2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CCR LANDFILL
IATAN GENERATING STATION
PLATTE COUNTY, MISSOURI

Presented To:
Evergy Metro, Inc.

SCS ENGINEERS

27213167.23 | January 2024

8575 W 110th Street, Suite 100
Overland Park, Kansas 66210
913-681-0030

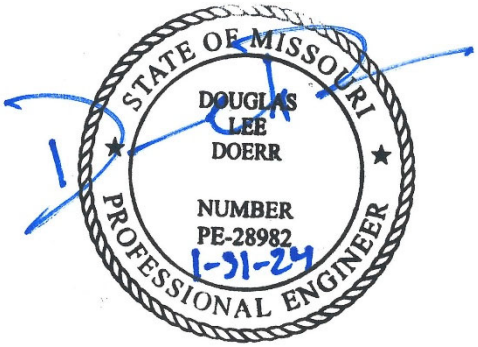
CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify that the 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Iatan Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).

John R. Rockhold, R.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify that the 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Iatan Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



Douglas L. Doerr, P.E.

SCS Engineers

Revision Number	Revision Date	Revision Sections	Summary of Revisions
0	January 31, 2024	NA	Original

Table of Contents

Appendices

1 INTRODUCTION

This 2023 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule) published by the United States Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent revisions. Specifically, this report was prepared for Evergy Metro, Inc. (Evergy) to fulfill the requirements of 40 CFR 257.90 (e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill at the Iatan Generating Station.

1.1 § 257.90(e)(6) SUMMARY

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

1.1.1 § 257.90(e)(6)(i) Initial Monitoring Program

At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

At the start of the current annual reporting period, (January 1, 2023), the CCR Landfill was operating under a detection monitoring program in compliance with § 257.94.

1.1.2 § 257.90(e)(6)(ii) Final Monitoring Program

At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

At the end of the current annual reporting period, (December 31, 2023), the CCR Landfill was operating under a detection monitoring program in compliance with § 257.94.

1.1.3 § 257.90(e)(6)(iii) Statistically Significant Increases

If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to § 257.94(e):

(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and

Monitoring Event	Monitoring Well	Constituent	ASD
Fall 2022	MW-9	Calcium	Successful
Fall 2022	MW-9	Total Dissolved Solids	Successful
Fall 2022	MW-10	Calcium	Successful
Fall 2022	MW-10	Sulfate	Successful
Spring 2023	MW-1	Calcium	Successful

Spring 2023	MW-1	Total Dissolved Solids	Successful
Spring 2023	MW-9	Calcium	Successful
Spring 2023	MW-9	Total Dissolved Solids	Successful
Spring 2023	MW-10	Sulfate	Successful

(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.

Not applicable because an assessment monitoring program was not initiated.

1.1.4 § 257.90(e)(6)(iv) Statistically Significant Levels

If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to § 257.95(g) include all of the following:

(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;

Not applicable because there was no assessment monitoring conducted.

(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit*; and*

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.

Not applicable because there was no assessment of corrective measures initiated for the CCR Unit.

1.1.5 § 257.90(e)(6)(v) Selection of Remedy

Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and

Not applicable because corrective measures are not required.

1.1.6 § 257.90(e)(6)(vi) Remedial Activities

Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

Not applicable because corrective measures are not required.

2 § 257.90(E) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. *For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:*

2.1 § 257.90(E)(1) SITE MAP

A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

A site map with an aerial image showing the CCR Landfill and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Landfill groundwater monitoring program is provided as **Figure 1** in **Appendix A**.

2.2 § 257.90(E)(2) MONITORING SYSTEM CHANGES

Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

No new monitoring wells were installed and no wells were decommissioned as part of the CCR groundwater monitoring program for the CCR Landfill in 2023.

2.3 § 257.90(E)(3) SUMMARY OF SAMPLING EVENTS

In addition to all the monitoring data obtained under § 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

Only detection monitoring was required to be conducted during the reporting period (2023). Samples collected in 2023 were collected and analyzed for Appendix III detection monitoring constituents. Results of the sampling events are provided in **Appendix B**, **Table 1** (Appendix III Detection Monitoring Results), and **Table 2** (Detection Monitoring Field Measurements). These tables include Fall 2022 semiannual detection monitoring event verification sample data collected and analyzed in 2023; Spring 2023 semiannual detection monitoring data and verification sample data; and, the initial Fall 2023 semiannual detection monitoring data. The dates of sample collection are also provided in these tables.

2.4 § 257.90(E)(4) MONITORING TRANSITION NARRATIVE

A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

There was no transition between monitoring programs in 2023. Only detection monitoring was conducted in 2023.

2.5 § 257.90(e)(5) OTHER REQUIREMENTS

Other information required to be included in the annual report as specified in § 257.90 through 257.98.

A summary of potentially required information and the corresponding section of the Rule is provided in the following sections. In addition, the information, if applicable, is provided.

2.5.1 § 257.90(e) Program Status

Status of Groundwater Monitoring and Corrective Action Program.

The groundwater monitoring and corrective action program is in detection monitoring.

Summary of Key Actions Completed.

a. completion of the 2022 Annual Groundwater Monitoring and Corrective Action Report,

b. completion of the Fall 2022 verification sampling and analyses per the certified statistical method,

c. completion of the statistical evaluation of the Fall 2022 semiannual detection monitoring sampling and analysis event per the certified statistical method,

d. completion of a successful alternative source demonstration for the Fall 2022 semiannual detection monitoring sampling and analysis event,

e. completion of the Spring 2023 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method,

f. completion of the statistical evaluation of the Spring 2023 semiannual detection monitoring sampling and analysis event per the certified statistical method,

g. completion of a successful alternative source demonstration for the Spring 2023 semiannual detection monitoring sampling and analysis event, and

h. initiation of the Fall 2023 semiannual detection monitoring sampling and analysis event.

Description of Any Problems Encountered.

No noteworthy problems were encountered.

Discussion of Actions to Resolve the Problems.

Not applicable because no noteworthy problems were encountered.

Projection of Key Activities for the Upcoming Year (2024).

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2023 detection monitoring sampling and analysis event; and, if required, alternative source demonstration(s). Semiannual Spring and Fall 2024 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2024 detection monitoring sampling and analysis event; and, if required, alternative source demonstration(s).

2.5.2 § 257.94(d)(3) Demonstration for Alternative Detection Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

Not applicable because no alternative monitoring frequency for detection monitoring and certification was pursued.

2.5.3 § 257.94(e)(2) Detection Monitoring Alternate Source Demonstration

Demonstration that a source other than the CCR unit caused the statistically significant increase (SSI) over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. In addition, certification of the demonstration is to be included in the annual report.

The following demonstration reports are included as **Appendix C**:

CCR Groundwater Monitoring Alternative Source Demonstration Report November 2022 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2023).

CCR Groundwater Monitoring Alternative Source Demonstration Report May 2023 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (December 2023).

2.5.4 § 257.95(c)(3) Demonstration for Alternative Assessment Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

Not applicable because there was no assessment monitoring conducted.

2.5.5 § 257.95(d)(3) Assessment Monitoring Concentrations and Groundwater Protection Standards

Include the concentrations of Appendix III and detected Appendix IV constituents from the assessment monitoring, the established background concentrations, and the established groundwater protection standards.

Not applicable because there was no assessment monitoring conducted.

2.5.6 § 257.95(g)(3)(ii) Assessment Monitoring Alternate Source Demonstration

Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

Not applicable because there was no assessment monitoring conducted.

2.5.7 § 257.96(a) Demonstration for Additional Time for Assessment of Corrective Measures

Within 90 days of finding that any constituent listed in appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that

the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

Not applicable because there was no assessment monitoring conducted.

2.6 § 257.90(e)(6) OVERVIEW SUMMARY

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit.

§ 257.90(e)(6) is addressed in Section 1.1 of this report.

3 SUPPLEMENTAL INFORMATION AND DATA

In addition to the requirements listed in 40 CFR 257.90(e), supplemental information has been included in this section in recognition of comments received by Evergy from the USEPA on January 11, 2022. The USEPA indicated in their comments that the GWMCA Report contain the following:

- Results of laboratory analysis of groundwater or other environmental media samples for 40 CFR 257 Appendix III and Appendix IV constituents or other constituents, such as those supporting characterization of site conditions that may ultimately affect a remedy.
- Required statistical analysis performed on laboratory analysis results; and
- Calculated groundwater flow rate and direction.

This information is not specifically referred to in 40 CFR 257.90(e) for inclusion in the GWMCA Reports; however, it is routinely collected, determined and maintained in Evergy's files and is being provided with in this GWMCA report. This supplemental information and data are provided as specified below:

- Laboratory Analytical Reports (**Appendix D**):

  Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. The laboratory data packages for the following sampling events are provided:

  - January 2023 – First verification sampling for the Fall 2022 detection monitoring event.
  - February 2023 – Second verification sampling for the Fall 2022 detection monitoring event.
  - May 2023 – Spring 2023 semiannual detection monitoring sampling event.
  - July 2023 – First verification sampling for the Spring 2023 detection monitoring sampling event.
  - August 2023 - Second verification sampling for Spring 2023 detection monitoring sampling event.
  - November 2023 - Fall 2023 semiannual detection monitoring sampling event.

- Statistical Analyses (**Appendix E**):
  Includes summary of statistical results, prediction limit plots, prediction limit background data, detection sample results, first and second verification re-sample results (when applicable), extra sample results for pH (collected as part of the approved sampling procedures), input parameters, and a Prediction Limit summary table. Statistical analyses completed in 2023 included the following:

  - Fall 2022 semiannual detection monitoring statistical analyses.
  - Spring 2023 semiannual detection monitoring statistical analyses.

