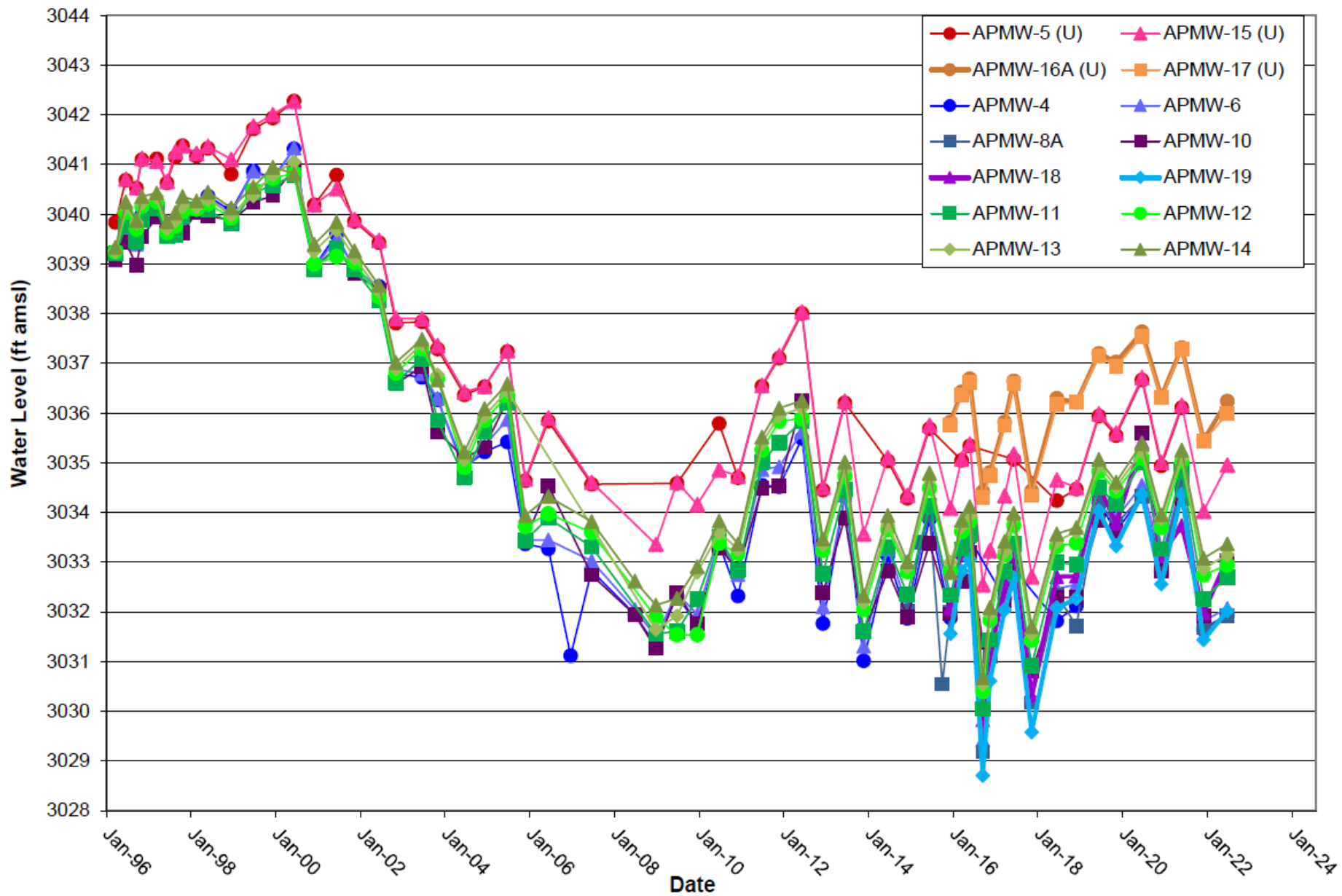
## Figures

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**NOTE**  
GROUNDWATER CONTOURS DEVELOPED FROM LEVELS MEASURED IN ACTIVE MONITORING WELLS SHOWN.

NEBRASKA PUBLIC POWER DISTRICT GERALD GENTLEMAN STATION GROUNDWATER MONITORING WELL NETWORK JUNE 2022 GROUNDWATER CONTOURS  
**FIGURE 1**



CLIENT  
 Nebraska Public Power District: Gerald  
 Gentleman Station

PROJECT  
 Alternate Source Demonstration



TITLE  
 Groundwater Monitoring Well Water Levels

PROJECT NO. 31404512.000    PHASE 1    REV.    FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

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**LEGEND**

- MONITORING WELLS (QUALITY)
- APPROXIMATE NPPD PROPERTY BOUNDARY

**KEY MAP**

**REFERENCES**

1. AERIAL IMAGERY: NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP), USDA. IMAGERY COLLECTED 06/26/2012, AND 07/14/2006.
2. AERIAL IMAGERY: ESRI PROVIDED BASEMAP. VIVID. MAXAR. IMAGERY COLLECTED 07/03/2020
3. AERIAL IMAGERY: COPYRIGHT GOOGLE 2021. IMAGERY CAPTURED MAY 2004.. IMAGE ACCURACY TO BE CONSIDERED APPROXIMATE. GOOGLE IS NOT LIABLE FOR ANY DECISIONS MADE BASED ON THE CONTENTS OF THE IMAGE SHOWN ON THIS FIGURE.
4. APPROXIMATE WATER WELL LOCATIONS: NEBRASKA DEPARTMENT OF NATURAL RESOURCES. DATASET DOWNLOADED MARCH 2019.
5. APPROXIMATE NPPD PARCEL BOUNDARIES: LINCOLN COUNTY ASSESSOR'S OFFICE, APRIL 2019.

**CLIENT**  
NEBRASKA PUBLIC POWER DISTRICT  
GERALD GENTLEMAN STATION  
SUTHERLAND, NEBRASKA

**PROJECT**  
Alternative Source Demonstration

**Aerial Imagery of Irrigation Water Runoff and Center Pivot spray onto GGS Property**

**CONSULTANT**

YYYY-MM-DD	2021-10-26
DESIGNED	RG/JAM
PREPARED	JAM
REVIEWED	GOL
APPROVED	JS

**PROJECT NO.**  
31404512.000

**FIGURE**  
3

**Scale:** 0 250 500 1,000 Feet

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PATH: M:\NPPD\_GeraldGentlemanStation\Maping\Suteland\GIS\_LandUse\_Working\_JAM.mxd PRINTED ON: 2021-10-26 AT 10:22:27 AM

Google



**Evidence of past irrigation water runoff**

East Drainage from agricultural fields onto NPPD GGS property at southern property boundary fence. No water in the drainage at the time of photograph.

Photo taken by Gregory Lehn (WSP-Golder) on August 2nd, 2022 facing south.



**Evidence of past irrigation water runoff**

West Drainage from agricultural fields onto NPPD GGS property at southern property boundary fence. Presence of dried corn shucks indicates previous flows through the drainage.

Photo taken by Gregory Lehn (WSP-Golder) on August 2nd, 2022 facing south.



**Evidence of center pivot spray**

Irrigation system spray from agricultural fields onto NPPD GGS property along southern property boundary fence. Water has been observed ponded on the surface and grass is green throughout the summer months.

Photo taken by Douglas Harris (NPPD) on August 11th, 2022 facing east along southern boundary.

CLIENT

Nebraska Public Power District: Gerald Gentleman Station

CONSULTANT



PROJECT

Alternate Source Demonstration

TITLE

Photographs of Drainages and Center Piviot Spray onto GGS Property

PROJECT NO.  
31404512.000

PHASE  
1

REV.

FIGURE

4

IF THE MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A



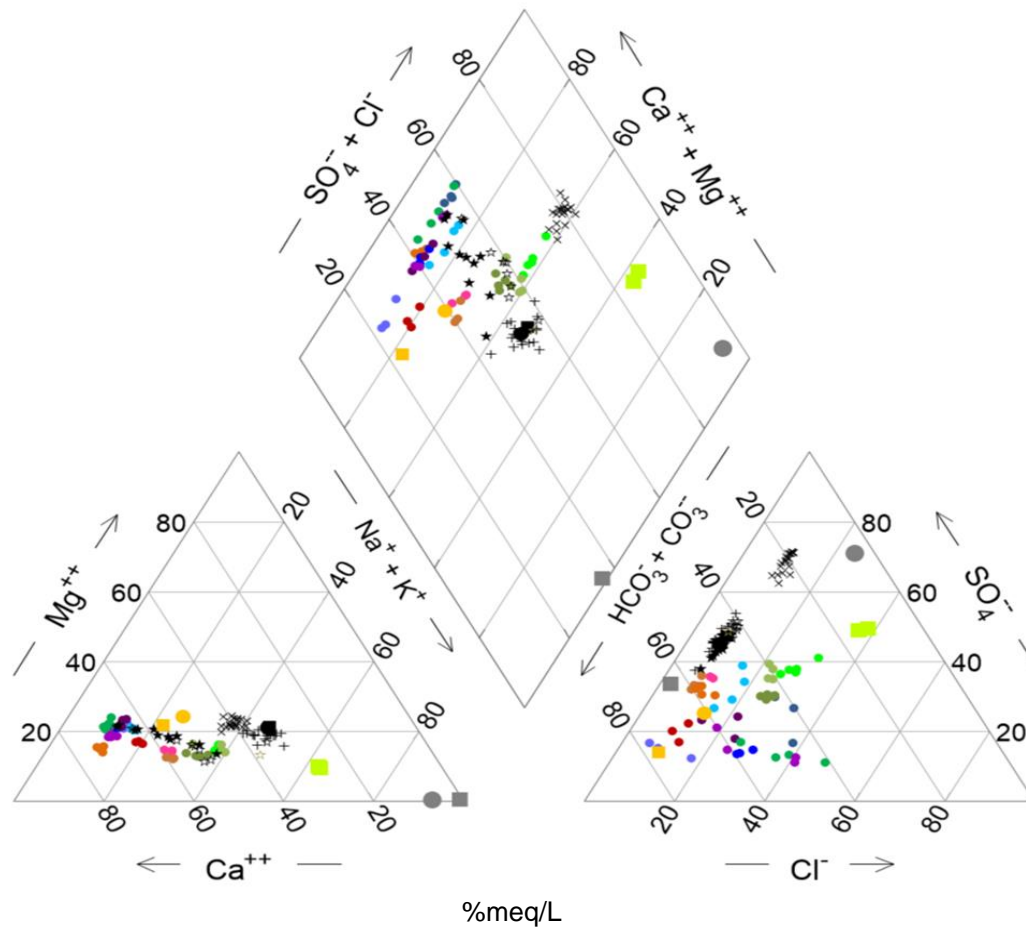
**NOTES**

1. WELL LOCATIONS ARE APPROXIMATE.

**REFERENCE(S)**

1. AERIAL IMAGERY OBTAINED FROM ESRI (MAY 2020).





- Upgradient CCR Wells**
- APMW-5
- APMW-15
- APMW-16A
- APMW-17
- Downgradient CCR Wells**
- APMW-4
- APMW-6
- APMW-8A
- APMW-10
- APMW-11
- APMW-18
- APMW-19
- Wells Impacted By Evap Pond**
- APMW-12
- APMW-13
- APMW-14
- Potential Sources Upgradient of GGS**
- + North Platte River (USGS)
- × South Platte River (USGS)
- Sutherland Canal (NPPD)
- Sutherland Reservoir (USGS and NPPD)
- ★ GW near Sutherland R. (NPPD)
- ☆ GW near Sutherland R. (USGS)
- Potential Sources at GGS**
- Ash Pit 3 Sump
- Ash Pit 4 Pond
- Evaporation Pond
- Potential Sources Downgradient of GGS**
- Center Pivot Spray (from ground)
- Center Pivot Spray (bucket)

CLIENT  
 Nebraska Public Power District: Gerald  
 Gentleman Station

CONSULTANT

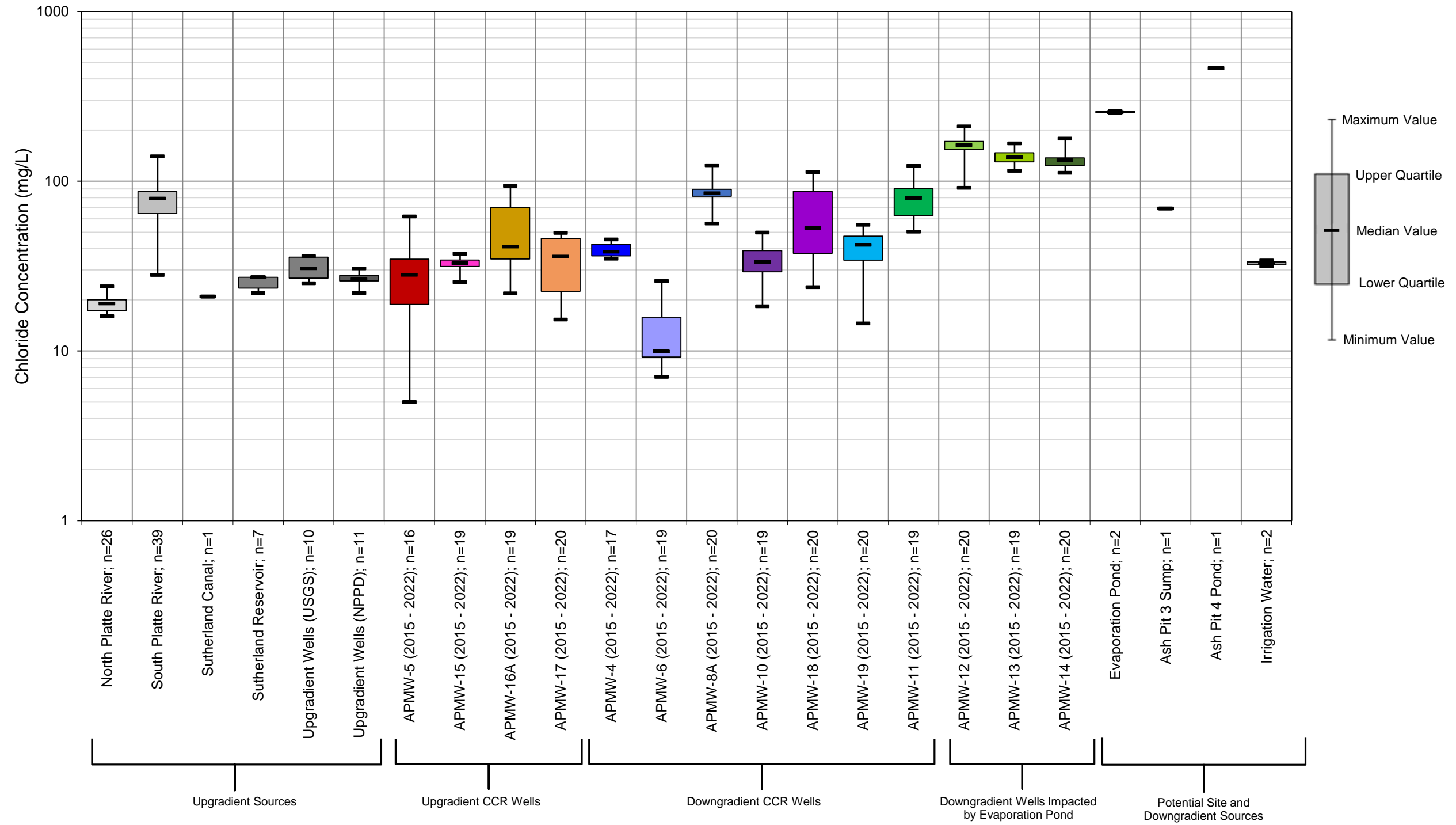


PROJECT  
 Alternate Source Demonstration

TITLE  
 Piper Diagram of Groundwater and Potential  
 Chloride Sources

PROJECT NO. 31404512.000    PHASE 1    REV.    FIGURE 6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A



CLIENT  
Nebraska Public Power District: Gerald Gentleman Station

PROJECT  
Alternate Source Demonstration

CONSULTANT



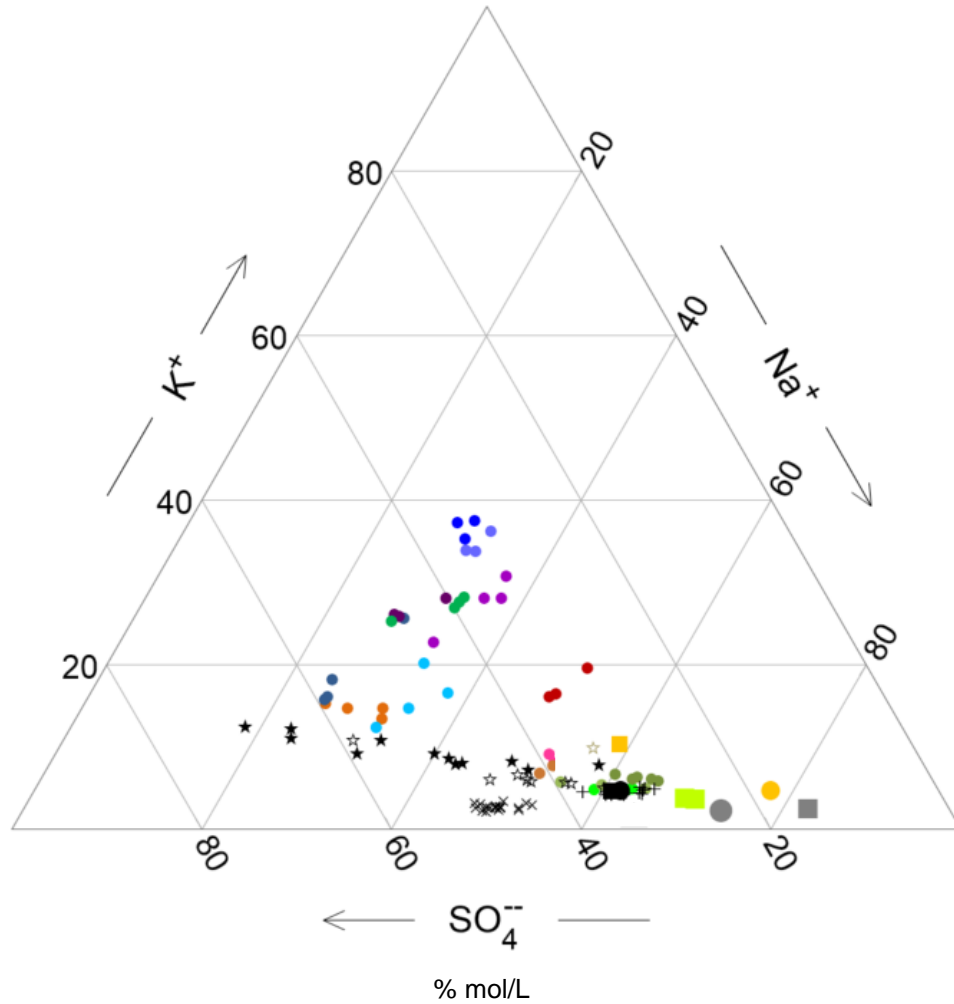
TITLE  
Chloride Box and Whisker Plot

PROJECT NO.  
31404512.000

PHASE  
1

REV.