- Groundwater Potentiometric Surface Maps (**Appendix A**):
  Includes revised groundwater potentiometric surface maps with the measured groundwater elevations at each well and the generalized groundwater flow direction and the calculated groundwater flow rate. Maps for the following sampling events are provided:

  - **Figure 2** - Spring 2023 semiannual detection monitoring sampling event.
  - **Figure 3** - Fall 2023 semiannual detection monitoring sampling event.

4 GENERAL COMMENTS

This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the Iatan Generating Station at the time of fieldwork. This report includes a review and compilation of the required information and does not reflect any variations of the subsurface, which may occur between sampling locations. Actual subsurface conditions may vary and the extent of such variations may not become evident without further investigation.

Conclusions drawn by others from the result of this work should recognize the limitation of the methods used. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report. This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of Evergy Metro, Inc. for specific application to the Iatan Generating Station CCR Landfill. No warranties, express or implied, are intended or made.

APPENDIX A

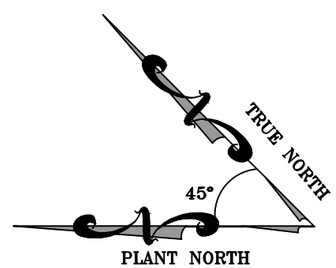
FIGURES

LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW-7 CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED ARPIL 2021
4. APPROXIMATE BOUNDARY LOCATION PROVIDED BY BURNS & MCDONNELL
5. MONITORING WELL LOCATIONS PROVIDED BY SHAFFER, KLINE, & WARREN
6. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 13, 2023



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SHEET TITLE
SITE MAP
CCR LANDFILL
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
2023 GROUNDWATER MONITORING AND CORRECTION ACTION REPORT

CLIENT
EVERGY METRO, INC.
IATAN GENERATING STATION
IATAN, MISSOURI

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ALR	JRR	JRR

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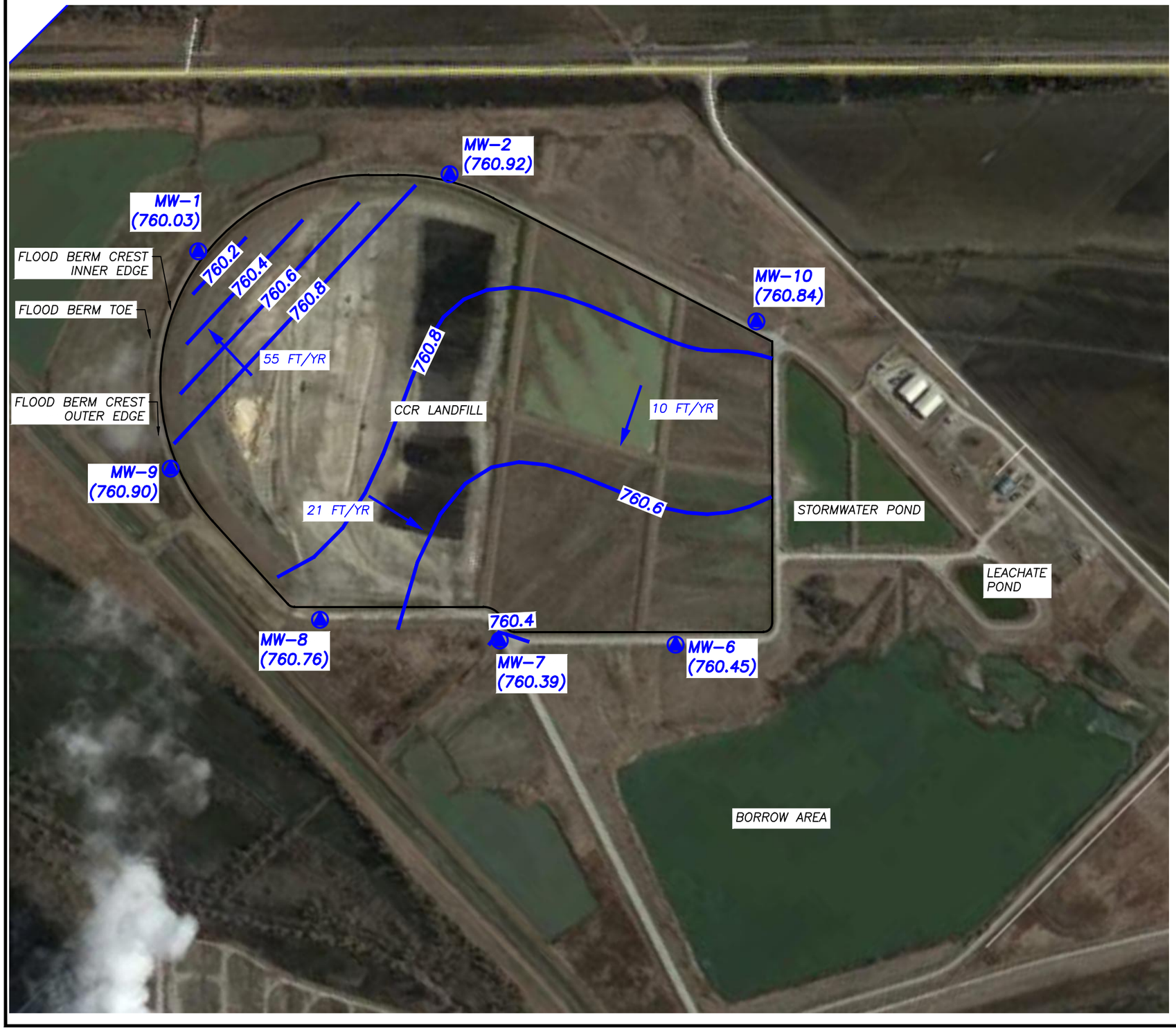
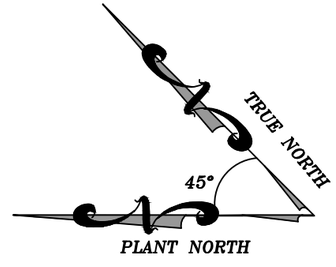


LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW–704 (869.52) — CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- –875– — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- 16 FT/YR — DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED FEBRUARY 20, 2020
4. APPROXIMATE BOUNDARY LOCATION PROVIDED BY BURNS & MCDONNELL
5. MONITORING WELL LOCATIONS PROVIDED BY SHAFFER, KLINE, & WARREN
6. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 15, 2023



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SHEET TITLE: POTENTIOMETRIC SURFACE MAP (MAY 2023) CCR LANDFILL

PROJECT TITLE: 2023 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT: EVERGY METRO, INC.
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FIGURE NO. 2

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LEGEND

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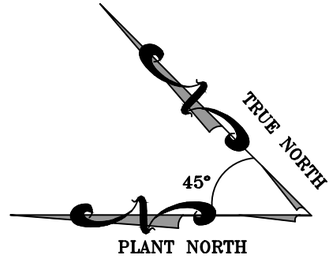

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP
(NOVEMBER 2023)
CCR LANDFILL

PROJECT TITLE
2023 GROUNDWATER MONITORING
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CLIENT
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PROJ. NO.	27213167.22
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DWN. BY:	SO
CHK. BY:	JRR
Q/A RVW BY:	JRR
PROJ. MGR	JRR

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DATE:
1/05/2024

FIGURE NO.
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APPENDIX B

TABLES

Table 1
CCR Landfill
Appendix III Detection Monitoring Results
Evergy Iatan Generating Station

Well Number	Sample Date	Appendix III Constituents						
		Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-1	05/15/23	0.502	197	6.44	0.232	6.85	36.2	569
MW-1	07/06/23	*'<0.200	*156	---	---	**6.84	---	*589
MW-1	08/14/23	---	*161	---	---	**6.79	---	*636
MW-1	11/13/23	<0.200	176	18.8	0.199	6.86	43.5	635
MW-2	05/15/23	0.276	144	6.36	0.280	6.98	125	619
MW-2	07/06/23	*'<0.200	---	---	---	**6.89	---	---
MW-2	11/13/23	<0.200	153	5.85	0.314	6.85	92.7	579
MW-6	05/15/23	0.210	151	1.90	0.287	7.12	33.1	554
MW-6	07/06/23	*'<0.200	---	---	---	**7.03	---	---
MW-6	11/13/23	<0.200	191	2.64	0.238	7.34	44.4	667
MW-7	05/15/23	<0.200	141	1.62	0.313	7.05	40.6	535
MW-7	11/13/23	<0.200	162	1.77	0.316	7.08	39.3	553
MW-8	05/15/23	<0.200	131	1.62	0.308	7.13	40.1	484
MW-8	11/13/23	<0.200	132	1.77	0.321	7.09	39.0	466
MW-9	01/09/23	---	*139	---	---	**7.29	---	*509
MW-9	02/06/23	---	*132	---	---	**7.30	---	*511
MW-9	05/15/23	<0.200	150	1.43	0.346	7.03	13.8	626
MW-9	07/06/23	---	*149	---	---	**6.85	---	*553
MW-9	08/14/23	---	*133	---	---	**6.90	---	*521
MW-9	11/13/23	<0.200	133	1.21	0.344	6.98	5.89	523
MW-10	01/09/23	---	*163	---	---	**7.36	*78.2	---
MW-10	02/06/23	---	*172	---	---	**7.29	*74.5	---
MW-10	05/15/23	<0.200	152	15.7	0.472	6.92	95.2	860
MW-10	07/06/23	---	---	---	---	**6.76	*92.7	---
MW-10	08/14/23	---	---	---	---	**6.73	*93.1	---
MW-10	11/13/23	<0.200	200	14.3	0.398	7.11	99.1	846

* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.
**Extra Sample for Quality Control Validation or per Standard Sampling Procedure
mg/L - miligrams per liter
pCi/L - picocuries per liter
S.U. - Standard Units
--- Not Sampled

Table 2
CCR Landfill
Detection Monitoring Field Measurements
Evergy Iatan Generating Station

Well Number	Sample Date	pH (S.U.)	Specific Conductivity (µS)	Temperature (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft btoc)	Groundwater Elevation (ft NGVD)
MW-1	05/15/23	6.85	906	14.05	2.4	-107	0.06	28.66	760.03
MW-1	07/06/23	**6.84	985	16.43	19.7	-154	0.00	27.53	761.16
MW-1	08/14/23	**6.79	982	18.81	16.4	-149	7.74	27.55	761.14
MW-1	11/13/23	6.86	1090	16.46	0.0	-99	3.21	28.42	760.27
MW-2	05/15/23	6.98	904	14.53	3.5	-124	0.11	28.69	760.92
MW-2	07/06/23	**6.89	930	17.04	15.7	-155	0.00	28.69	760.92
MW-2	11/13/23	6.85	980	15.48	0.0	-102	1.15	29.39	760.22
MW-6	05/15/23	7.12	923	14.28	4.6	-146	1.59	29.20	760.45
MW-6	07/06/23	**7.03	948	17.16	15.5	-162	0.00	29.29	760.36
MW-6	11/13/23	7.34	1050	17.07	0.0	-129	1.58	29.70	759.95
MW-7	05/15/23	7.05	766	14.24	5.0	-37	0.05	29.26	760.39
MW-7	11/13/23	7.08	760	18.63	0.0	-5	2.11	29.65	760.00
MW-8	05/15/23	7.13	775	14.79	4.2	-60	3.00	28.95	760.76
MW-8	11/13/23	7.09	945	17.38	0.0	-82	3.79	BTP	NA
MW-9	01/09/23	**7.29	969	14.61	18.6	-93	1.38	28.66	761.24
MW-9	02/06/23	**7.30	322	17.1	0.6	-83	0.08	28.96	760.94
MW-9	05/15/23	7.03	927	14.16	13.5	-87	0.19	29.00	760.90
MW-9	07/06/23	**6.85	968	17.58	34.7	-153	3.63	29.11	760.79
MW-9	08/14/23	**6.90	867	16.31	4.3	-152	0.07	29.11	760.79
MW-9	11/13/23	6.98	931	17.29	8.0	-110	0.00	29.62	760.28
MW-10	01/09/23	**7.36	1230	14.82	0.0	-31	0.32	28.06	761.40
MW-10	02/06/23	**7.29	543	16.5	0.0	-69	0.45	28.32	761.14
MW-10	05/15/23	6.92	1280	15.09	0.0	-69	0.48	28.62	760.84
MW-10	07/06/23	**6.76	1310	17.00	19.0	-105	0.00	28.56	760.90
MW-10	08/14/23	**6.73	1360	16.89	0.1	-85	8.06	28.47	760.99
MW-10	11/13/23	7.11	1280	16.45	0.0	-75	0.00	29.18	760.28

* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.
**Extra Sample for Quality Control Validation or per Standard Sampling Procedure
S.U. - Standard Units
µS - microsiemens
°C - Degrees Celsius
ft btoc - Feet Below Top of Casing
ft NGVD - National Geodetic Vertical Datum (NAVD 88)
NTU - Nephelometric Turbidity Unit

APPENDIX C

ALTERNATIVE SOURCE DEMONSTRATIONS

C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2022 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2023)

C.2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2023 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (December 2023)

APPENDIX C.1

CCR Groundwater Monitoring Alternative Source Demonstration Report November 2022
Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2023)

CCR GROUNDWATER MONITORING
ALTERNATIVE SOURCE DEMONSTRATION REPORT
NOVEMBER 2022 GROUNDWATER MONITORING EVENT

CCR LANDFILL

Iatan Generating Station
Evergy Metro, Inc.
Platte County, Missouri

SCS ENGINEERS

June 16, 2023
File No. 27213167.23

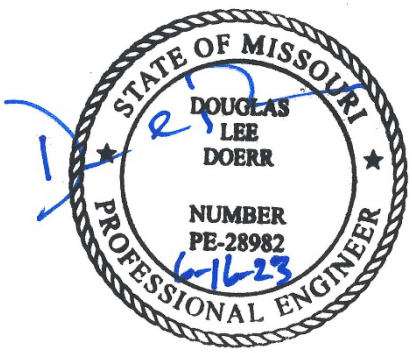
8575 W. 110th Suite 100
Overland Park, KS 66210
913-749-0700

CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Iatan Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted hydrogeological practices and the local standard of care.

John R. Rockhold, R.G.
SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Iatan Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted engineering practices and the local standard of care.



Douglas L. Doerr, P.E.
SCS Engineers

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Appendices

1 REGULATORY FRAMEWORK

Certain owners or operators of Coal Combustion Residuals (CCR) units are required to complete groundwater monitoring activities to evaluate whether a release from the unit has occurred. Included in the activities is the completion of a statistical analysis of the groundwater quality data as prescribed in § 257.93(h) of the CCR Final Rule. If the initial analysis indicates a statistically significant increase (SSI) over background levels, the owner or operator may perform an alternative source demonstration (ASD). In accordance with § 257.94(e)(2), the owner or operator of the CCR unit may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting an SSI over background levels to include obtaining a certification from a qualified professional engineer verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under § 257.94. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer.

2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Iatan Generating Station has been completed in substantial compliance with the "Statistical Method Certification by A Qualified Professional Engineer" dated October 12, 2017. Groundwater samples were collected on November 7, 2022. Review and validation of the results from the November 2022 Detection Monitoring Event was completed on December 20, 2022, which constitutes completion and finalization of detection monitoring laboratory analyses. Statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on January 9, 2023, and February 6, 2023.

The completed statistical evaluation identified three Appendix III constituents above their prediction limits.

Monitoring Well Constituents	*UPL	Observation November 7, 2022	1st Verification January 9, 2023	2nd Verification February 6, 2023
MW-9				
Calcium	121.5	145	139/134**	132/125**
Total Dissolved Solids	473.9	594	509/538**	511/502**
MW-10				
Calcium	160.1	167	163	172
Sulfate	48.43	85.8	78.2/77.7**	74.5/74.9**

*UPL – Upper Prediction Limit
** - Duplicate Sample

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified

four SSIs above the background prediction limit. These include calcium and total dissolved solids at MW-9 and calcium and sulfate at monitoring well MW-10.

3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration (ASD) is a means to provide supporting lines of evidence that something other than a release from a regulated CCR unit caused an SSI. For the above identified SSI for the CCR Landfill at the Iatan Generating Station, there are multiple lines of supporting evidence to indicate the above SSIs were not caused by a release from the CCR Landfill. Select multiple lines of supporting evidence are described as follows.

3.1 BOX AND WHISKERS PLOTS

A commonly accepted method to demonstrate and visualize the distribution of data in a given data set is to construct box and whiskers plots. The basic box plotted graphically locates the median, 25th and 75th percentiles of the data set; the "whiskers" extend to the minimum and maximum values of the data set. The range between the ends of a box plot represents the Interquartile Range, which can be used as an estimate of spread or variability. The mean is denoted by a "+".

When comparing multiple wells or well groups, box plots for each well can be lined up on the same axis to roughly compare the variability in each well. This may be used as an exploratory screening for the test of homogeneity of variance across multiple wells.

Box and whiskers plots for all of the groundwater monitoring system wells were prepared to allow comparison of the calcium, total dissolved solids (TDS), and sulfate concentrations between MW-9 and MW-10 and the other monitoring wells both upgradient and downgradient. The calcium box and whiskers plots for MW-9 and MW-10 indicate the calcium concentrations at MW-9 and MW-10 are within or below the concentration ranges for the other wells including typically upgradient well MW-2. The TDS box and whiskers plot for MW-9 indicates the TDS concentrations at MW-9 are within or below the concentration ranges for the other wells including typically upgradient well MW-2. The sulfate box and whiskers plot for MW-10 indicates the sulfate concentrations at MW-10 are within or below the concentration ranges for the other wells including typically upgradient well MW-2. This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Box and whisker plots are provided in Appendix A.

3.2 PIPER DIAGRAM PLOTS

Piper diagrams are a form of tri-linear diagram, and a widely accepted method to provide a visual representation of the ion concentration of groundwater. Piper diagrams portray water compositions and facilitate the interpretation and presentation of chemical analyses. They may be used to visually compare the chemical composition of water quality across wells, and aid in determining whether the waters are similar or dis-similar, and can over time indicate whether the waters are mixing.

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field are located by extending the points in the lower triangles to the point of intersection.

In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO_4), Carbonate (CO_3), and Bicarbonate (HCO_3).

A piper diagram generated for MW-9, MW-10 and leachate is provided in **Appendix B** along with analytical results. The piper diagram indicates the groundwater from monitoring wells MW-9 and MW-10 does not plot near where the leachate plots and is not trending toward the leachate over time. This analysis indicates that the groundwater from MW-9 and MW-10 does not exhibit the same geochemical characteristics as the leachate. The groundwater and the leachate plot in different hydrochemical facies indicating there is no mixing of the two types of water (groundwater and leachate). This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels or that the SSIs resulted from natural variation in groundwater quality.

3.3 TIME SERIES PLOTS

Time series plots provide a graphical method to view changes in data at a particular well (monitoring point) or wells over time. Time series plots display the variability in concentration levels over time and can be used to indicate possible outliers or data errors (i.e., "spikes"). More than one well can be compared on the same plot to look for differences between wells. Non-detect data is plotted as censored data at one-half of the laboratory reporting limit. Time series plots can also be used to examine the data for trends.