FIGURE  
7



- Upgradient CCR Wells**
- APMW-5
- APMW-15
- APMW-16A
- APMW-17
- Downgradient CCR Wells**
- APMW-4
- APMW-6
- APMW-8A
- APMW-10
- APMW-11
- APMW-18
- APMW-19
- Wells Impacted By Evap Pond**
- APMW-12
- APMW-13
- APMW-14
- Potential Sources Upgradient of GGS**
- + North Platte River (USGS)
- × South Platte River (USGS)
- Sutherland Canal (NPPD)
- Sutherland Reservoir (USGS and NPPD)
- ★ GW near Sutherland R. (NPPD)
- ☆ GW near Sutherland R. (USGS)
- Potential Sources at GGS**
- Ash Pit 3 Sump
- Ash Pit 4 Pond
- Evaporation Pond
- Potential Sources Downgradient of GGS**
- Center Pivot Spray (from ground)
- Center Pivot Spray (bucket)

CLIENT  
Nebraska Public Power District: Gerald Gentleman Station

CONSULTANT



PROJECT  
Alternate Source Demonstration

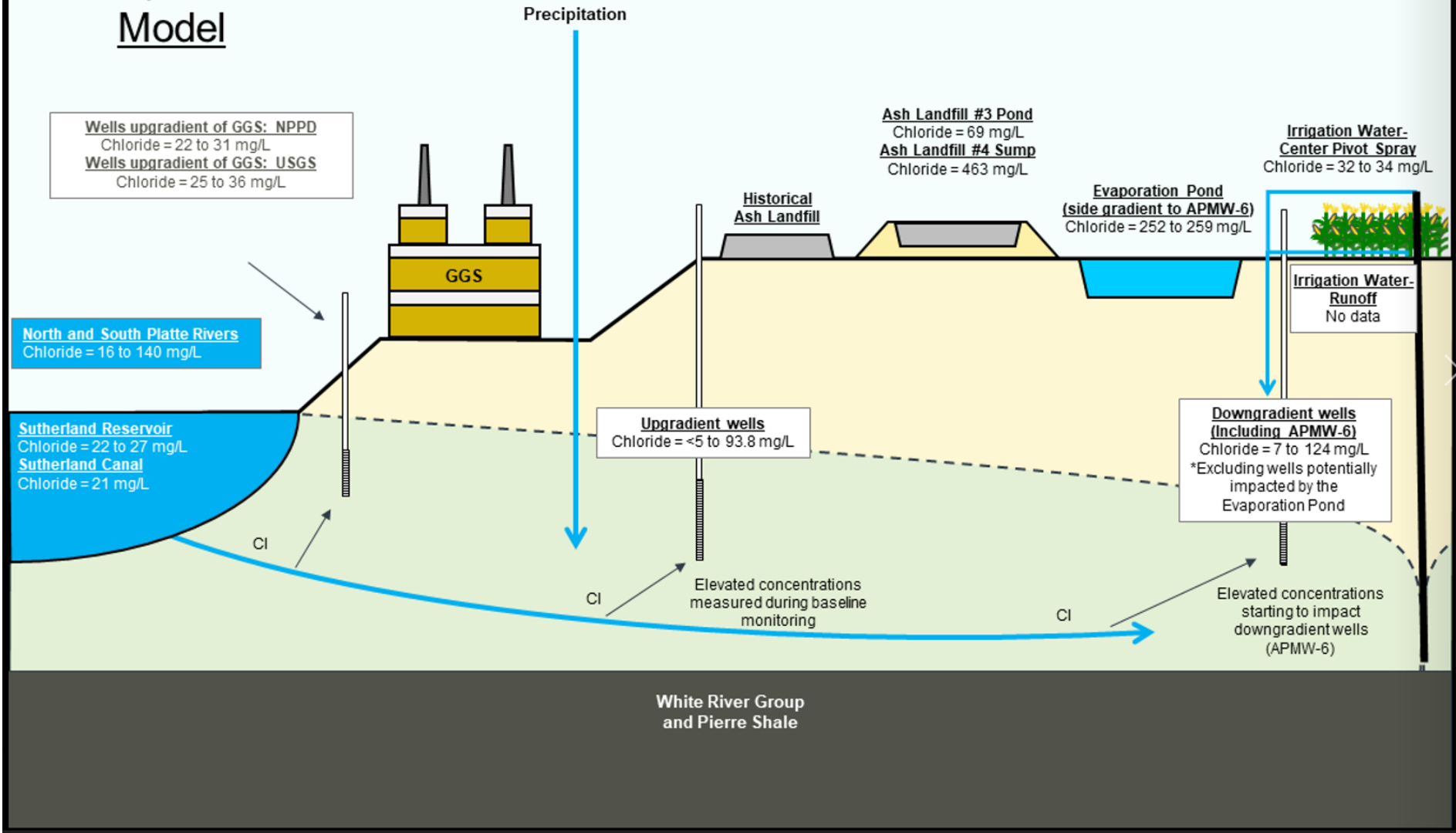
TITLE  
Ternary Diagram of Groundwater and Potential Chloride Sources

PROJECT NO. 31404512.000    PHASE 1    REV.    FIGURE 8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

# Conceptual Site Model



CLIENT  
Nebraska Public Power District: Gerald Gentleman Station

PROJECT  
Alternate Source Demonstration

CONSULTANT  
**WSP GOLDER**

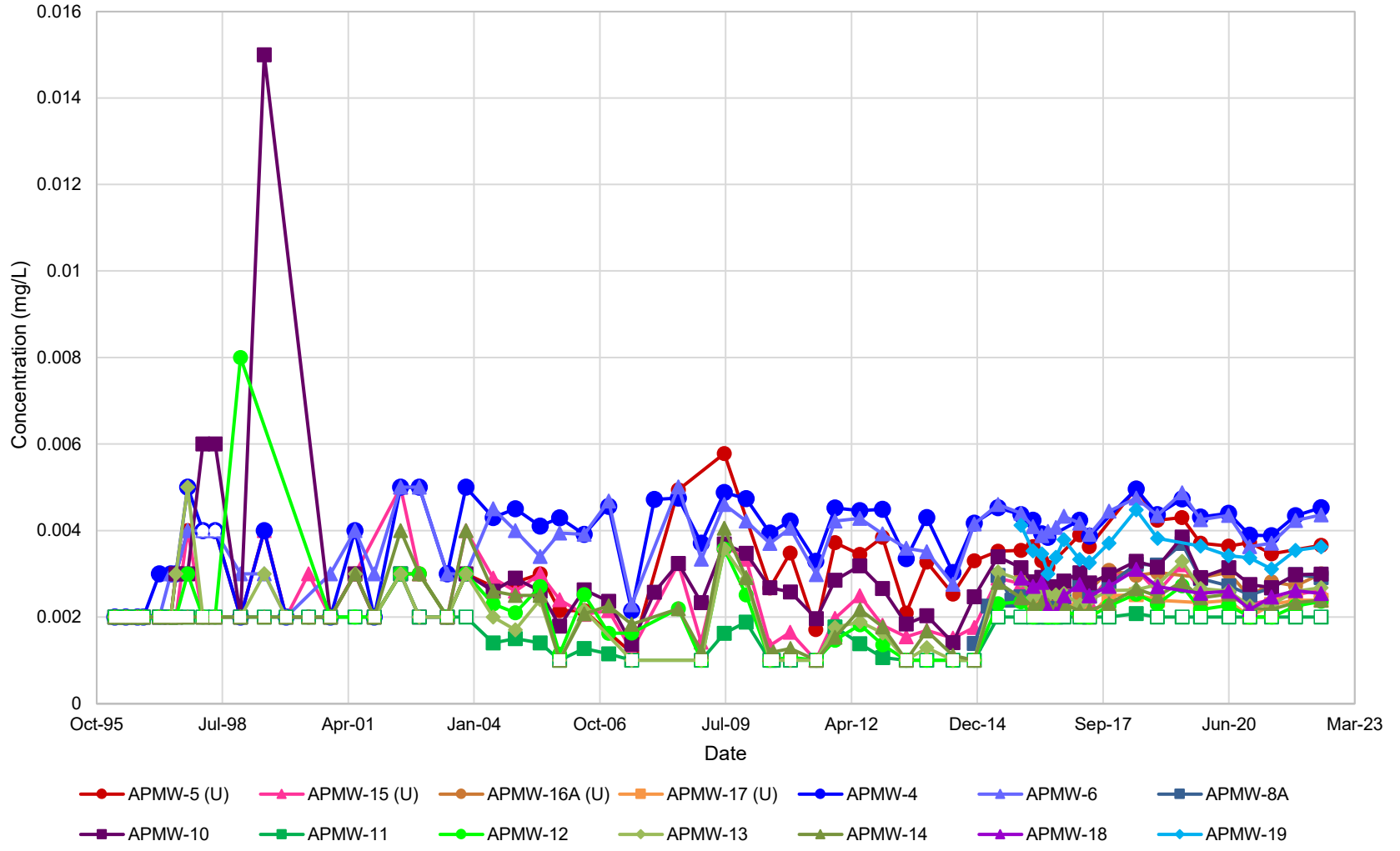
TITLE  
Chloride Conceptual Site Model

PROJECT NO. 31404512.000    PHASE 1    REV.    FIGURE 9

1/11 IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

**APPENDIX A**

**Historical Concentrations of  
Appendix III and Selected Appendix  
IV Analytes**

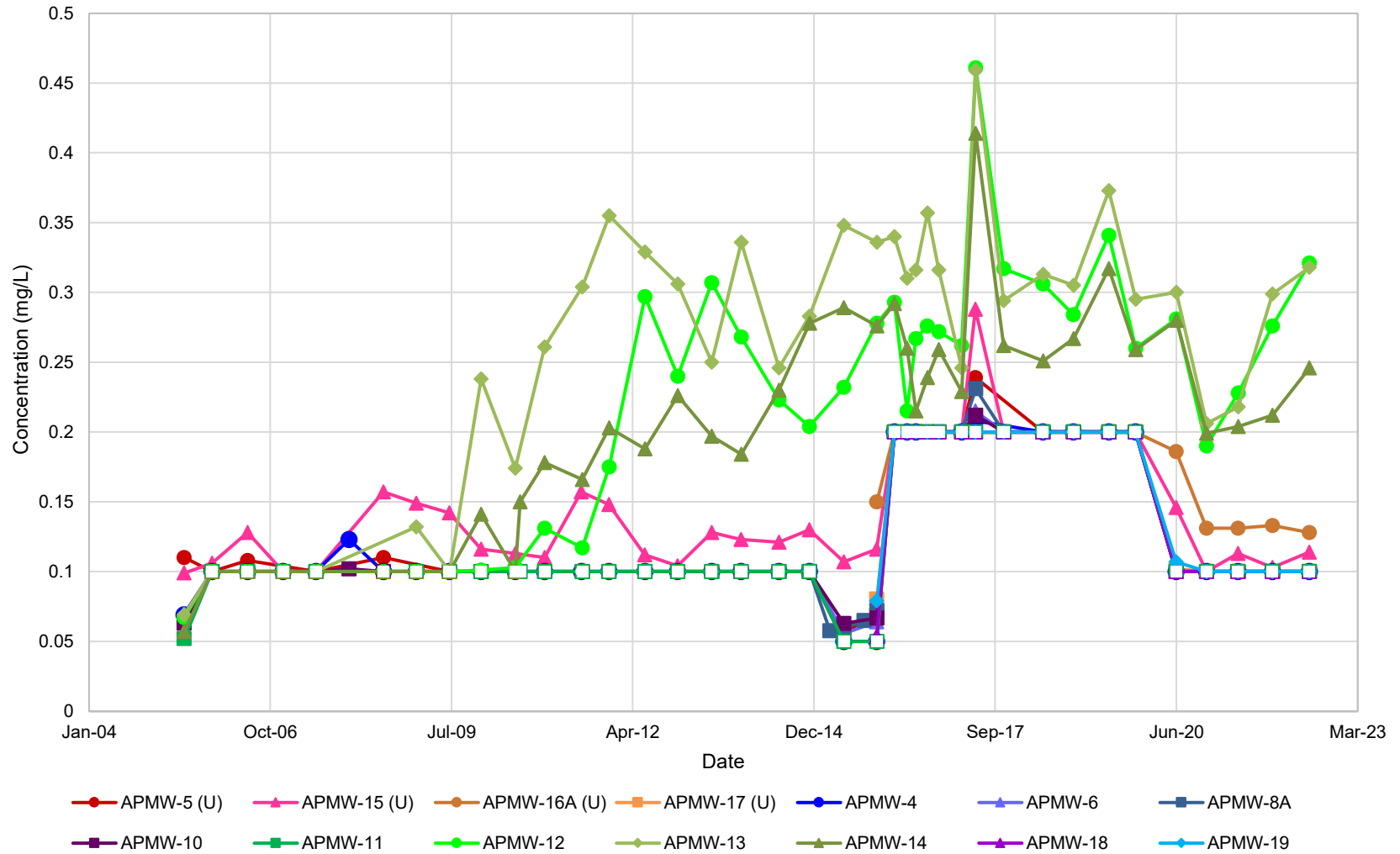


**Figure A-1**  
**Arsenic**

Nebraska Public Power District  
Gerald Gentleman Station

*Non-detect values are plotted with an open symbol at the practical quantitation limit.*

Denver, Colorado, USA



**Figure A-2**  
**Boron**

Nebraska Public Power District  
Gerald Gentleman Station

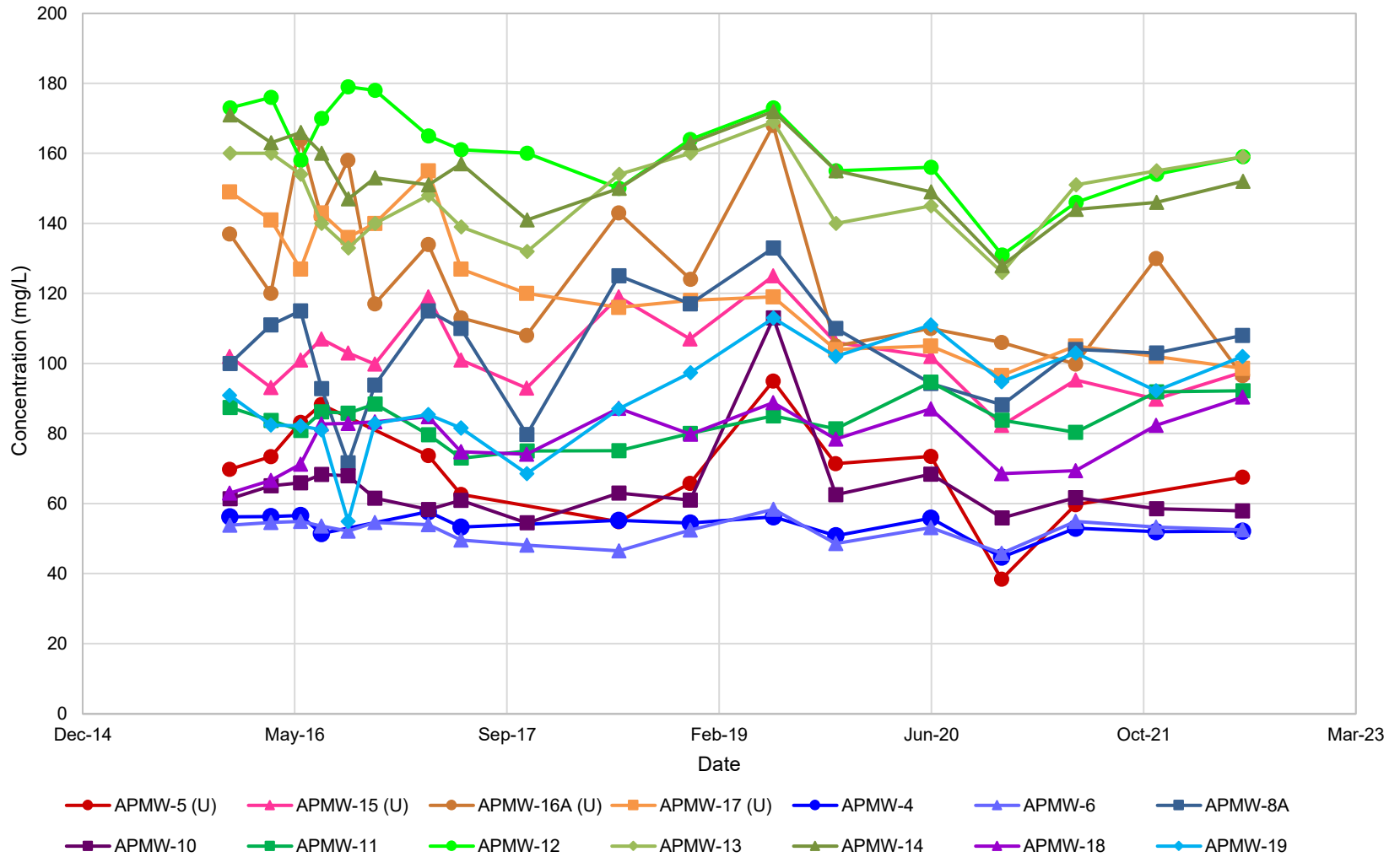
Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-3  
Calcium**

Nebraska Public Power District  
Gerald Gentleman Station

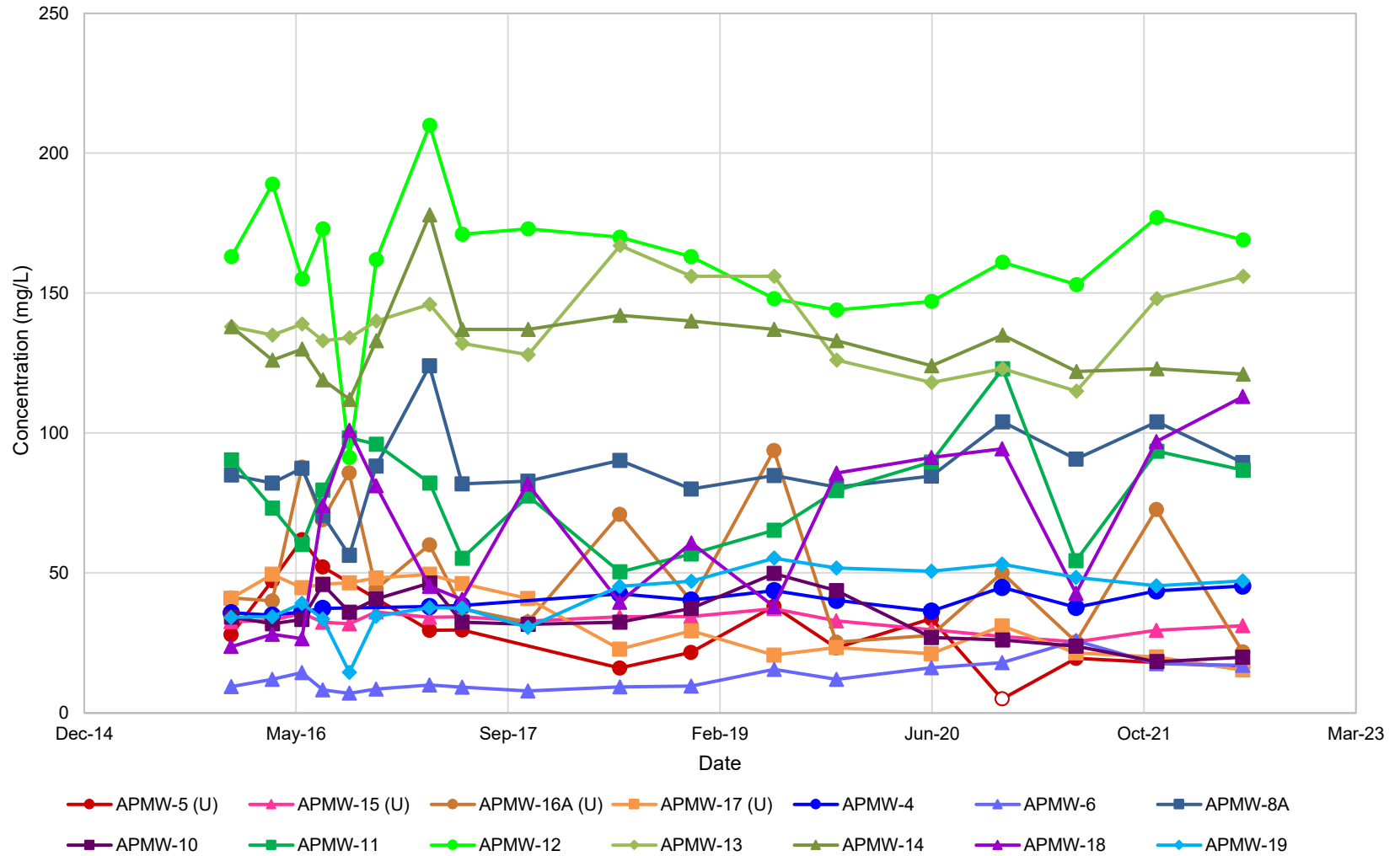
Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**





Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-4**  
**Chloride**

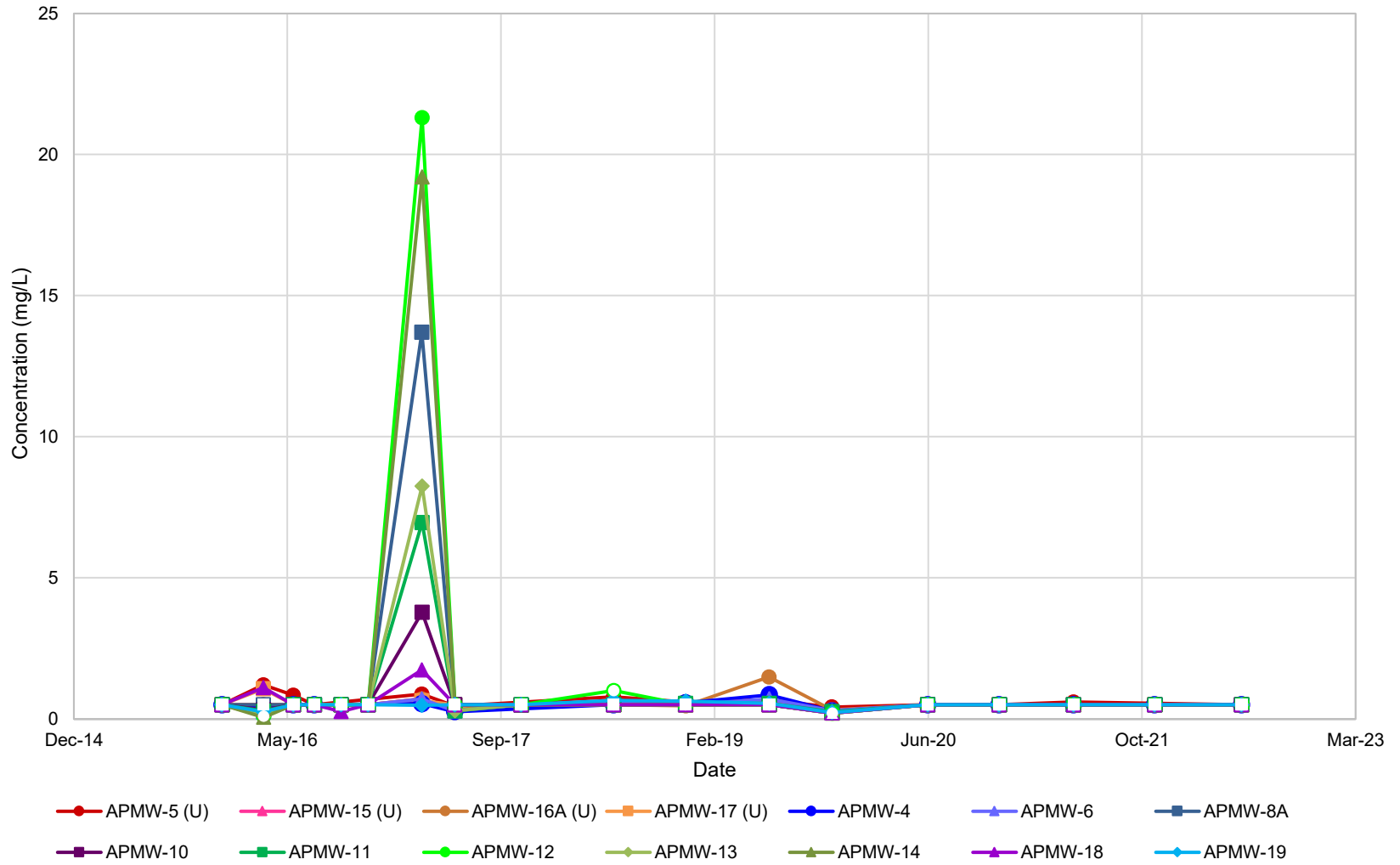
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-5  
Fluoride**

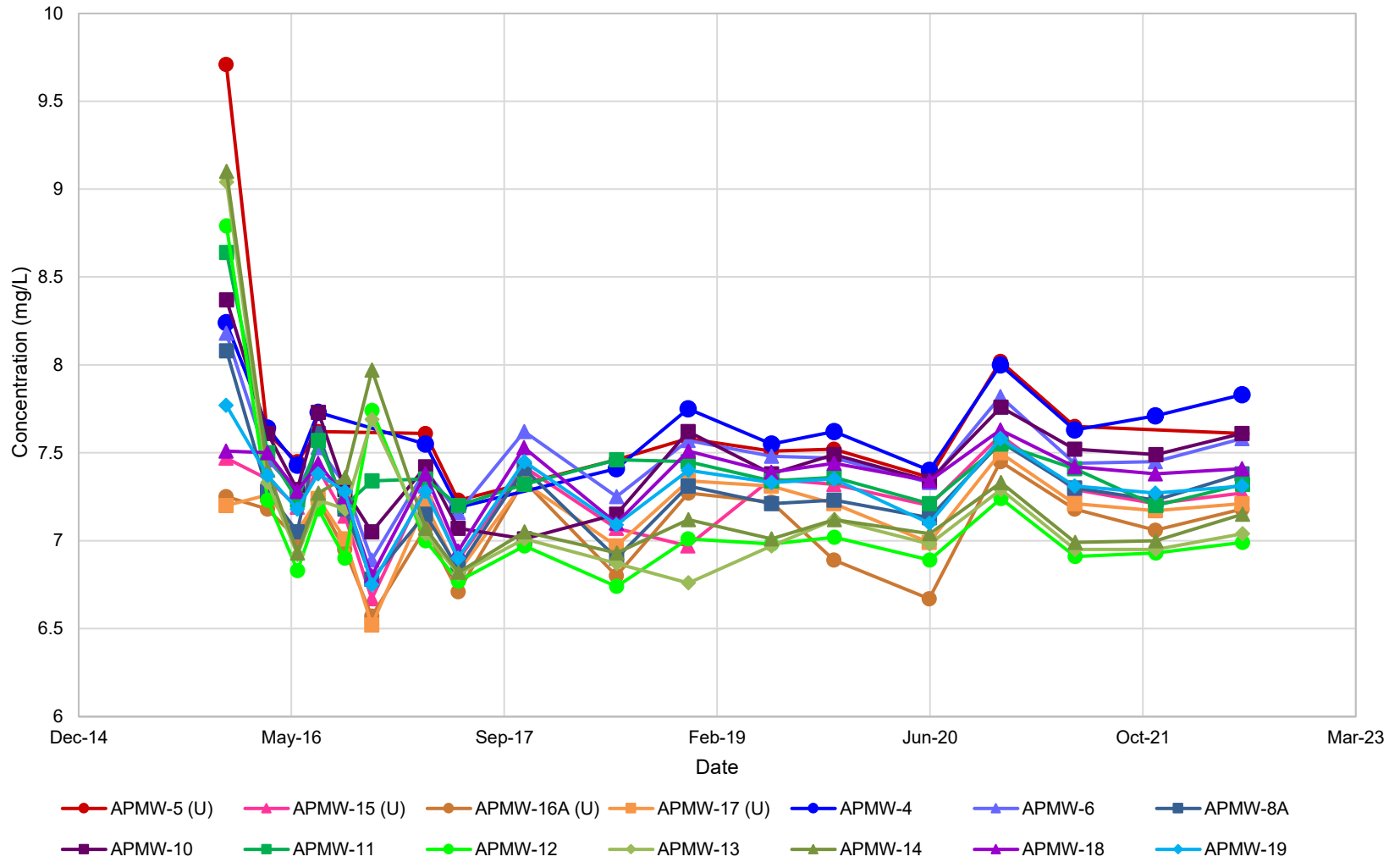
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

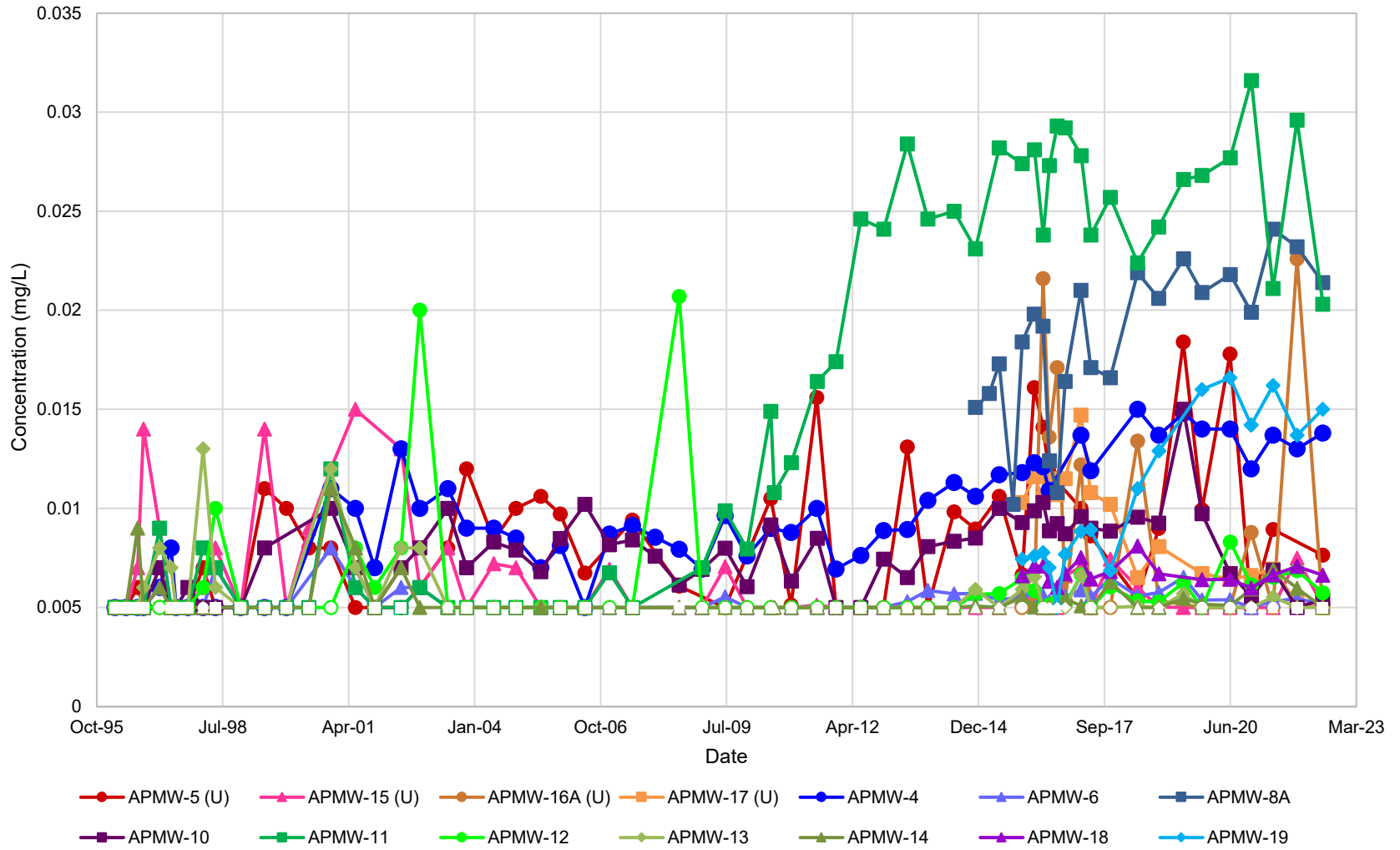
**Figure A-6**  
**pH, Field Measured**  
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-7**  
**Selenium**