The time series plots for calcium at monitoring wells MW-9 and MW-10 were compared to the time series plot for calcium at the other monitoring wells both upgradient and downgradient. The calcium time series plots for MW-9 and MW-10 indicate the calcium concentrations are within or below the historical concentration ranges for the other wells including typically upgradient well MW-2. The time series plots for TDS at monitoring well MW-9 were compared to the time series plot for TDS at the other monitoring wells both upgradient and downgradient. The TDS time series plots for MW-9 indicate the TDS concentrations are within or below the historical concentration ranges for the other wells including typically upgradient well MW-2. The time series plots for sulfate at monitoring well MW-10 were compared to the time series plot for sulfate at the other monitoring wells both upgradient and downgradient. The sulfate time series plots for MW-10 indicate the sulfate concentrations are within or below the historical concentration ranges for the other wells including typically upgradient well MW-2. This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Time series plots are provided in **Appendix C**.

4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Based on the successful ASD, the owner or operator of the CCR Landfill may continue with the detection monitoring program under § 257.94.

5 GENERAL COMMENTS

This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report.

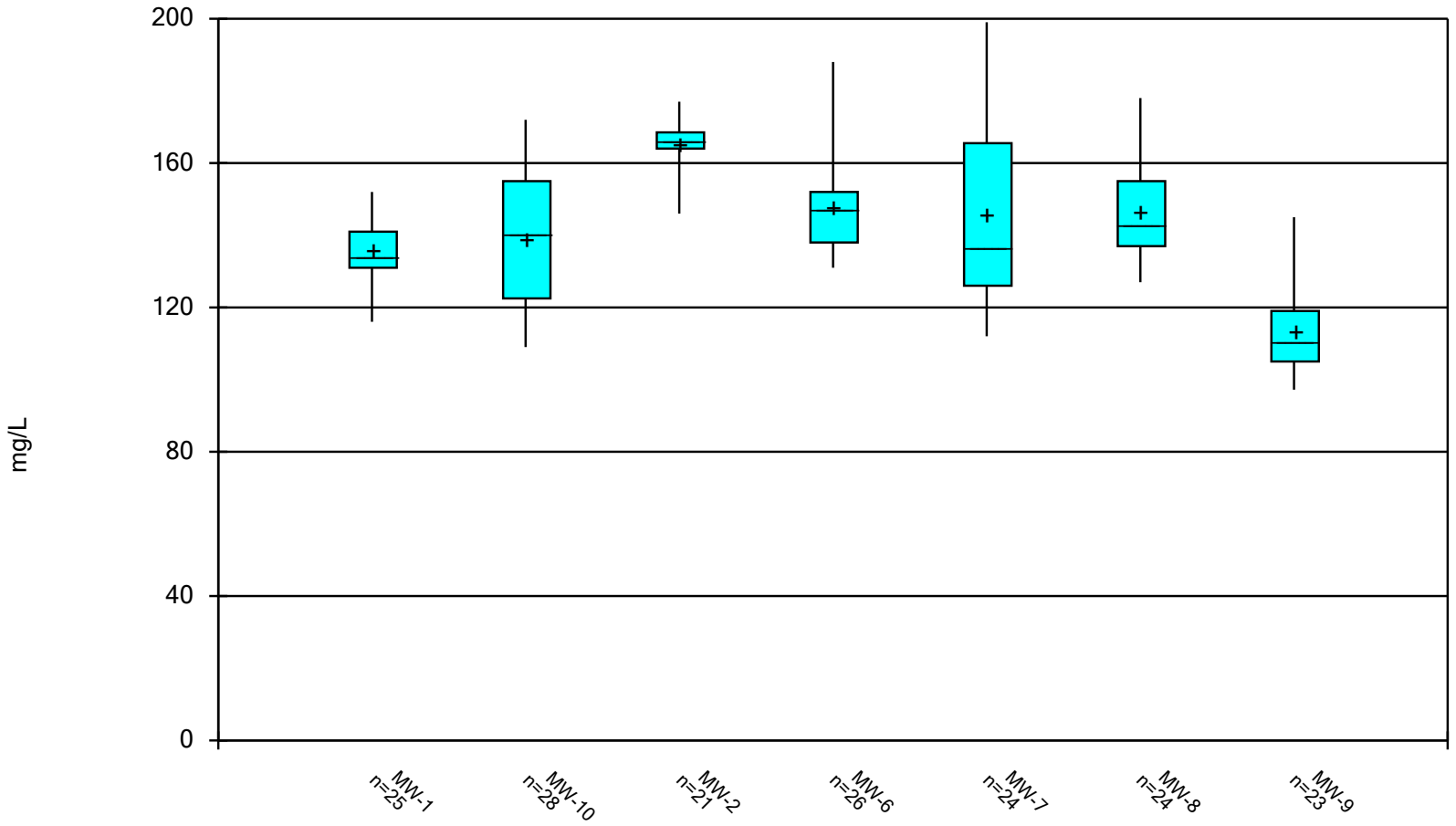
This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of Evergy Metro, Inc. for specific application to the Iatan Generating Station. No warranties, express or implied, are intended or made.

The signatures of the certifying registered geologist and professional engineer on this document represents that to the best of their knowledge, information, and belief in the exercise of their professional judgement in accordance with the standard of practice, it is their professional opinions that the aforementioned information is accurate as of the date of such signatures. Any opinion or decisions by them are made on the basis of their experience, qualifications, and professional judgement and are not to be construed as warranties or guaranties. In addition, opinions relating to regulatory, environmental, geologic, geochemical, and geotechnical conditions interpretations or other estimates are based on available data, and actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

Appendix A

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: Calcium Analysis Run 4/17/2023 1:46 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

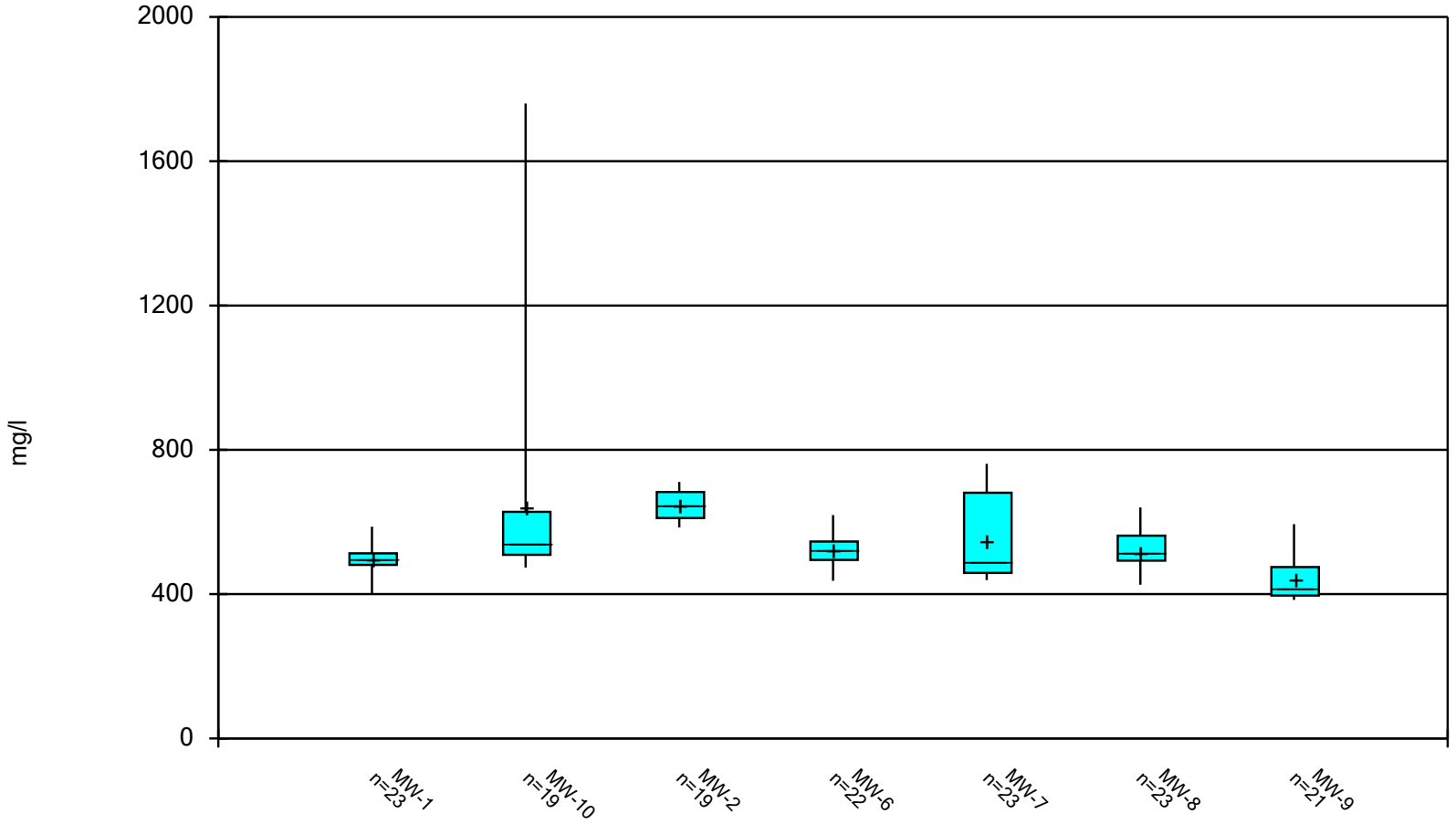
Box & Whiskers Plot

Constituent: Calcium (mg/L) Analysis Run 4/17/2023 2:11 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	134	123	170	142	145	136	119
9/29/2016	134	118	169	139	144	132	102
11/9/2016	136	124	169	142	146	135	103
12/21/2016	134	123	166	146	138	139	116
2/3/2017	116	109	146	136	116	133	105
5/24/2017	128	125	166	150	123	138	108
7/5/2017	129	120	165	147	125	142	97.2
8/17/2017	134	122	168	150	133	145	110
10/5/2017	141	131	177	157	135	155	113
11/14/2017	130	119	161	151	125	145	113
5/21/2018	131	115	164	150	123	130	105
11/12/2018	137	138	166	147	192	170	122
1/10/2019		157			185	149	
3/14/2019		151			132	140	
5/20/2019	130	151	167	131	184	141	115
7/11/2019		153	175	138	199		
8/20/2019		143			183		
11/4/2019	132	142	168	134	185	141	119
5/20/2020	131	150	164	138	140	144	105
11/9/2020	134	158 (V)	167	160	132	158	123
1/25/2021	145						
2/2/2021		160		164			106
3/1/2021		160		153			
5/20/2021	137	148	167	188	148	127	98.4
7/20/2021				147			
11/17/2021	152	131	165	147	112	178	106
1/25/2022	145					171	
3/1/2022	138					162	
5/11/2022	148	122 (m1)	164	171	130 (V)	155	105
7/14/2022	148			149			
8/17/2022	141			136			
11/7/2022	141	167	150	134	127	150	145
1/9/2023		163					139
2/6/2023		172					132
Median	134	140	166	147	136.5	143	110
LowerQ.	131	122.5	164	138	126	137	105
UpperQ.	141	155	168.5	152	165.5	155	119
Min	116	109	146	131	112	127	97.2
Max	152	172	177	188	199	178	145
Mean	136.2	139.1	165.4	148	145.9	146.5	113.3

Box & Whiskers Plot



Constituent: Dissolved Solids Analysis Run 4/17/2023 1:46 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

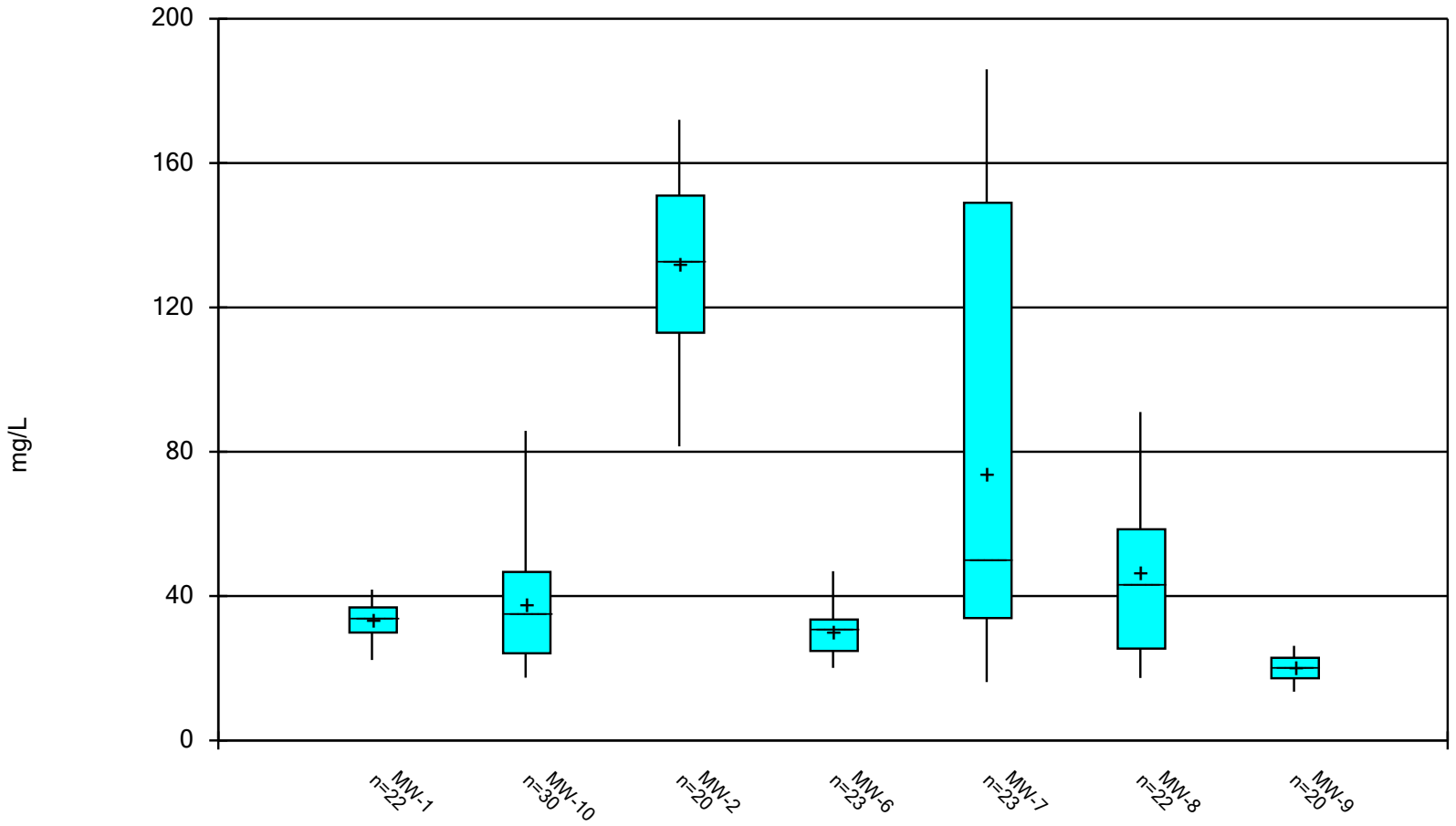
Box & Whiskers Plot

Constituent: Dissolved Solids (mg/l) Analysis Run 4/17/2023 2:11 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	513	532	696	522	560	494	475
9/29/2016	486	502	651	498	554	517	398
11/9/2016	484	516	711	506	538	471	476
12/21/2016	493	497	636	519	492	493	415
2/3/2017	506	531	661	527	487	515	442
5/24/2017	477	1760	690	544	462	485	415
7/5/2017	481	474	638	508	445	500	386
8/17/2017	500	539	690	542	466	504	431
10/5/2017	472	539	683	528	459	505	414
5/21/2018	496	509	648	540	439	437	412
11/12/2018	485	554	590	484	681	563	435
1/10/2019					724	502	
3/14/2019					472		
5/20/2019	470	697	666	468	737	518	457
7/11/2019					761		
8/20/2019					743		
11/4/2019	457	534	585	437	682	465	392
5/20/2020	507	585	659	491	525	516	385
11/9/2020	520	645	640	548	453	571	475
2/2/2021	484					518	
5/20/2021	500	628	611	619	513	426	384
7/20/2021				542			
8/4/2021				550			
11/17/2021	537	491	595	508	446	640	394
1/25/2022	511					594	
3/1/2022						569	
5/11/2022	587	563	622	604	475	562	412
7/14/2022	564			548			
8/17/2022	519						
11/7/2022	402	1040	587	492	451	530	594
1/9/2023							509
2/6/2023							511
Median	496	539	648	524.5	492	515	415
LowerQ.	481	509	611	495	459	493	396
UpperQ.	513	628	683	546	681	562	475
Min	402	474	585	437	439	426	384
Max	587	1760	711	619	761	640	594
Mean	497.9	638.7	645.2	523.9	546.3	517.2	438.7

Box & Whiskers Plot



Constituent: Sulfate Analysis Run 4/17/2023 1:46 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Box & Whiskers Plot

Constituent: Sulfate (mg/L) Analysis Run 4/17/2023 2:11 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	32.4	17.8	142	30.2	70.2	23.3	16.7
9/29/2016	35.3	19.7	151	33.5	70.6	24.2	26.2
11/9/2016	33.2	17.4	155	31.4	62.6	23.8	23
12/21/2016	36.2	17.7	155	28.6	50	25.5	22.2
2/3/2017	36.9	19.1	150	28.5	41.9	39.6	21.1
5/24/2017	27.4	22.4	172	32.7	16.2	42.8	15.9
7/5/2017	34.2	24.7	158	37.2	19.5	54.8	24.8
8/17/2017	35.2	26.5	149	37.6	34.1	43	19.8
10/5/2017	34.5	26.4	151	34.5	24.3	43.4	21.5
5/21/2018	32.6	23.6	137	30.9	23.8	25.4	18.3
11/12/2018	24.6	32.9	81.5	27.3	149	85.8	25.8
1/10/2019		38			159	48.4	
3/14/2019		40.1			33.9		
5/20/2019	28.9	37.3	119	20.2	166	40.9	22.8
7/11/2019		33	112	20.1	186		
8/20/2019		34.6			166		
11/4/2019	22.3	33.6	98.8	20.2	170	37.6	25.4
5/20/2020	27.6	43.1	126	20.4	54.4	45	20.7
7/13/2020		47.7					
8/25/2020		47.9					
11/9/2020	30.9	42.3	129	24.8	34	58.5	17.4
2/2/2021		46.7					
3/1/2021		48.4		32.2			
5/20/2021	33.3	46.7	126	46.9	57.2	17.3	19.7
7/20/2021		38.6		31.6			
11/17/2021	35.4	35.7	114	32.2	31	91	19.2
1/25/2022						77.4	
3/1/2022	40.3					73.3	
5/11/2022	41.8	35.2	109	39.7	40.9	58.5	17.1
7/14/2022	40.7						
8/17/2022	40.6			30.5			
11/7/2022	36.8	85.8	105	24.8	39.9	45.9	13.8
1/9/2023		78.2					
2/6/2023		74.5					13.5
Median	34.35	35.45	133	30.9	50	43.2	20.25
LowerQ.	29.9	24.15	113	24.8	33.9	25.45	17.25
UpperQ.	36.85	46.7	151	33.5	149	58.5	22.9
Min	22.3	17.4	81.5	20.1	16.2	17.3	13.5
Max	41.8	85.8	172	46.9	186	91	26.2
Mean	33.69	37.85	132	30.26	73.93	46.61	20.25