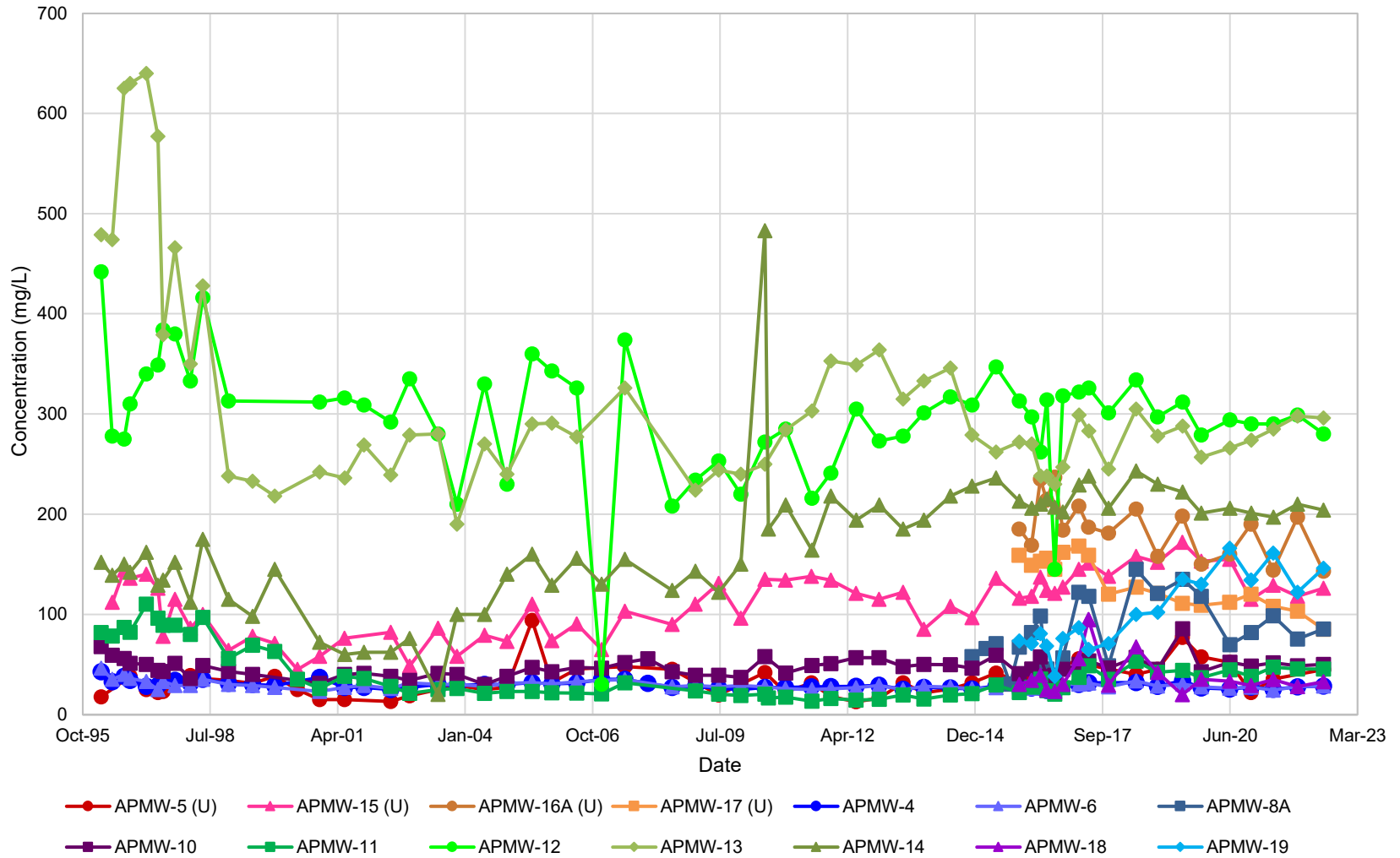
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

10/26/2022

31404512.000

**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-8**  
**Sulfate**

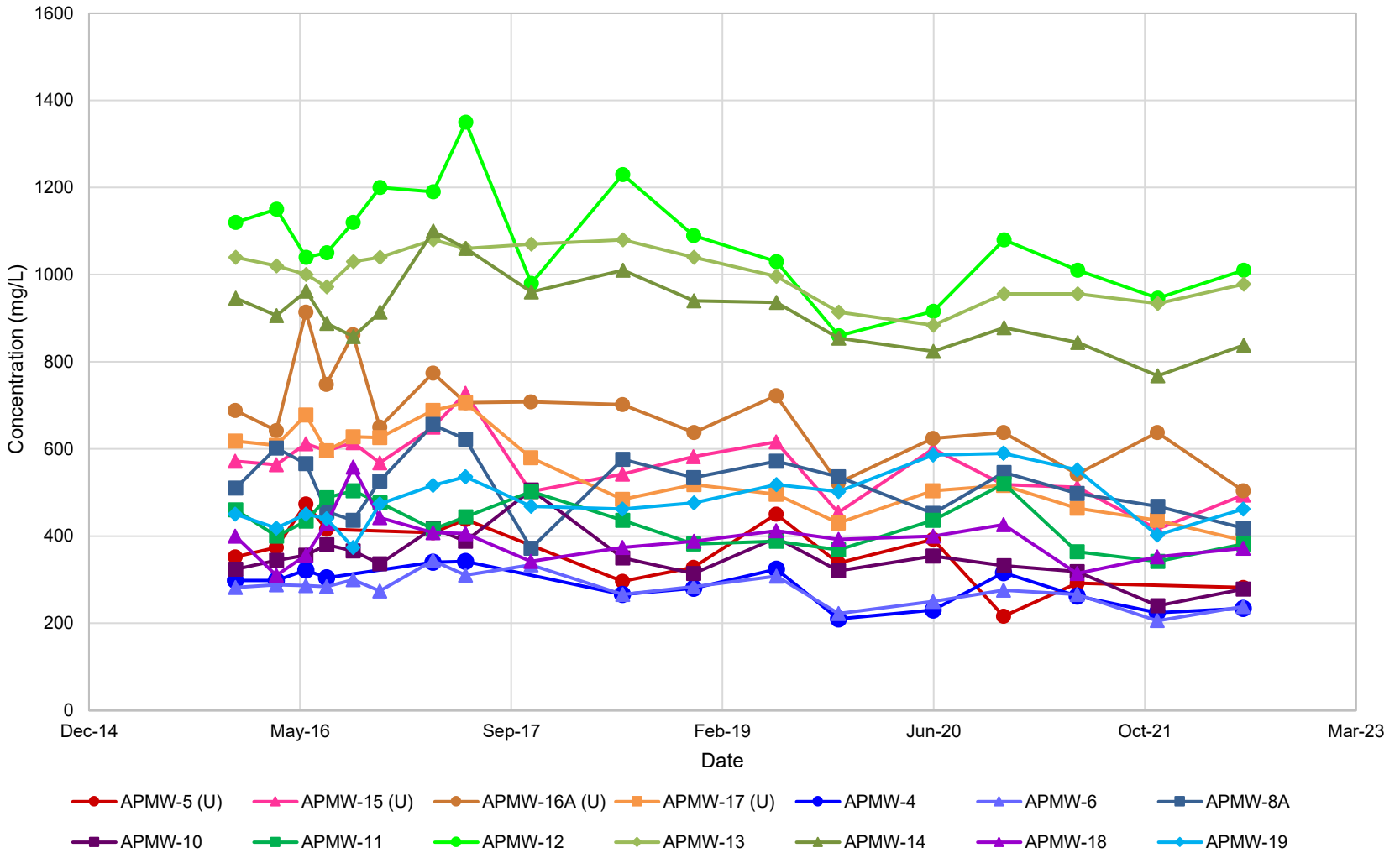
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

10/26/2022

31404512.000

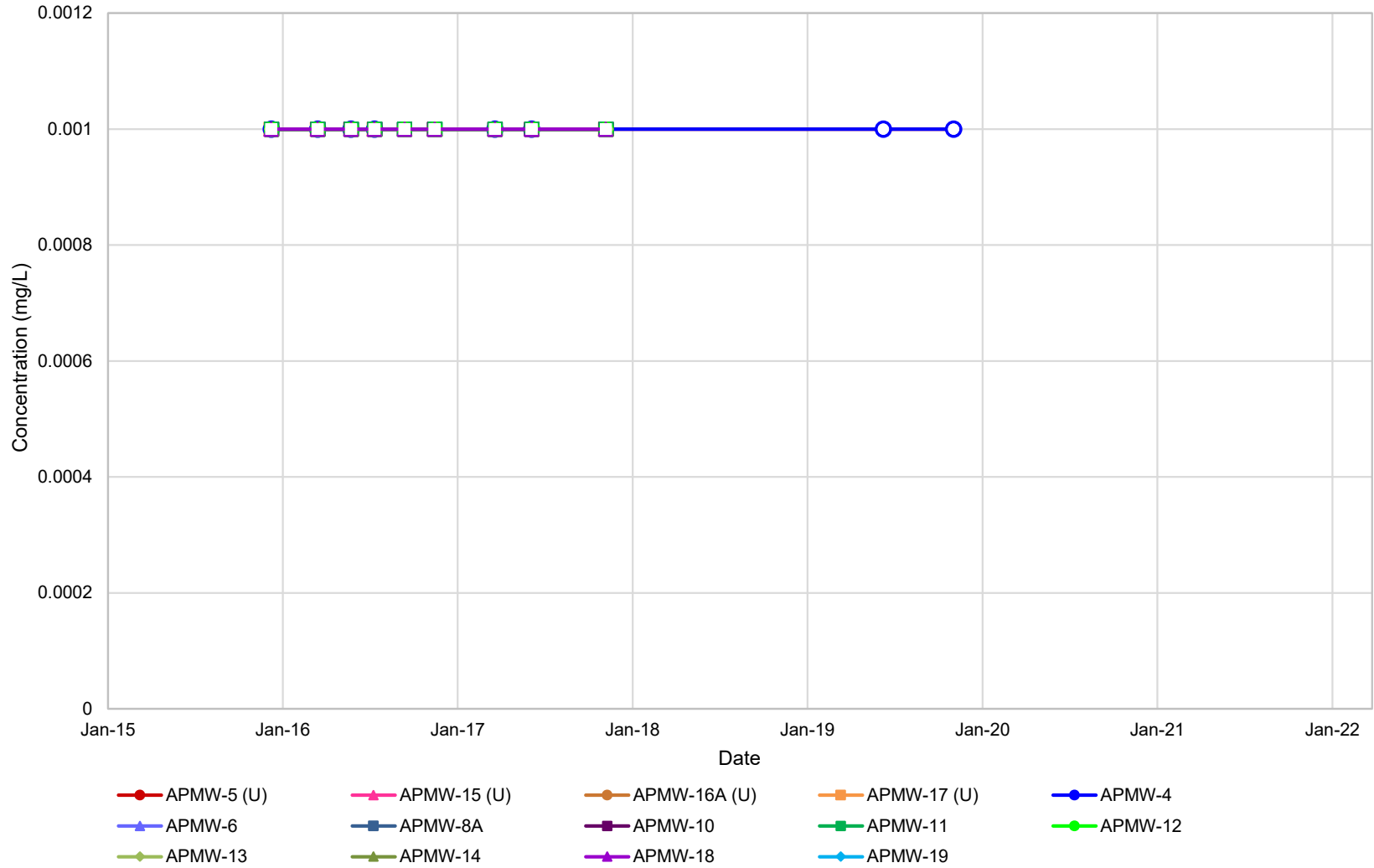
**Golder Associates USA Inc., A Member of WSP**



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-9**  
**Total Dissolved Solids**  
Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA