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 4/17/2023, 2:11 PM

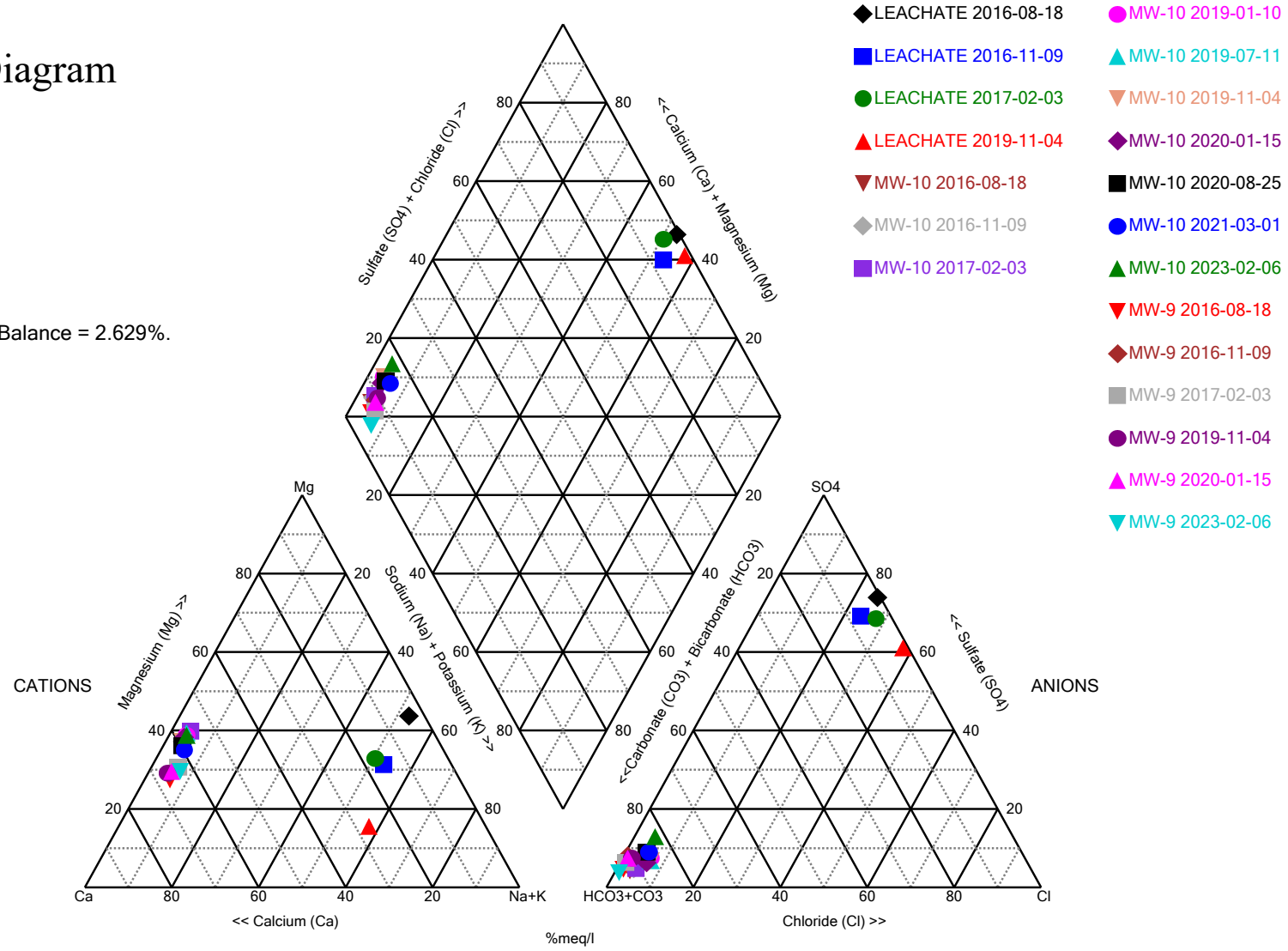
Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Calcium (mg/L)	MW-1	25	136.2	7.79	1.558	134	116	152	0
Calcium (mg/L)	MW-10	28	139.1	18.3	3.459	140	109	172	0
Calcium (mg/L)	MW-2	21	165.4	6.838	1.492	166	146	177	0
Calcium (mg/L)	MW-6	26	148	12.63	2.477	147	131	188	0
Calcium (mg/L)	MW-7	24	145.9	26.53	5.415	136.5	112	199	0
Calcium (mg/L)	MW-8	24	146.5	13.56	2.768	143	127	178	0
Calcium (mg/L)	MW-9	23	113.3	12.42	2.591	110	97.2	145	0
Dissolved Solids (mg/l)	MW-1	23	497.9	36.36	7.582	496	402	587	0
Dissolved Solids (mg/l)	MW-10	19	638.7	299.2	68.64	539	474	1760	0
Dissolved Solids (mg/l)	MW-2	19	645.2	39.24	9.002	648	585	711	0
Dissolved Solids (mg/l)	MW-6	22	523.9	40.56	8.647	524.5	437	619	0
Dissolved Solids (mg/l)	MW-7	23	546.3	112.6	23.48	492	439	761	0
Dissolved Solids (mg/l)	MW-8	23	517.2	49.29	10.28	515	426	640	0
Dissolved Solids (mg/l)	MW-9	21	438.7	53.09	11.59	415	384	594	0
Sulfate (mg/L)	MW-1	22	33.69	5.184	1.105	34.35	22.3	41.8	0
Sulfate (mg/L)	MW-10	30	37.85	17.28	3.155	35.45	17.4	85.8	0
Sulfate (mg/L)	MW-2	20	132	23.71	5.301	133	81.5	172	0
Sulfate (mg/L)	MW-6	23	30.26	6.71	1.399	30.9	20.1	46.9	0
Sulfate (mg/L)	MW-7	23	73.93	58.07	12.11	50	16.2	186	0
Sulfate (mg/L)	MW-8	22	46.61	20.75	4.424	43.2	17.3	91	0
Sulfate (mg/L)	MW-9	20	20.25	3.811	0.8521	20.25	13.5	26.2	0

Appendix B

Piper Diagram Plots and Analytical Results

Piper Diagram

Cation-Anion Balance = 2.629%.



Analysis Run 4/17/2023 2:43 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Piper Diagram

Analysis Run 4/17/2023 2:44 PM View: CCR LF III

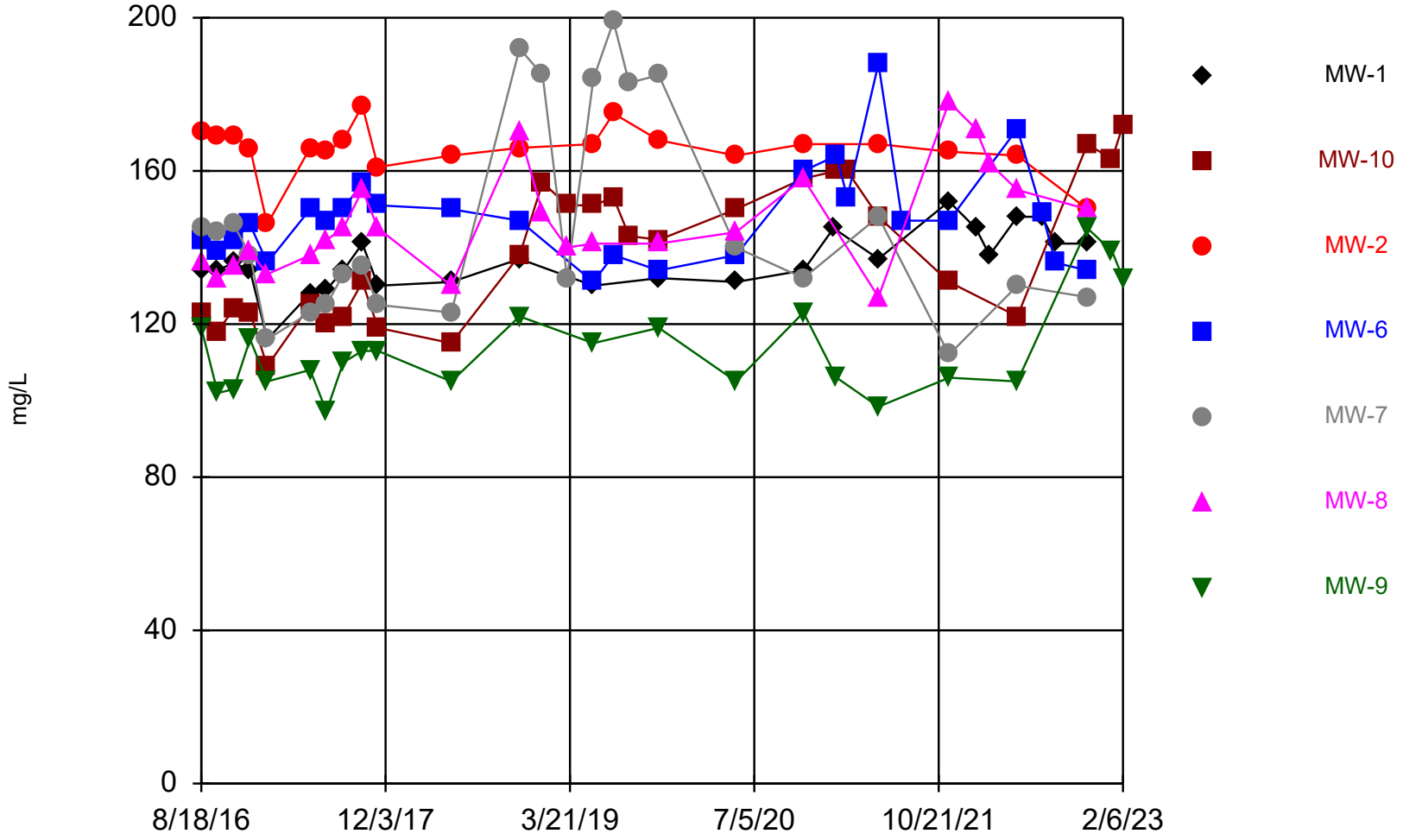
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-10 2016-08-18	7.77	4.45	123	47.3	7.47	17.8	480	10
MW-10 2016-11-09	7.11	4.02	124	47.3	9.15	17.4	428	10
MW-10 2017-02-03	7.2	3.93	109	46.7	10.3	19.1	442	10
MW-10 2019-01-10	8.51	5.08	157	64.3	21	38	555	10
MW-10 2019-07-11	8.12	5.11	153	63.8	22.5	33	537	10
MW-10 2019-11-04	7.41	4.57	142	54.2	21.6	33.6	526	10
MW-10 2020-01-15	7.65	4.39	134	52.8	18.1	28.5	496	10
MW-10 2020-08-25	11.9	4.51	163	59.1	16.4	47.9	589	10
MW-10 2021-03-01	14.9	4.56	160	56.5	17.1	48.4	570	10
MW-10 2023-02-06	10.6	5.87	172	70.7	16.3	74.5	601	10
MW-9 2016-08-18	7.59	6.4	119	29.3	1.95	16.7	416	10
MW-9 2016-11-09	6.27	4.83	103	27.7	0.5	23	329	10
MW-9 2017-02-03	8.7	5.36	105	30.9	1.16	21.1	385	10
MW-9 2019-11-04	6.75	5.35	119	31.1	3.88	25.4	398	10
MW-9 2020-01-15	6.44	4.94	104	28.4	0.5	23.4	350	10
MW-9 2023-02-06	12.6	8.15	132	37.5	1.29	13.5	476	10
LEACHATE 2016-08-18	9250	689	573	4240	6990	28000	644	10
LEACHATE 2016-11-09	1230	90.7	334	398	876	3460	480	10
LEACHATE 2017-02-03	1880	121	560	671	1760	6070	505	10
LEACHATE 2019-11-04	1110	51.7	460	163	2340	5230	206	10