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Denver, Colorado, USA

10/26/2022 31404512.000

**Figure A-10**  
**Antimony**

Nebraska Public Power District  
Gerald Gentleman Station

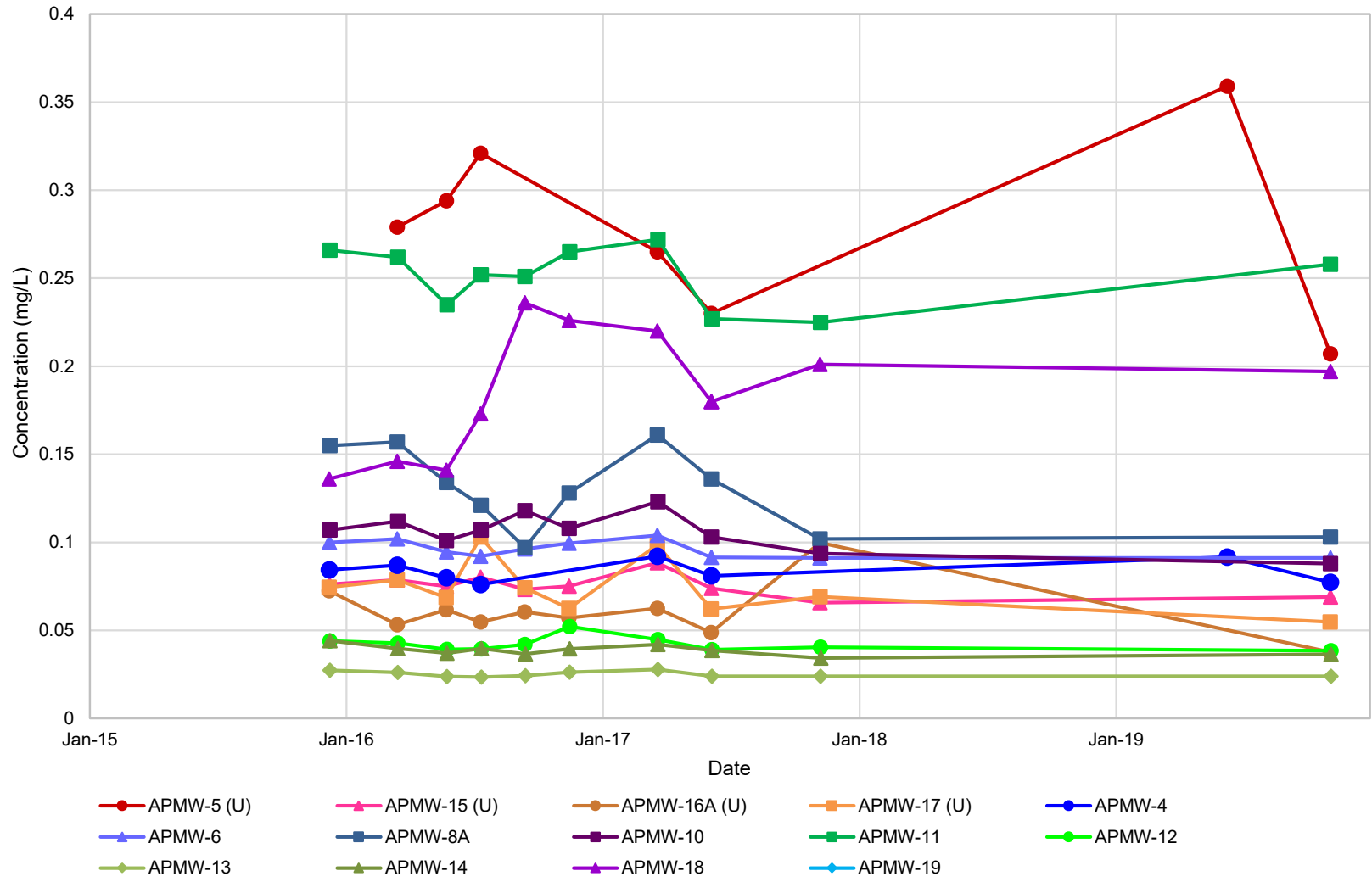


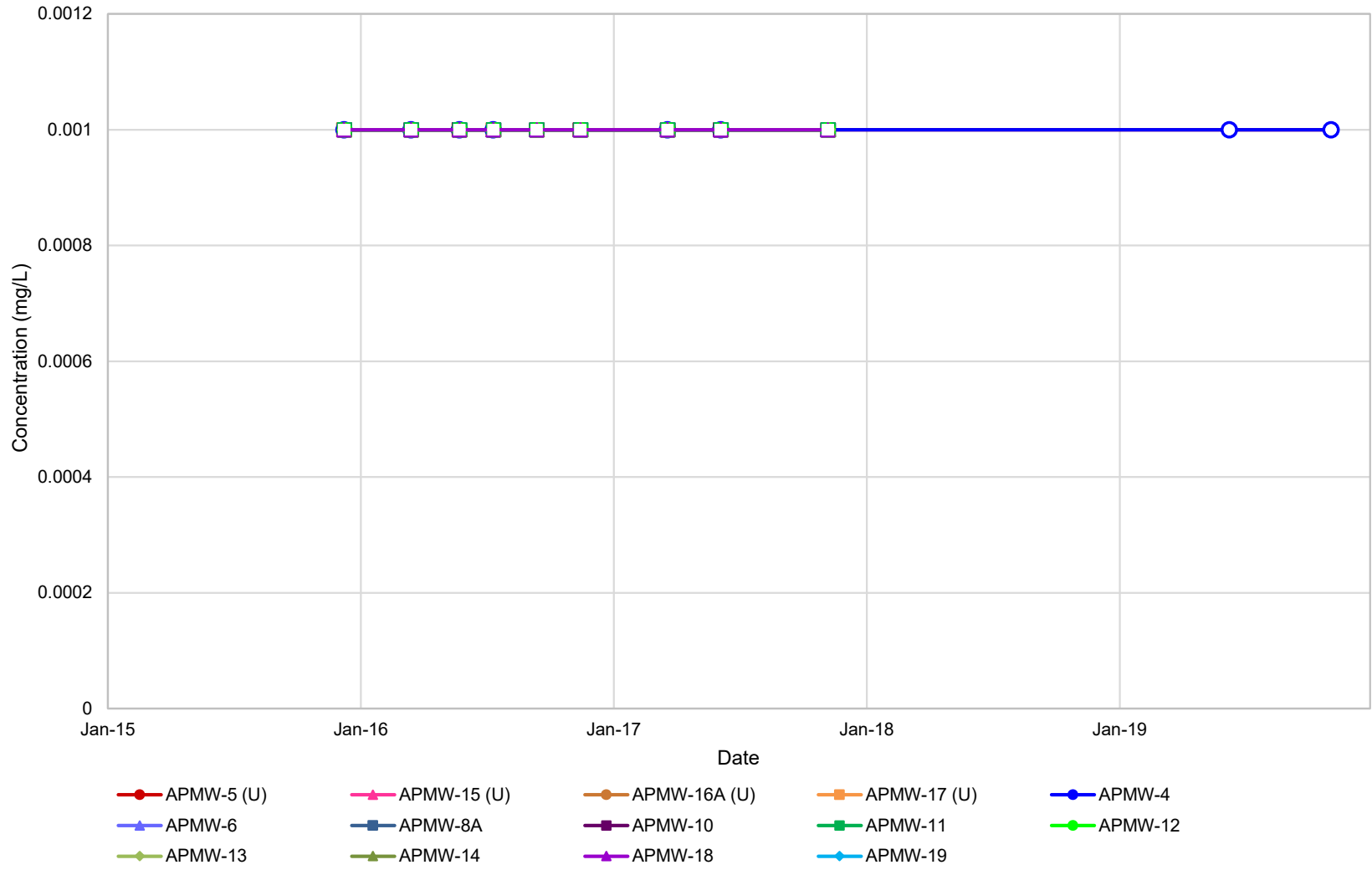
Figure A-11  
Barium

Nebraska Public Power District  
Gerald Gentleman Station

Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA



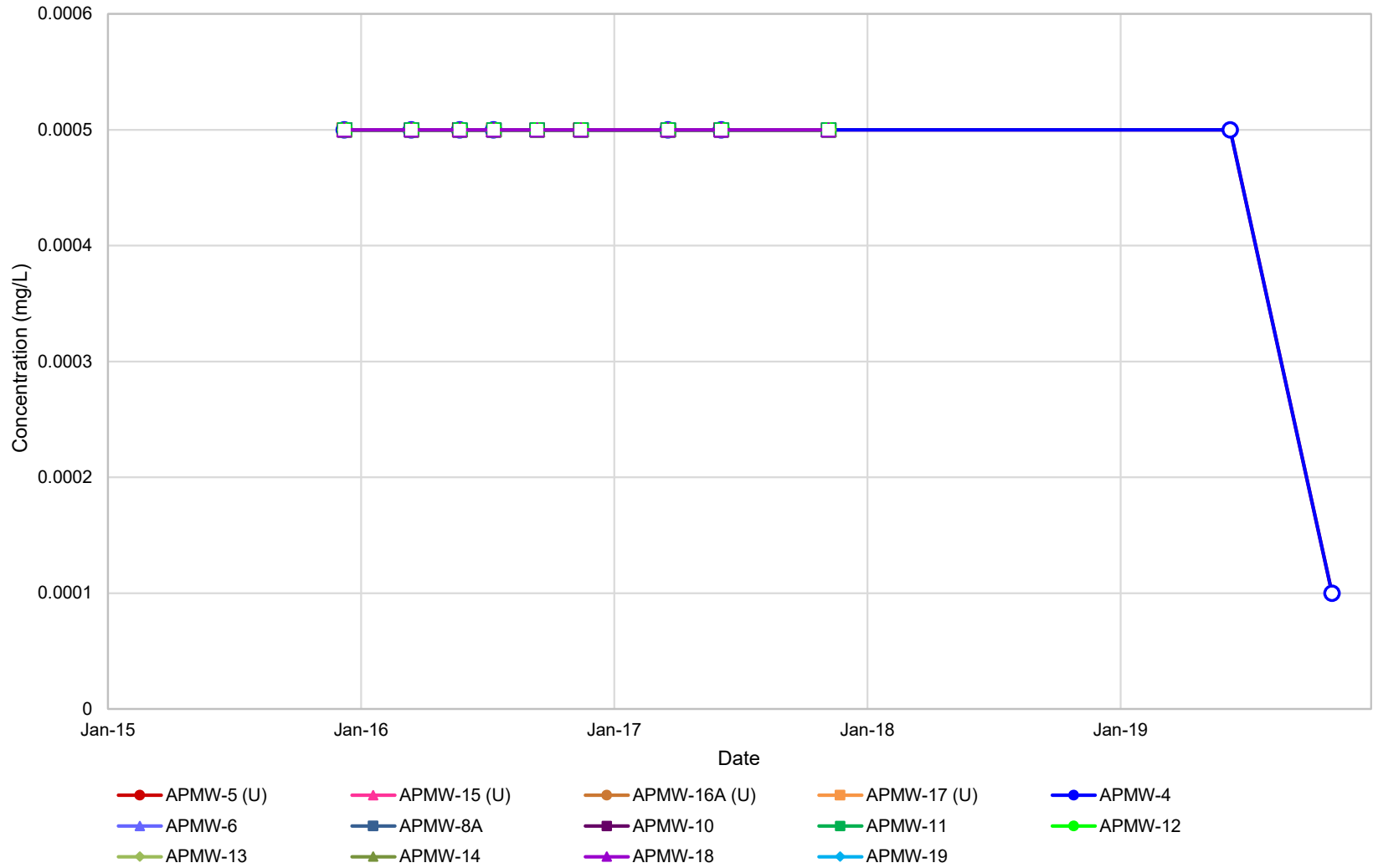


Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-12**  
**Beryllium**

Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

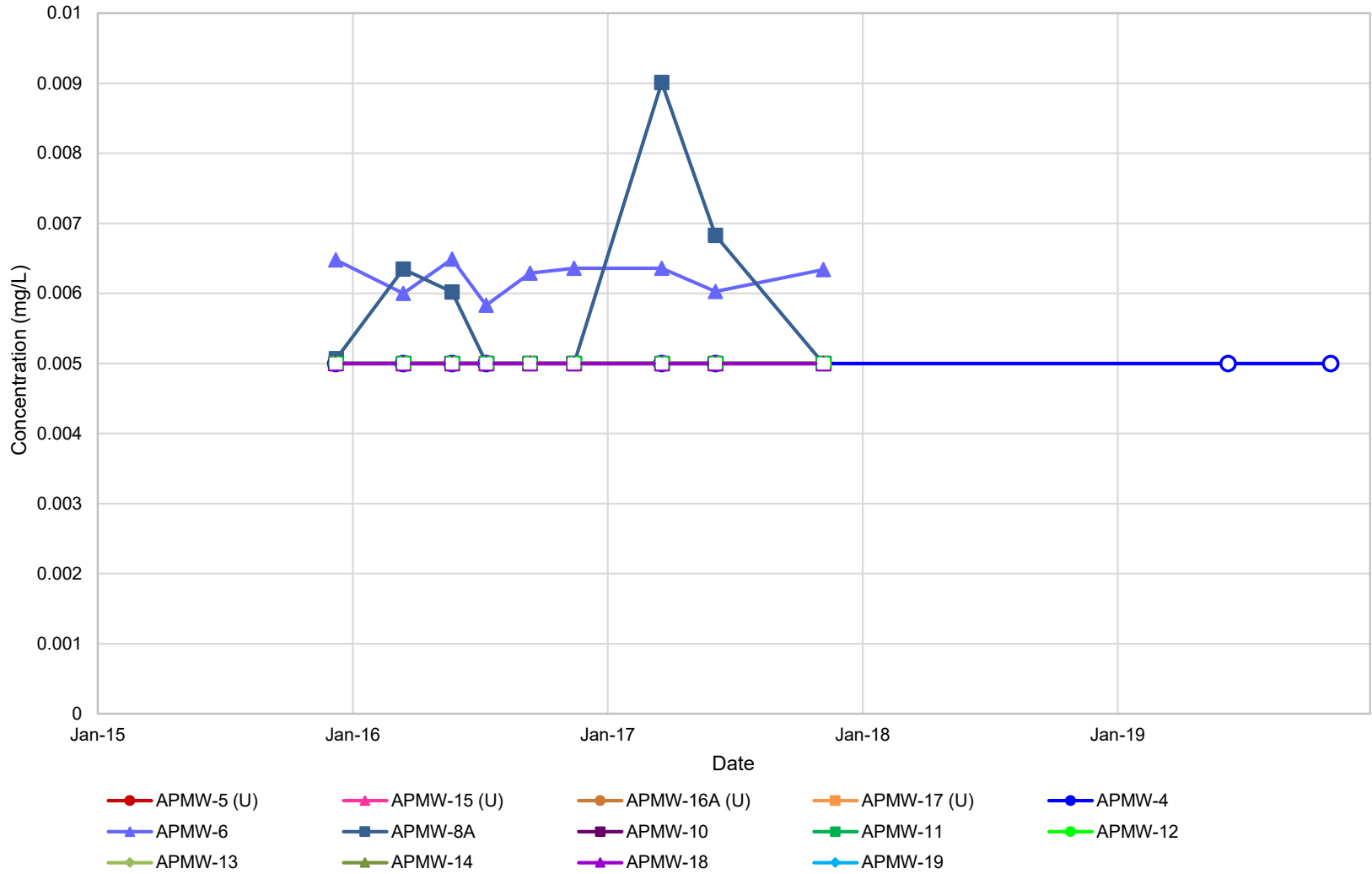


Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-13**  
**Cadmium**

Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA



**Figure A-14**  
**Chromium**

Nebraska Public Power District  
Gerald Gentleman Station

*Non-detect values are plotted with an open symbol at the practical quantitation limit.*

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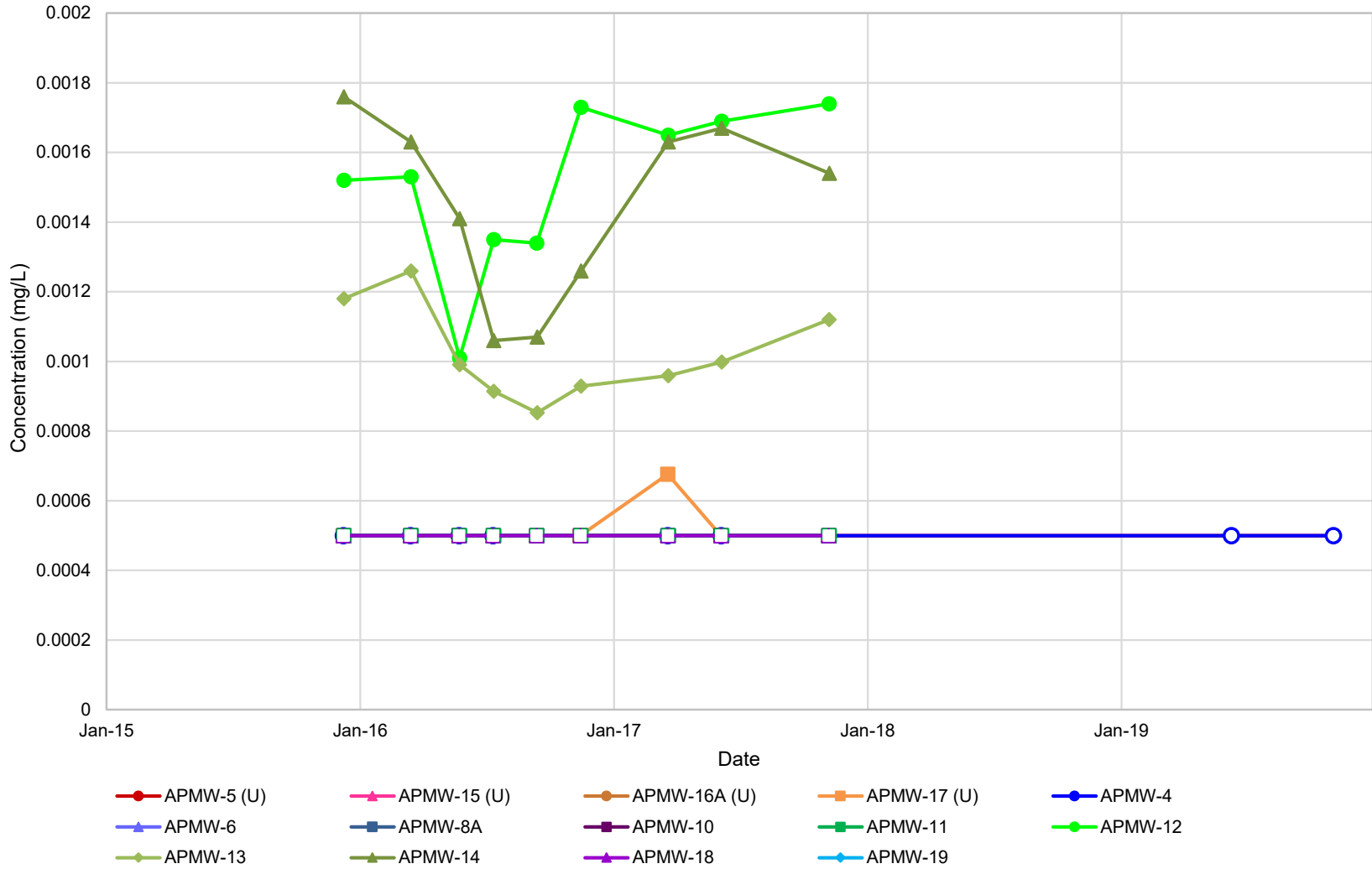


Figure A-15  
Cobalt

Nebraska Public Power District  
Gerald Gentleman Station

Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA

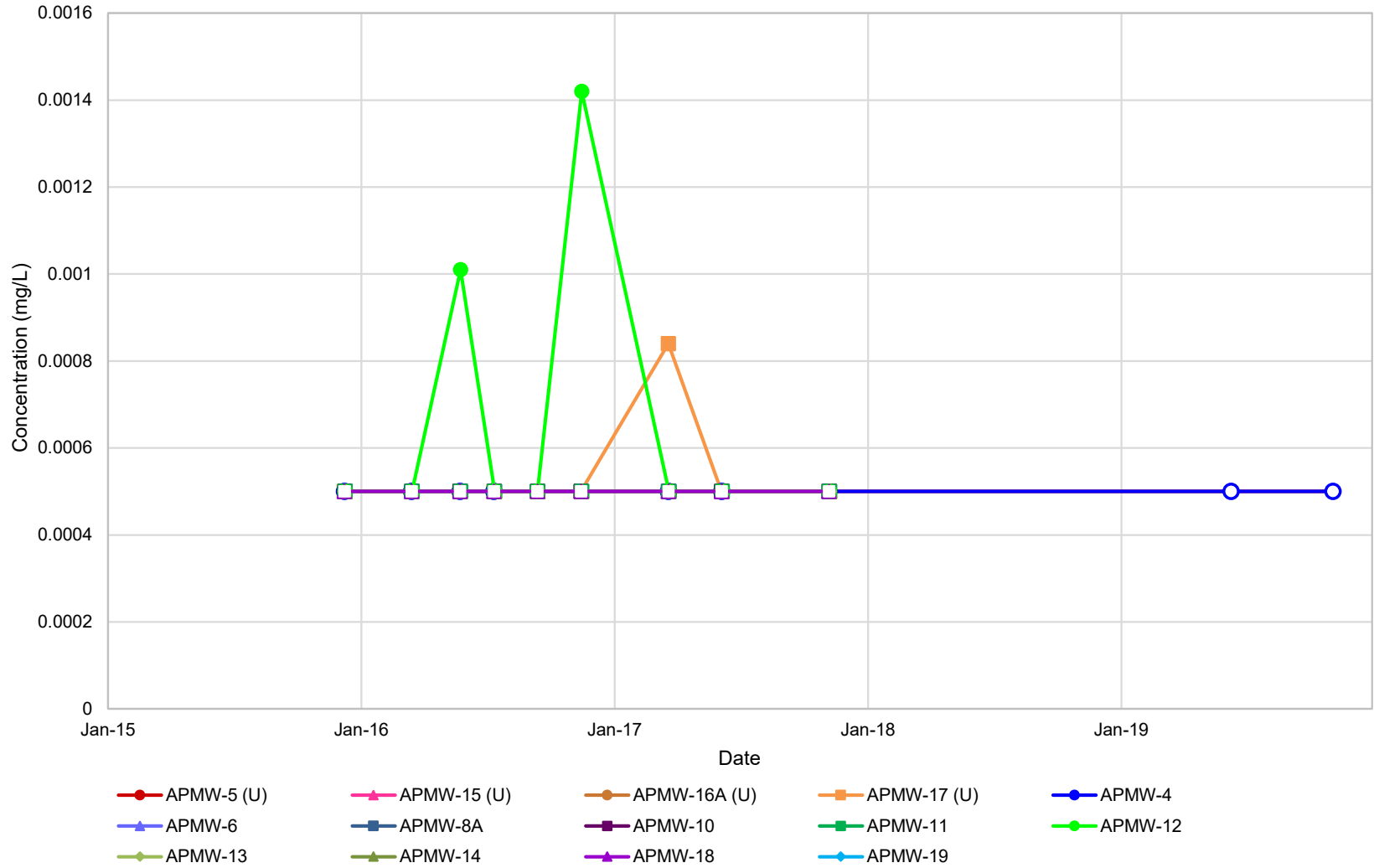


Figure A-16

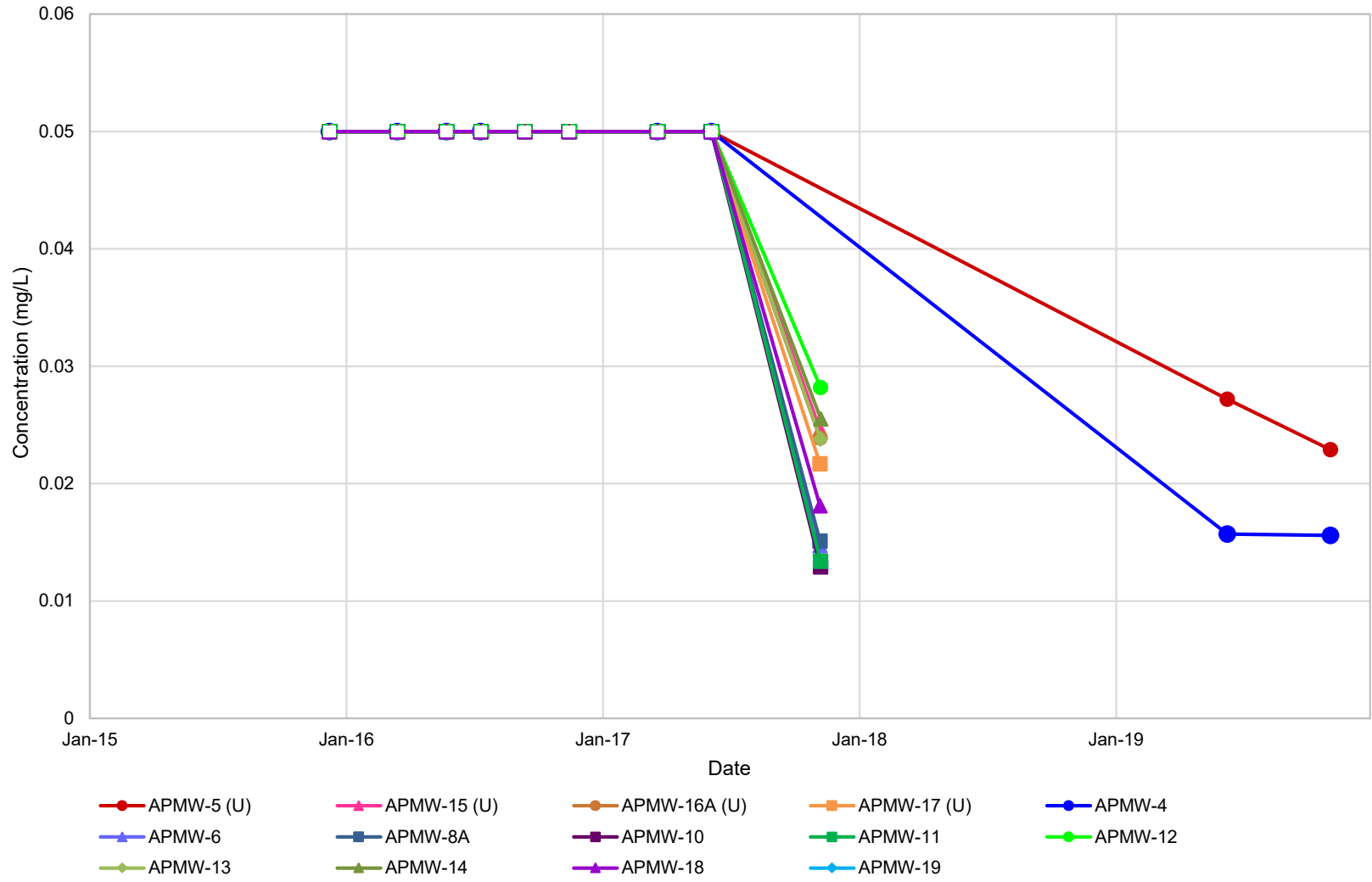
Lead

Nebraska Public Power District

Gerald Gentleman Station

Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA



**Figure A-17**  
**Lithium**

Nebraska Public Power District  
Gerald Gentleman Station

*Non-detect values are plotted with an open symbol at the practical quantitation limit.*

Denver, Colorado, USA

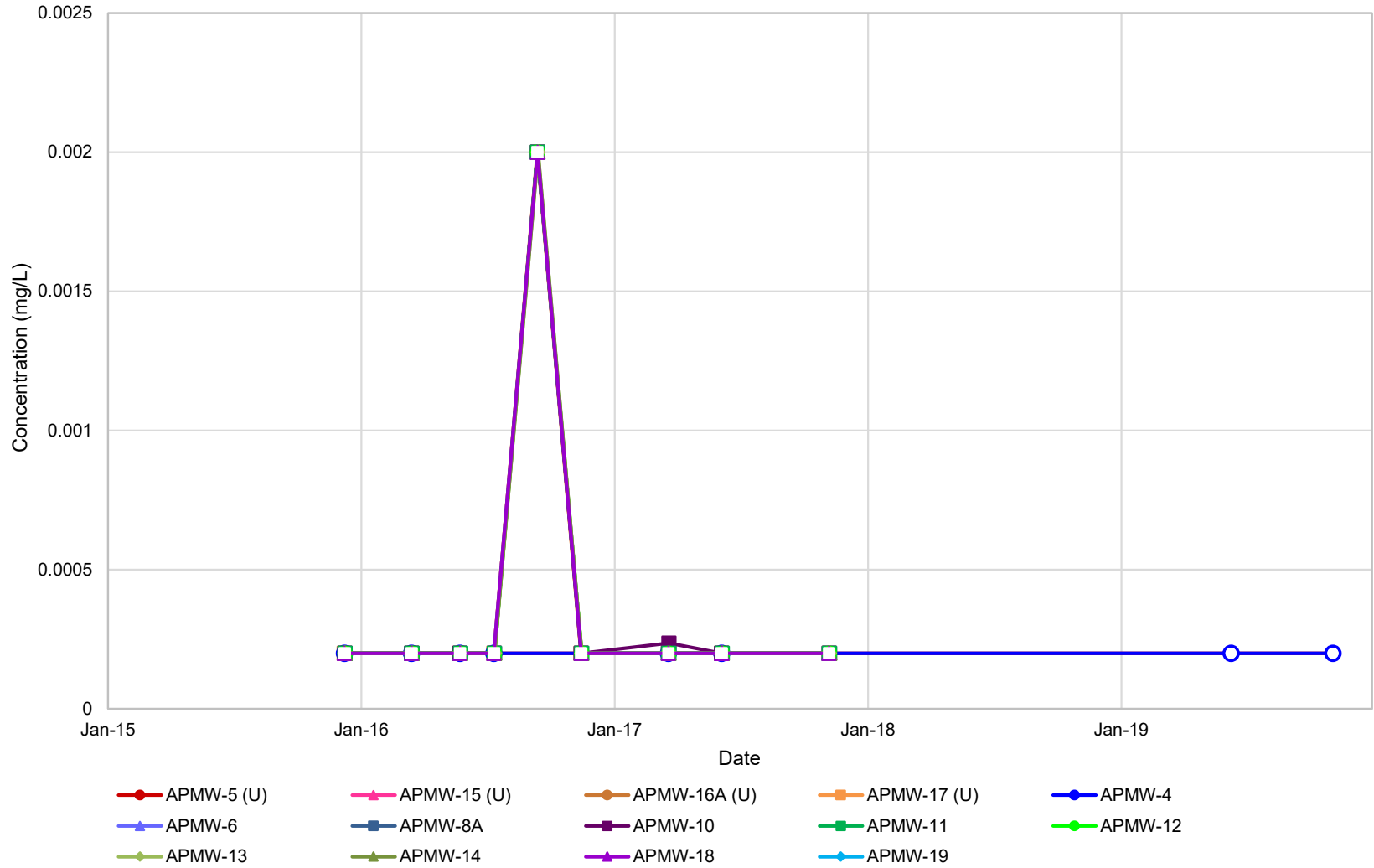


Figure A-18

Mercury

Nebraska Public Power District

Gerald Gentleman Station

Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA

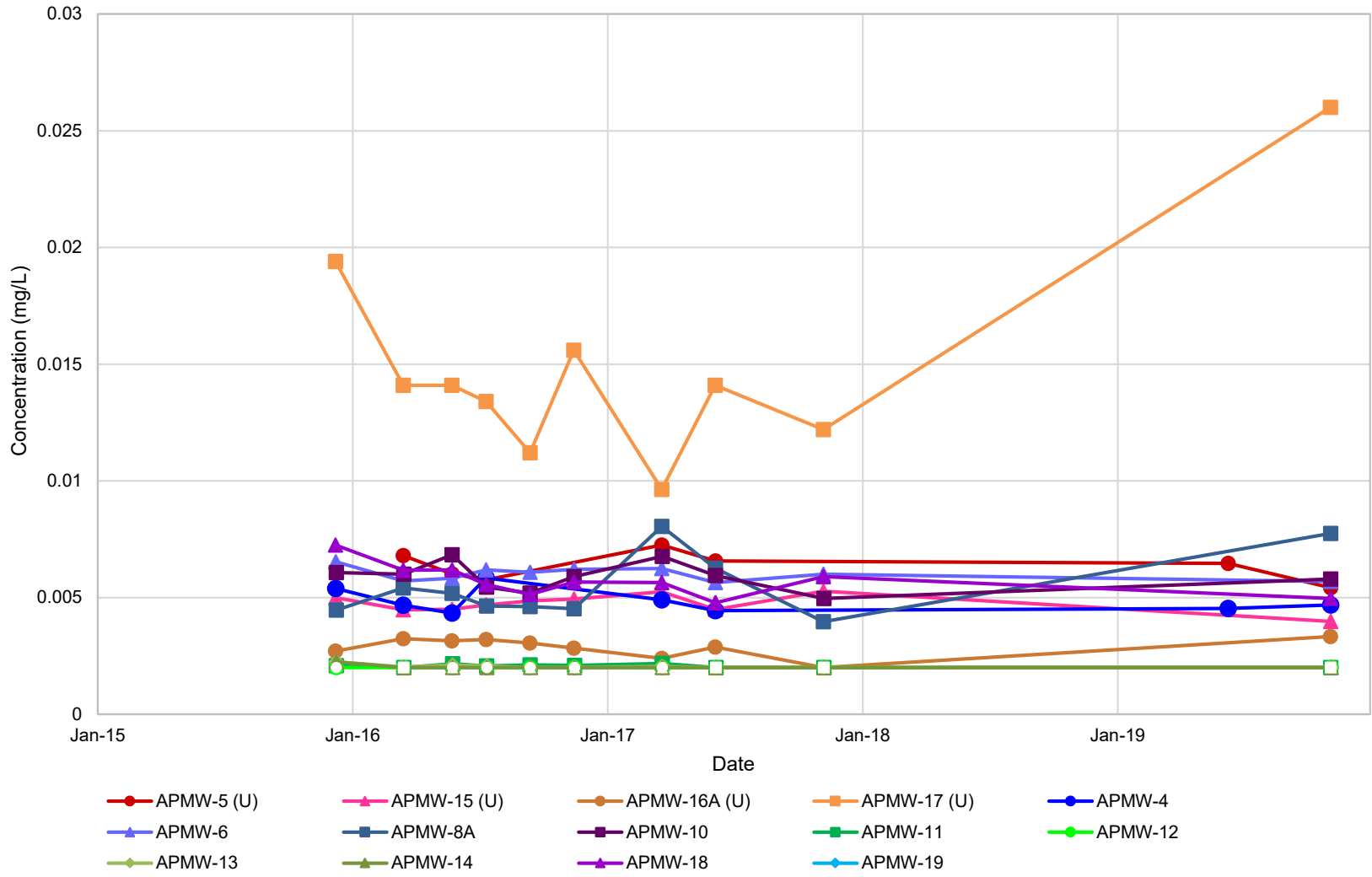


Figure A-19

**Molybdenum**

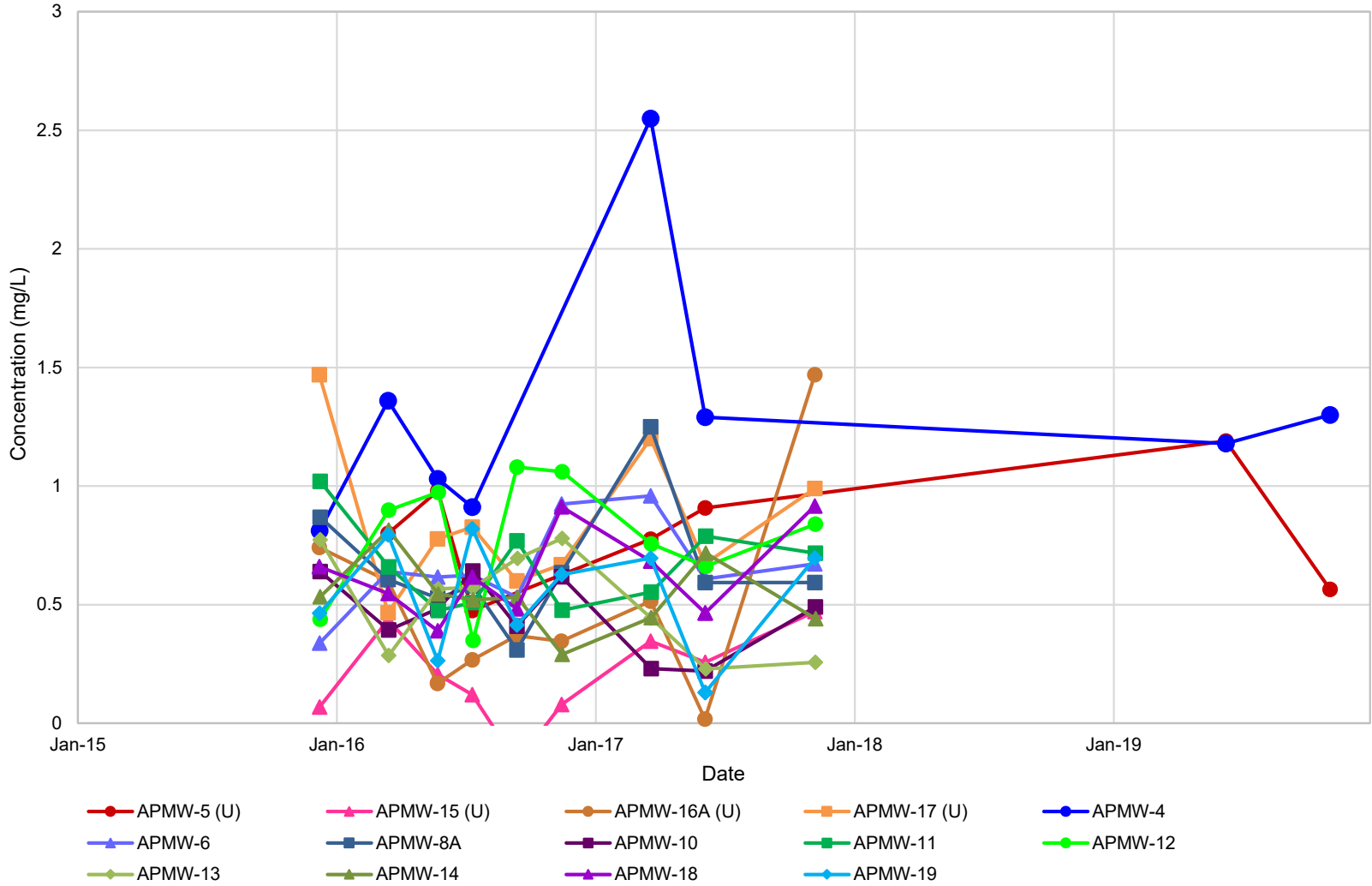
Nebraska Public Power District

Gerald Gentleman Station

Non-detect values are plotted with an open symbol at the practical quantitation limit.

Denver, Colorado, USA





Non-detect values are plotted with an open symbol at the practical quantitation limit.