Appendix C

Time Series Plots

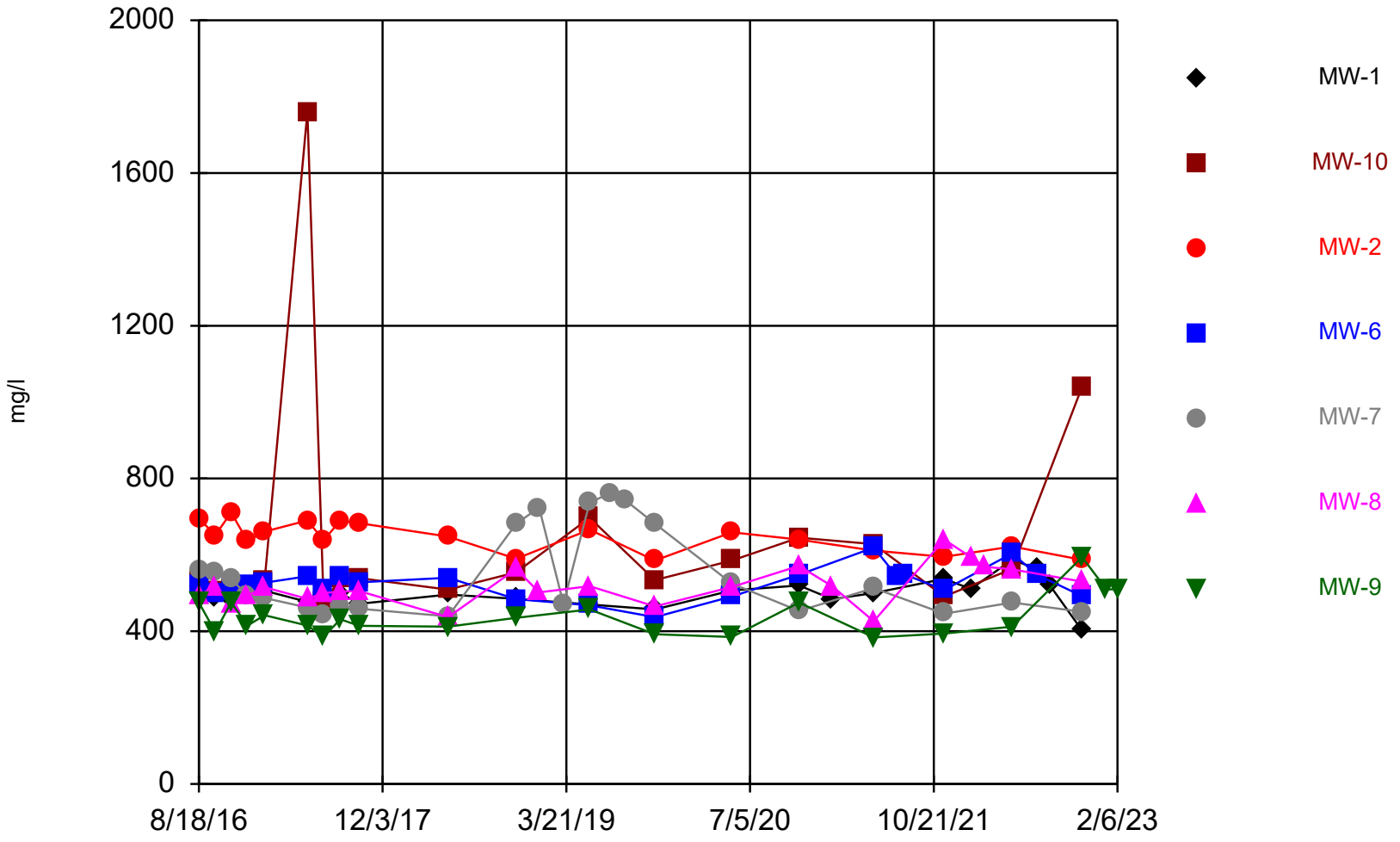
Time Series



Constituent: Calcium Analysis Run 4/17/2023 2:26 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

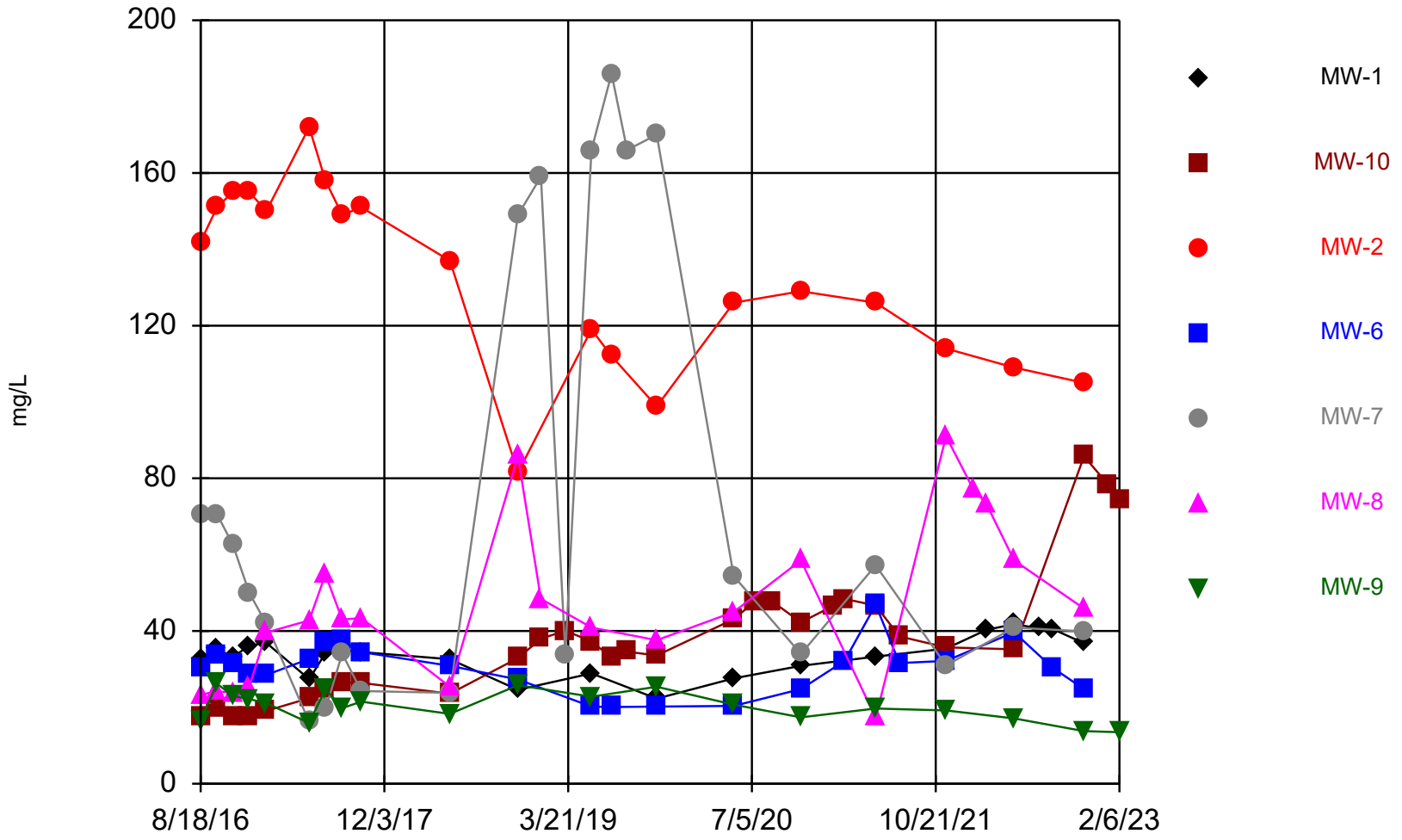
Time Series



Constituent: Dissolved Solids Analysis Run 4/17/2023 2:26 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Time Series