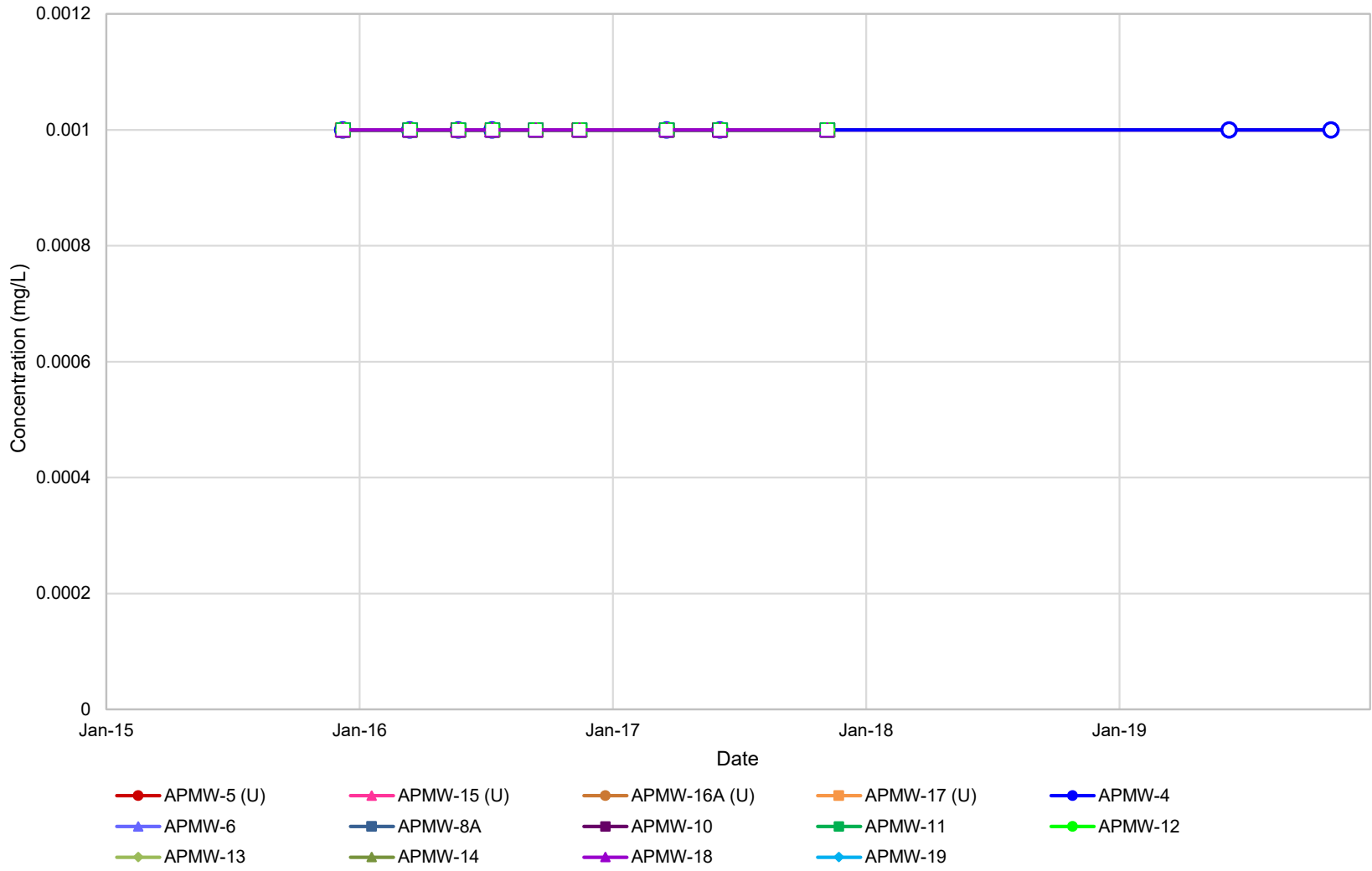
Denver, Colorado, USA

10/26/2022 31404512.000

Figure A-20  
Radium, Total

Nebraska Public Power District  
Gerald Gentleman Station

Golder Associates USA Inc., A Member of WSP



Non-detect values are plotted with an open symbol at the practical quantitation limit.

**Figure A-21  
Thallium**

Nebraska Public Power District  
Gerald Gentleman Station

Denver, Colorado, USA

**APPENDIX B**

**Eurofins TestAmerica Laboratory  
Report for Irrigation Water Samples**

## ANALYTICAL REPORT

Eurofins Cedar Falls  
3019 Venture Way  
Cedar Falls, IA 50613  
Tel: (319)277-2401

Laboratory Job ID: 310-237917-1  
Client Project/Site: Irrigation Runoff

For:  
Nebraska Public Power District  
6089 S Hwy 25  
Gerald Gentleman Station South  
Sutherland, Nebraska 69165

Attn: Doug Harris



Authorized for release by:  
8/24/2022 3:50:48 PM  
Brian Graettinger, Lab Director  
(319)595-2012  
[Brian.Graettinger@et.eurofinsus.com](mailto:Brian.Graettinger@et.eurofinsus.com)

Designee for  
Shirley Thompson, Client Service Manager  
(319)277-2401  
[Shirley.Thompson@et.eurofinsus.com](mailto:Shirley.Thompson@et.eurofinsus.com)

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results through



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

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



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QC Sample Results . . . . .	9
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# Case Narrative

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

---

**Job ID: 310-237917-1**

---

**Laboratory: Eurofins Cedar Falls**

---

**Narrative**

**Job Narrative  
310-237917-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 8/12/2022 8:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -1.6° C.

**HPLC/IC**

Method 9056A: The following samples were diluted due to the nature of the sample matrix: Road Track (310-237917-1) and Pivot Bucket (310-237917-2). Elevated reporting limits (RLs) are provided.

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

**Metals**

Method 6020A: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: Road Track (310-237917-1).

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

**General Chemistry**

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



# Sample Summary

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-237917-1	Road Track	Water	08/11/22 11:00	08/12/22 08:35
310-237917-2	Pivot Bucket	Water	08/11/22 11:05	08/12/22 08:35

1

2

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14

# Detection Summary

Client: Nebraska Public Power District  
 Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Client Sample ID: Road Track

Lab Sample ID: 310-237917-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	31.5		5.00		mg/L	5		9056A	Total/NA
Sulfate	61.7		5.00		mg/L	5		9056A	Total/NA
Barium	0.0228		0.00200		mg/L	1		6020A	Total/NA
Boron	0.166	*+	0.100		mg/L	1		6020A	Total/NA
Calcium	71.7		2.00		mg/L	4		6020A	Total/NA
Lithium	0.0464		0.0100		mg/L	1		6020A	Total/NA
Magnesium	16.8		2.00		mg/L	4		6020A	Total/NA
Potassium	8.28		0.500		mg/L	1		6020A	Total/NA
Sodium	28.2		1.00		mg/L	1		6020A	Total/NA
Total Kjeldahl Nitrogen	4.66		1.00		mg/L	1		351.2	Total/NA
Nitrate Nitrite as N	1.69		0.100		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3 to pH 4.5	356		25.0		mg/L	1		SM 2320B	Total/NA
pH	8.1	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: Pivot Bucket

Lab Sample ID: 310-237917-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	34.1		5.00		mg/L	5		9056A	Total/NA
Sulfate	82.8		5.00		mg/L	5		9056A	Total/NA
Barium	0.377		0.00200		mg/L	1		6020A	Total/NA
Calcium	156		0.500		mg/L	1		6020A	Total/NA
Cobalt	0.000798		0.000500		mg/L	1		6020A	Total/NA
Lithium	0.0108		0.0100		mg/L	1		6020A	Total/NA
Magnesium	45.0		0.500		mg/L	1		6020A	Total/NA
Molybdenum	0.00401		0.00200		mg/L	1		6020A	Total/NA
Potassium	8.65		0.500		mg/L	1		6020A	Total/NA
Sodium	86.7		1.00		mg/L	1		6020A	Total/NA
Ammonia as N	0.690		0.500		mg/L	1		350.1	Total/NA
Total Kjeldahl Nitrogen	3.74		1.00		mg/L	1		351.2	Total/NA
Nitrate Nitrite as N	3.89		0.100		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3 to pH 4.5	209		10.0		mg/L	1		SM 2320B	Total/NA
pH	8.2	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls



# Client Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

**Client Sample ID: Road Track**

**Lab Sample ID: 310-237917-1**

Date Collected: 08/11/22 11:00

Matrix: Water

Date Received: 08/12/22 08:35

**Method: 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.5		5.00		mg/L			08/22/22 15:34	5
Fluoride	<0.500		0.500		mg/L			08/22/22 15:34	5
Sulfate	61.7		5.00		mg/L			08/22/22 15:34	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		08/16/22 08:30	08/18/22 17:47	1
Arsenic	<0.00200		0.00200		mg/L		08/16/22 08:30	08/18/22 17:47	1
Barium	0.0228		0.00200		mg/L		08/16/22 08:30	08/18/22 17:47	1
Beryllium	<0.00400		0.00400		mg/L		08/16/22 08:30	08/19/22 16:31	4
Boron	0.166	*+	0.100		mg/L		08/16/22 08:30	08/18/22 17:47	1
Cadmium	<0.000100		0.000100		mg/L		08/16/22 08:30	08/18/22 17:47	1
Calcium	71.7		2.00		mg/L		08/16/22 08:30	08/19/22 16:31	4
Chromium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/18/22 17:47	1
Cobalt	<0.000500		0.000500		mg/L		08/16/22 08:30	08/18/22 17:47	1
Lead	<0.000500		0.000500		mg/L		08/16/22 08:30	08/18/22 17:47	1
Lithium	0.0464		0.0100		mg/L		08/16/22 08:30	08/18/22 17:47	1
Magnesium	16.8		2.00		mg/L		08/16/22 08:30	08/19/22 16:31	4
Molybdenum	<0.00200		0.00200		mg/L		08/16/22 08:30	08/18/22 17:47	1
Potassium	8.28		0.500		mg/L		08/16/22 08:30	08/18/22 17:47	1
Selenium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/18/22 17:47	1
Sodium	28.2		1.00		mg/L		08/16/22 08:30	08/18/22 17:47	1
Thallium	<0.00100		0.00100		mg/L		08/16/22 08:30	08/18/22 17:47	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		08/22/22 14:34	08/23/22 12:41	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500		mg/L		08/18/22 09:51	08/18/22 20:31	1
Total Kjeldahl Nitrogen	4.66		1.00		mg/L		08/17/22 07:00	08/17/22 19:01	1
Nitrate Nitrite as N	1.69		0.100		mg/L			08/16/22 20:12	1
Alkalinity as CaCO3 to pH 4.5	356		25.0		mg/L			08/15/22 08:30	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.1	HF	0.1		SU			08/12/22 15:15	1

# Client Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

**Client Sample ID: Pivot Bucket**

**Lab Sample ID: 310-237917-2**

Date Collected: 08/11/22 11:05

Matrix: Water

Date Received: 08/12/22 08:35

**Method: 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.1		5.00		mg/L			08/22/22 15:49	5
Fluoride	<0.500		0.500		mg/L			08/22/22 15:49	5
Sulfate	82.8		5.00		mg/L			08/22/22 15:49	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200		mg/L		08/16/22 08:30	08/18/22 18:03	1
Arsenic	<0.00200		0.00200		mg/L		08/16/22 08:30	08/18/22 18:03	1
Barium	0.377		0.00200		mg/L		08/16/22 08:30	08/18/22 18:03	1
Beryllium	<0.00100		0.00100		mg/L		08/16/22 08:30	08/19/22 16:34	1
Boron	<0.100	*+	0.100		mg/L		08/16/22 08:30	08/18/22 18:03	1
Cadmium	<0.000100		0.000100		mg/L		08/16/22 08:30	08/18/22 18:03	1
Calcium	156		0.500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Chromium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Cobalt	0.000798		0.000500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Lead	<0.000500		0.000500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Lithium	0.0108		0.0100		mg/L		08/16/22 08:30	08/18/22 18:03	1
Magnesium	45.0		0.500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Molybdenum	0.00401		0.00200		mg/L		08/16/22 08:30	08/18/22 18:03	1
Potassium	8.65		0.500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Selenium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/18/22 18:03	1
Sodium	86.7		1.00		mg/L		08/16/22 08:30	08/18/22 18:03	1
Thallium	<0.00100		0.00100		mg/L		08/16/22 08:30	08/18/22 18:03	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		08/22/22 14:38	08/23/22 12:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.690		0.500		mg/L		08/18/22 09:51	08/18/22 20:32	1
Total Kjeldahl Nitrogen	3.74		1.00		mg/L		08/17/22 07:00	08/17/22 19:02	1
Nitrate Nitrite as N	3.89		0.100		mg/L			08/16/22 20:13	1
Alkalinity as CaCO3 to pH 4.5	209		10.0		mg/L			08/15/22 08:30	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.2	HF	0.1		SU			08/12/22 15:21	1

# Definitions/Glossary

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## Glossary

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

# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-363601/3**  
**Matrix: Water**  
**Analysis Batch: 363601**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<1.00		1.00		mg/L			08/22/22 10:23	1
Fluoride	<0.100		0.100		mg/L			08/22/22 10:23	1
Sulfate	<1.00		1.00		mg/L			08/22/22 10:23	1

**Lab Sample ID: LCS 310-363601/4**  
**Matrix: Water**  
**Analysis Batch: 363601**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Chloride	10.0	10.06		mg/L		101	90 - 110
Fluoride	2.00	2.035		mg/L		102	90 - 110
Sulfate	10.0	10.08		mg/L		101	90 - 110

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

**Lab Sample ID: MB 310-362614/1-A**  
**Matrix: Water**  
**Analysis Batch: 362935**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00200		0.00200		mg/L		08/16/22 08:30	08/17/22 14:51	1
Arsenic	<0.00200		0.00200		mg/L		08/16/22 08:30	08/17/22 14:51	1
Barium	<0.00200		0.00200		mg/L		08/16/22 08:30	08/17/22 14:51	1
Beryllium	<0.00100		0.00100		mg/L		08/16/22 08:30	08/17/22 14:51	1
Boron	<0.100		0.100		mg/L		08/16/22 08:30	08/17/22 14:51	1
Cadmium	<0.000100		0.000100		mg/L		08/16/22 08:30	08/17/22 14:51	1
Calcium	<0.500		0.500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Chromium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Cobalt	<0.000500		0.000500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Lead	<0.000500		0.000500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Magnesium	<0.500		0.500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Molybdenum	<0.00200		0.00200		mg/L		08/16/22 08:30	08/17/22 14:51	1
Potassium	<0.500		0.500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Selenium	<0.00500		0.00500		mg/L		08/16/22 08:30	08/17/22 14:51	1
Sodium	<1.00		1.00		mg/L		08/16/22 08:30	08/17/22 14:51	1
Thallium	<0.00100		0.00100		mg/L		08/16/22 08:30	08/17/22 14:51	1

**Lab Sample ID: MB 310-362614/1-A**  
**Matrix: Water**  
**Analysis Batch: 363247**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lithium	<0.0100		0.0100		mg/L		08/16/22 08:30	08/19/22 16:24	1

**Lab Sample ID: LCS 310-362614/2-A**  
**Matrix: Water**  
**Analysis Batch: 362935**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Antimony	0.200	0.2356		mg/L		118	80 - 120

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# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

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

**Lab Sample ID: LCS 310-362614/2-A**  
**Matrix: Water**  
**Analysis Batch: 362935**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Arsenic	0.200	0.2068		mg/L		103	80 - 120
Barium	0.100	0.1131		mg/L		113	80 - 120
Beryllium	0.100	0.1097		mg/L		110	80 - 120
Cadmium	0.100	0.1050		mg/L		105	80 - 120
Calcium	2.00	1.612		mg/L		81	80 - 120
Chromium	0.100	0.1047		mg/L		105	80 - 120
Cobalt	0.100	0.1036		mg/L		104	80 - 120
Lead	0.200	0.2116		mg/L		106	80 - 120
Magnesium	2.00	2.050		mg/L		102	80 - 120
Molybdenum	0.200	0.2236		mg/L		112	80 - 120
Potassium	2.00	2.059		mg/L		103	80 - 120
Selenium	0.400	0.3907		mg/L		98	80 - 120
Sodium	2.00	2.207		mg/L		110	80 - 120
Thallium	0.200	0.2293		mg/L		115	80 - 120

**Lab Sample ID: LCS 310-362614/2-A**  
**Matrix: Water**  
**Analysis Batch: 363247**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Lithium	0.200	0.2192		mg/L		110	80 - 120

**Lab Sample ID: LCS 310-362614/2-A**  
**Matrix: Water**  
**Analysis Batch: 363273**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 362614**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Boron	0.200	0.2190		mg/L		109	80 - 120

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 310-363323/1-A**  
**Matrix: Water**  
**Analysis Batch: 363477**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 363323**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.000200		0.000200		mg/L		08/22/22 14:34	08/23/22 11:44	1

**Lab Sample ID: LCS 310-363323/2-A**  
**Matrix: Water**  
**Analysis Batch: 363477**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 363323**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Mercury	0.00167	0.001689		mg/L		101	80 - 120

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# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 310-363324/1-A  
Matrix: Water  
Analysis Batch: 363477

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 363324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		08/22/22 14:38	08/23/22 12:44	1

Lab Sample ID: LCS 310-363324/2-A  
Matrix: Water  
Analysis Batch: 363477

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 363324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001697		mg/L		102	80 - 120

Lab Sample ID: 310-237917-2 MS  
Matrix: Water  
Analysis Batch: 363477

Client Sample ID: Pivot Bucket  
Prep Type: Total/NA  
Prep Batch: 363324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.000200		0.00167	0.001664		mg/L		100	80 - 120

Lab Sample ID: 310-237917-2 MSD  
Matrix: Water  
Analysis Batch: 363477

Client Sample ID: Pivot Bucket  
Prep Type: Total/NA  
Prep Batch: 363324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.000200		0.00167	0.001669		mg/L		100	80 - 120	0	20

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 310-363012/1-A  
Matrix: Water  
Analysis Batch: 363102

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 363012

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500		mg/L		08/18/22 09:51	08/18/22 20:09	1

Lab Sample ID: LCS 310-363012/2-A  
Matrix: Water  
Analysis Batch: 363102

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 363012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	4.056		mg/L		101	90 - 110

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 310-362810/1-A  
Matrix: Water  
Analysis Batch: 362944

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 362810

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	<1.00		1.00		mg/L		08/17/22 07:00	08/17/22 18:34	1

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# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 310-362810/2-A  
Matrix: Water  
Analysis Batch: 362944

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 362810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Kjeldahl Nitrogen	4.01	4.054		mg/L		101	90 - 110

## Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 310-362793/43  
Matrix: Water  
Analysis Batch: 362793

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.100		0.100		mg/L			08/16/22 19:56	1

Lab Sample ID: LCS 310-362793/44  
Matrix: Water  
Analysis Batch: 362793

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.32	5.674		mg/L		107	90 - 110

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-362556/1  
Matrix: Water  
Analysis Batch: 362556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 to pH 4.5	<5.00		5.00		mg/L			08/15/22 08:30	1

Lab Sample ID: LCS 310-362556/2  
Matrix: Water  
Analysis Batch: 362556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3 to pH 4.5	1000	997.5		mg/L		100	90 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-362509/1  
Matrix: Water  
Analysis Batch: 362509

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

Lab Sample ID: LCS 310-362509/25  
Matrix: Water  
Analysis Batch: 362509

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	98 - 102

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# QC Sample Results

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-237917-1 DU

Matrix: Water

Analysis Batch: 362509

Client Sample ID: Road Track

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	8.1	HF	8.0		SU		0.5	20

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



# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## HPLC/IC

### Analysis Batch: 363601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	9056A	
310-237917-2	Pivot Bucket	Total/NA	Water	9056A	
MB 310-363601/3	Method Blank	Total/NA	Water	9056A	
LCS 310-363601/4	Lab Control Sample	Total/NA	Water	9056A	

## Metals

### Prep Batch: 362614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	3005A	
310-237917-2	Pivot Bucket	Total/NA	Water	3005A	
MB 310-362614/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-362614/2-A	Lab Control Sample	Total/NA	Water	3005A	

### Analysis Batch: 362935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-362614/1-A	Method Blank	Total/NA	Water	6020A	362614
LCS 310-362614/2-A	Lab Control Sample	Total/NA	Water	6020A	362614

### Analysis Batch: 363152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	6020A	362614
310-237917-2	Pivot Bucket	Total/NA	Water	6020A	362614

### Analysis Batch: 363247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	6020A	362614
310-237917-2	Pivot Bucket	Total/NA	Water	6020A	362614
MB 310-362614/1-A	Method Blank	Total/NA	Water	6020A	362614
LCS 310-362614/2-A	Lab Control Sample	Total/NA	Water	6020A	362614

### Analysis Batch: 363273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-362614/2-A	Lab Control Sample	Total/NA	Water	6020A	362614

### Prep Batch: 363323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	7470A	
MB 310-363323/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-363323/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 363324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-2	Pivot Bucket	Total/NA	Water	7470A	
MB 310-363324/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-363324/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-237917-2 MS	Pivot Bucket	Total/NA	Water	7470A	
310-237917-2 MSD	Pivot Bucket	Total/NA	Water	7470A	

# QC Association Summary

Client: Nebraska Public Power District  
 Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Metals

### Analysis Batch: 363477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	7470A	363323
310-237917-2	Pivot Bucket	Total/NA	Water	7470A	363324
MB 310-363323/1-A	Method Blank	Total/NA	Water	7470A	363323
MB 310-363324/1-A	Method Blank	Total/NA	Water	7470A	363324
LCS 310-363323/2-A	Lab Control Sample	Total/NA	Water	7470A	363323
LCS 310-363324/2-A	Lab Control Sample	Total/NA	Water	7470A	363324
310-237917-2 MS	Pivot Bucket	Total/NA	Water	7470A	363324
310-237917-2 MSD	Pivot Bucket	Total/NA	Water	7470A	363324

## General Chemistry

### Analysis Batch: 362509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	SM 4500 H+ B	
310-237917-2	Pivot Bucket	Total/NA	Water	SM 4500 H+ B	
LCS 310-362509/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-362509/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-237917-1 DU	Road Track	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 362556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	SM 2320B	
310-237917-2	Pivot Bucket	Total/NA	Water	SM 2320B	
MB 310-362556/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-362556/2	Lab Control Sample	Total/NA	Water	SM 2320B	

### Analysis Batch: 362793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	353.2	
310-237917-2	Pivot Bucket	Total/NA	Water	353.2	
MB 310-362793/43	Method Blank	Total/NA	Water	353.2	
LCS 310-362793/44	Lab Control Sample	Total/NA	Water	353.2	

### Prep Batch: 362810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	351.2	
310-237917-2	Pivot Bucket	Total/NA	Water	351.2	
MB 310-362810/1-A	Method Blank	Total/NA	Water	351.2	
LCS 310-362810/2-A	Lab Control Sample	Total/NA	Water	351.2	

### Analysis Batch: 362944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	351.2	362810
310-237917-2	Pivot Bucket	Total/NA	Water	351.2	362810
MB 310-362810/1-A	Method Blank	Total/NA	Water	351.2	362810
LCS 310-362810/2-A	Lab Control Sample	Total/NA	Water	351.2	362810

### Prep Batch: 363012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	Distill/Ammonia	
310-237917-2	Pivot Bucket	Total/NA	Water	Distill/Ammonia	

Eurofins Cedar Falls

# QC Association Summary

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## General Chemistry (Continued)

### Prep Batch: 363012 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-363012/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 310-363012/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 363102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-237917-1	Road Track	Total/NA	Water	350.1	363012
310-237917-2	Pivot Bucket	Total/NA	Water	350.1	363012
MB 310-363012/1-A	Method Blank	Total/NA	Water	350.1	363012
LCS 310-363012/2-A	Lab Control Sample	Total/NA	Water	350.1	363012



# Lab Chronicle

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

**Client Sample ID: Road Track**

**Lab Sample ID: 310-237917-1**

Date Collected: 08/11/22 11:00

Matrix: Water

Date Received: 08/12/22 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	363601	DHM5	EET CF	08/22/22 15:34
Total/NA	Prep	3005A			362614	QTZ5	EET CF	08/16/22 08:30
Total/NA	Analysis	6020A		1	363152	A6US	EET CF	08/18/22 17:47
Total/NA	Prep	3005A			362614	QTZ5	EET CF	08/16/22 08:30
Total/NA	Analysis	6020A		4	363247	A6US	EET CF	08/19/22 16:31
Total/NA	Prep	7470A			363323	XXW3	EET CF	08/22/22 14:34
Total/NA	Analysis	7470A		1	363477	XXW3	EET CF	08/23/22 12:41
Total/NA	Prep	Distill/Ammonia			363012	ENB7	EET CF	08/18/22 09:51
Total/NA	Analysis	350.1		1	363102	ZJX4	EET CF	08/18/22 20:31
Total/NA	Prep	351.2			362810	W9YR	EET CF	08/17/22 07:00
Total/NA	Analysis	351.2		1	362944	ZJX4	EET CF	08/17/22 19:01
Total/NA	Analysis	353.2		1	362793	ZJX4	EET CF	08/16/22 20:12
Total/NA	Analysis	SM 2320B		1	362556	MAQ3	EET CF	08/15/22 08:30
Total/NA	Analysis	SM 4500 H+ B		1	362509	N7RT	EET CF	08/12/22 15:15

**Client Sample ID: Pivot Bucket**

**Lab Sample ID: 310-237917-2**

Date Collected: 08/11/22 11:05

Matrix: Water

Date Received: 08/12/22 08:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	363601	DHM5	EET CF	08/22/22 15:49
Total/NA	Prep	3005A			362614	QTZ5	EET CF	08/16/22 08:30
Total/NA	Analysis	6020A		1	363152	A6US	EET CF	08/18/22 18:03
Total/NA	Prep	3005A			362614	QTZ5	EET CF	08/16/22 08:30
Total/NA	Analysis	6020A		1	363247	A6US	EET CF	08/19/22 16:34
Total/NA	Prep	7470A			363324	XXW3	EET CF	08/22/22 14:38
Total/NA	Analysis	7470A		1	363477	XXW3	EET CF	08/23/22 12:48
Total/NA	Prep	Distill/Ammonia			363012	ENB7	EET CF	08/18/22 09:51
Total/NA	Analysis	350.1		1	363102	ZJX4	EET CF	08/18/22 20:32
Total/NA	Prep	351.2			362810	W9YR	EET CF	08/17/22 07:00
Total/NA	Analysis	351.2		1	362944	ZJX4	EET CF	08/17/22 19:02
Total/NA	Analysis	353.2		1	362793	ZJX4	EET CF	08/16/22 20:13
Total/NA	Analysis	SM 2320B		1	362556	MAQ3	EET CF	08/15/22 08:30
Total/NA	Analysis	SM 4500 H+ B		1	362509	N7RT	EET CF	08/12/22 15:21

**Laboratory References:**

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

# Accreditation/Certification Summary

Client: Nebraska Public Power District  
Project/Site: Irrigation Runoff

Job ID: 310-237917-1

## Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

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

# Method Summary

Client: Nebraska Public Power District  
 Project/Site: Irrigation Runoff

Job ID: 310-237917-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020A	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
350.1	Nitrogen, Ammonia	MCAWW	EET CF
351.2	Nitrogen, Total Kjeldahl	MCAWW	EET CF
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	EET CF
SM 2320B	Alkalinity	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
351.2	Nitrogen, Total Kjeldahl	MCAWW	EET CF
7470A	Preparation, Mercury	SW846	EET CF
Distill/Ammonia	Distillation, Ammonia	None	EET CF

**Protocol References:**

- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

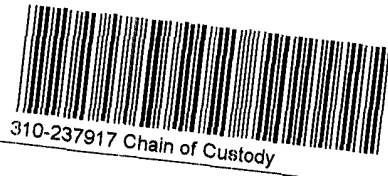
**Laboratory References:**

- EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing  
America



### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <i>Nebraska Public Power</i>			
City/State:	CITY <i>Sutherland</i>	STATE <i>NE</i>	Project:
<b>Receipt Information</b>			
Date/Time Received:	DATE <i>8-12-22</i>	TIME <i>835</i>	Received By: <i>[Signature]</i>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <i>P</i>		Correction Factor (°C): <i>0</i>	
• <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <i>-1.6</i>		Corrected Temp (°C): <i>-1.6</i>	
• <b>Sample Container Temperature</b>			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



3019 Venture Way  
Cedar Falls IA 50613  
Phone (319) 277-2401 Phone (319) 277-2425

<b>Client Information</b>		Sampler: Doug Harris		Lab PM: Hayes, Shawn M		Carrier Tracking No(s):		COC No:	
Client Contact: Doug Harris		Phone: 308-530-1124		E-Mail: Shawn Hayes@eurofins.com		State of Origin:		Page: Page 1 of 1	
Company: Nebraska Public Power District		Address: 6089 S Hwy 25 Gerald Gentleman Station		City: Sutherland		State: NE		Zip: 69165	
Phone: 308-530-1124		Email: ddhari@nppd.com		Project Name: Irrigation Runoff		Site: GGS		SSOW#: 31007155	
Due Date Requested:		TAT Requested (days):		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		PO #: 4500245807		WO #: 308-530-1124	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (Water, Soil, On-surface, Air)	
Road Track		8-11-22		1160		G		Water	
Pivot Bucket		8-11-22		1105		G		Water	
↑ sample bottles only partially filled due to lack of sample - please do what we can Doug									
<b>Possible Hazard Identification</b>		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B	
Deliverable Requested: I, II, III, IV, Other (specify)		Unknown		Radiological		Empty Kit Relinquished by:		Date: 8-11-22 1400	
Relinquished by: Doug Harris		Company: NPPD		Received by: MC		Date/Time: 8-12-22 835		Company:	
Relinquished by:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks:		Special Instructions/QC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
								<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	





## Login Sample Receipt Checklist

Client: Nebraska Public Power District

Job Number: 310-237917-1

**Login Number: 237917**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Costello, Mackenzie K**

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



**wsp** **GOLDER**

[golder.com](http://golder.com)



August 8, 2024

Project No. GLA21457062.5798

Nebraska Public Power District  
Gerald Gentleman Station  
6089 South Highway 25  
Sutherland, Nebraska 69165

## **ALTERNATIVE SOURCE DEMONSTRATION REVIEW – Q2 2024 MONITORING EVENT**

### **1.0 INTRODUCTION**

Following the second quarter (Q2 2024) coal combustion residuals detection monitoring event, a previously identified verified statistically significant increase was identified at Gerald Gentleman Station for chloride at APMW-6. Chloride was initially identified as a verified statistically significant increase following the fourth quarter (Q4) 2021 monitoring event.

An alternative source demonstration was previously prepared for the verified statistically significant increase for chloride at APMW-6 following the Q2 2022 monitoring event, which was been reviewed following the subsequent monitoring events. This alternative sourced demonstration is included as an attachment to this document. The previously prepared ASD was reviewed for ongoing applicability in the context of the current monitoring event.

### **2.0 APMW-6 CHLORIDE**

During the Q2 2024 monitoring event, chloride at APMW-6 was reported at a concentration of 30.3 mg/L, with a CUSUM value of 81.7 mg/L, exceeding the Shewhart-CUSUM statistical limit of 20.4 mg/L. Chloride concentrations from the upgradient, unimpacted wells (APMW-5, APMW-15, APMW-16A, and APMW-17) ranged from 8.7 mg/L to 29.6 mg/L for the same monitoring event. While the collected upgradient data for the current event is slightly lower than the current result for APMW-6, the range of values over time at the upgradient wells reaffirms the presence of higher chloride concentrations upgradient of the unit.

Further, as discussed within the prior alternative source demonstration, concentrations of chloride in the Sutherland Reservoir continue to remain elevated and serve as an influence on the groundwater upgradient of the CCR unit. As such, the CCR unit is not the source of the verified statistically significant increase in chloride at APMW-6.

### **3.0 CLOSING**

Based on our review of the previously collected information as presented in the Q2 2022 alternative source demonstrations, and the data associated with the current event, the verified statistically significant increase

identified during the Q2 2024 event for chloride at APMW-6 is not an indication of a release from the CCR unit. The identified conclusions within the previously completed alternative source demonstrations remain true, and Gerald Gentleman Station is recommended to remain in detection monitoring for the next scheduled coal combustion residuals monitoring event, scheduled for Q4 2024.

**WSP USA Inc.**

Erin L. Hunter, PhD, PE  
*Lead Consultant, Civil Engineer*



Jacob J. Sauer, PE  
*Associate Vice President, Civil Engineer*

ELH/JJS

[https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project files/5 technical work/ggs/2024 - q4/ccr report/app c - asds and reviews/reference/app c-x\\_asd\\_reviewletter-q22024.docx](https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project%20files/5%20technical%20work/ggs/2024%20-%20q4/ccr%20report/app%20c%20-%20asds%20and%20reviews/reference/app%20c-x_asd_reviewletter-q22024.docx)



January 25, 2025

Project No. GLA21457062.5798

Nebraska Public Power District  
Gerald Gentleman Station  
6089 South Highway 25  
Sutherland, Nebraska 69165

## **ALTERNATIVE SOURCE DEMONSTRATION REVIEW – Q4 2024 MONITORING EVENT**

### **1.0 INTRODUCTION**

Following the fourth quarter (Q4 2024) coal combustion residuals detection monitoring event, a previously identified verified statistically significant increase was identified at Gerald Gentleman Station for chloride at APMW-6. Chloride was initially identified as a verified statistically significant increase following the fourth quarter (Q4) 2021 monitoring event.

An alternative source demonstration was previously prepared for the verified statistically significant increase for chloride at APMW-6 following the second quarter (Q2) 2022 monitoring event, which was subsequently reviewed following the subsequent monitoring events. This alternative sourced demonstration is included as an attachment to this document. The previously prepared ASD was reviewed for ongoing applicability in the context of the current monitoring event.

### **2.0 APMW-6 CHLORIDE**

During the Q4 2024 monitoring event, chloride at APMW-6 was reported at a concentration of 31.4 mg/L, with a CUSUM value of 100.3 mg/L, exceeding the Shewhart-CUSUM statistical limit of 20.4 mg/L. Chloride concentrations from the upgradient, unimpacted wells (APMW-15, APMW-16A, and APMW-17) ranged from 29.1 mg/L to 33.5 mg/L for the same monitoring event. The collected upgradient data for the current event reaffirms the presence of equal or higher chloride concentrations upgradient of the unit.

Further, as discussed within the prior alternative source demonstration, concentrations of chloride in the Sutherland Reservoir continue to remain elevated and serve as an influence on the groundwater upgradient of the CCR unit. As such, the CCR unit is not the source of the verified statistically significant increase in chloride at APMW-6.

### **3.0 CLOSING**

Based on our review of the previously collected information as presented in the Q2 2022 alternative source demonstrations, and the data associated with the current event, the verified statistically significant increase

identified during the Q4 2024 event for chloride at APMW-6 is not an indication of a release from the CCR unit. The identified conclusions within the previously completed alternative source demonstrations remain true, and Gerald Gentleman Station is recommended to remain in detection monitoring for the next scheduled coal combustion residuals monitoring event, scheduled for Q2 2025.

**WSP USA Inc.*****DRAFT***

Erin L. Hunter, PhD, PE  
*Lead Consultant, Civil Engineer*

ELH/JJS

***DRAFT***

Jacob J. Sauer, PE  
*Associate Vice President, Civil Engineer*

[https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project files/5 technical work/ggs/2024 - q4/ccr report/app c - asds and reviews/reference/app c-x\\_asd\\_reviewletter-q42024.docx](https://wsponline.sharepoint.com/sites/global-nppd2023gwqualityrep/project%20files/5%20technical%20work/ggs/2024%20-%20q4/ccr%20report/app%20c%20-%20asds%20and%20reviews/reference/app%20c-x_asd_reviewletter-q42024.docx)

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