Constituent: Sulfate Analysis Run 4/17/2023 2:26 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

APPENDIX C.2

CCR Groundwater Monitoring Alternative Source Demonstration Report May 2023
Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station
(December 2023)

CCR GROUNDWATER MONITORING ALTERNATIVE SOURCE DEMONSTRATION REPORT May 2023 GROUNDWATER MONITORING EVENT

CCR LANDFILL

Iatan Generating Station
Evergy Metro, Inc.
Platte County, Missouri

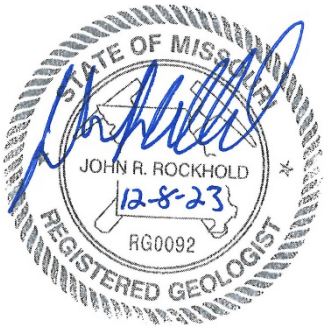
SCS ENGINEERS

December 8, 2023
File No. 27213167.23

8575 W. 110th Suite 100
Overland Park, KS 66210
913-749-0700

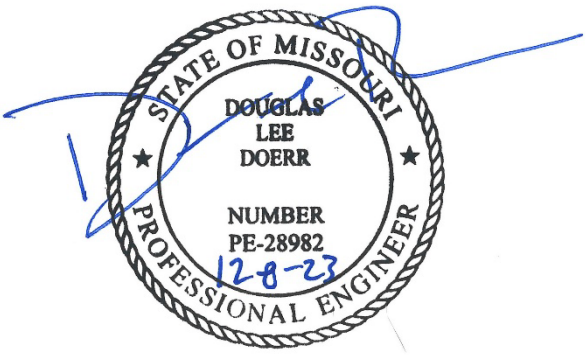
CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Iatan Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted hydrogeological practices and the local standard of care.



John R. Rockhold, R.G.
SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill at the Iatan Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted engineering practices and the local standard of care.



Douglas L. Doerr, P.E.
SCS Engineers

Table of Contents

Section **Page**

Appendices

1 REGULATORY FRAMEWORK

Certain owners or operators of Coal Combustion Residuals (CCR) units are required to complete groundwater monitoring activities to evaluate whether a release from the unit has occurred. Included in the activities is the completion of a statistical analysis of the groundwater quality data as prescribed in § 257.93(h) of the CCR Final Rule. If the initial analysis indicates a statistically significant increase (SSI) over background levels, the owner or operator may perform an alternative source demonstration (ASD). In accordance with § 257.94(e)(2), the owner or operator of the CCR unit may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting an SSI over background levels to include obtaining a certification from a qualified professional engineer verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under § 257.94. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer.

2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Iatan Generating Station has been completed in substantial compliance with the "Statistical Method Certification by A Qualified Professional Engineer" dated October 12, 2017. Groundwater samples were collected on May 15, 2023. Review and validation of the results from the May 2023 Detection Monitoring Event was completed on June 30, 2023, which constitutes completion and finalization of detection monitoring laboratory analyses. Statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on July 6, 2023, and August 14, 2023.

The completed statistical evaluation identified three Appendix III constituents above their prediction limits.

Monitoring Well Constituents	*UPL	Observation May 15, 2023	1st Verification July 6, 2023	2nd Verification August 14, 2023
MW-1				
Calcium	145.6	197	156/154**	161/163**
Total Dissolved Solids	523.2	569	589/603**	636/613**
MW-9				
Calcium	121.5	150	149	133
Total Dissolved Solids	473.9	626	553	521
MW-10				
Sulfate	48.43	95.2	92.7/92.4**	93.1/95.9**

*UPL – Upper Prediction Limit
** - Duplicate Sample

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified five SSIs above the background prediction limit. These include calcium and total dissolved solids at MW-1 and MW-9 and sulfate at monitoring well MW-10.

3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration (ASD) is a means to provide supporting lines of evidence that something other than a release from a regulated CCR unit caused an SSI. For the above identified SSI for the CCR Landfill at the Iatan Generating Station, there are multiple lines of supporting evidence to indicate the above SSIs were not caused by a release from the CCR Landfill. Select multiple lines of supporting evidence are described as follows.

3.1 BOX AND WHISKERS PLOTS

A commonly accepted method to demonstrate and visualize the distribution of data in a given data set is to construct box and whiskers plots. The basic box plotted graphically locates the median, 25th and 75th percentiles of the data set; the "whiskers" extend to the minimum and maximum values of the data set. The range between the ends of a box plot represents the Interquartile Range, which can be used as an estimate of spread or variability. The mean is denoted by a "+".

When comparing multiple wells or well groups, box plots for each well can be lined up on the same axis to roughly compare the variability in each well. This may be used as an exploratory screening for the test of homogeneity of variance across multiple wells.

Box and whiskers plots for all of the groundwater monitoring system wells were prepared to allow comparison of the calcium, total dissolved solids (TDS), and sulfate concentrations between MW-1, MW-9, and MW-10 and the other monitoring wells both upgradient and downgradient. The calcium and TDS box and whiskers plots for MW-1 and MW-9 indicate the calcium and TDS concentrations at MW-1 and MW-9 are within or below the concentration ranges for the other wells including typically upgradient well MW-2. The sulfate box and whiskers plot for MW-10 indicates the sulfate concentrations at MW-10 are within or below the concentration ranges for the other wells including typically upgradient well MW-2. This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Box and whisker plots are provided in **Appendix A**.

3.2 PIPER DIAGRAM PLOTS

Piper diagrams are a form of tri-linear diagram, and a widely accepted method to provide a visual representation of the ion concentration of groundwater. Piper diagrams portray water compositions and facilitate the interpretation and presentation of chemical analyses. They may be used to visually compare the chemical composition of water quality across wells, and aid in determining whether the waters are similar or dis-similar, and can over time indicate whether the waters are mixing.

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field are located by extending the points in the lower triangles to the point of intersection.

In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO_4), Carbonate (CO_3), and Bicarbonate (HCO_3).

A piper diagram generated for MW-1, MW-9, MW-10 and leachate is provided in **Appendix B** along with analytical results. The piper diagram indicates the groundwater from monitoring wells MW-1, MW-9, and MW-10 does not plot near where the leachate plots and is not trending toward the leachate over time. This analysis indicates that the groundwater from MW-1, MW-9, and MW-10 does not exhibit the same geochemical characteristics as the leachate. The groundwater and the leachate plot in different hydrochemical facies indicating there is no mixing of the two types of water (groundwater and leachate). This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels or that the SSIs resulted from natural variations in groundwater quality.

3.3 STIFF DIAGRAMS

Stiff diagrams are a graphical method commonly used to portray water compositions and facilitate the interpretation and presentation of chemical analysis. They visually compare the chemical composition of water quality across wells, and aid in determining whether the waters are similar or dis-similar and can over time indicate whether the waters are mixing.

Stiff diagrams are calculated in terms of milliequivalents and take into account ionic charge and the formula weight for major ions, specifically Sodium (Na) plus Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO4), Carbonate (CO3), and Bicarbonate (HCO3). The milliequivalents per liter of the cation and anions are plotted across from each other along a central vertical line and the distance from the center line is the value for each constituent.

Stiff diagrams were prepared for MW-1, MW-9, MW-10 and leachate and are provided in **Appendix C** The Stiff diagrams indicate the groundwater from all three monitoring wells do not exhibit the same geochemical characteristics as the leachate. The groundwater and the leachate stiff diagram shapes are dis-similar indicating there is no mixing of the two types of water (groundwater and leachate) and that groundwater characteristics are different from the leachate. This demonstrates that a source other than the CCR Landfill likely caused the SSIs over the background and that the SSIs likely resulted from natural variations in groundwater quality.

3.4 TIME SERIES PLOTS

Time series plots provide a graphical method to view changes in data at a particular well (monitoring point) or wells over time. Time series plots display the variability in concentration levels over time and can be used to indicate possible outliers or data errors (i.e., “spikes”). More than one well can be compared on the same plot to look for differences between wells. Non-detect data is plotted as censored data at one-half of the laboratory reporting limit. Time series plots can also be used to examine the data for trends.

The time series plots for calcium and TDS at monitoring wells MW-1 and MW-9 were compared to the time series plot for calcium and TDS at the other monitoring wells both upgradient and downgradient. The calcium and TDS time series plots for MW-1 and MW-9 indicate the concentrations are within or below the historical concentration ranges for the other wells including typically upgradient well MW-2. The time series plot for sulfate at monitoring well MW-10 was compared to the time series plots for sulfate at the other monitoring wells both upgradient and downgradient. The sulfate time series plot

for MW-10 indicates the sulfate concentration is within or below the historical concentration ranges for the other wells including typically upgradient well MW-2. This demonstrates that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Time series plots are provided in **Appendix D**.

4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the CCR Landfill likely caused the SSIs over background levels, or that the SSIs resulted from natural variation in groundwater quality. Based on the successful ASD, the owner or operator of the CCR Landfill may continue with the detection monitoring program under § 257.94.

5 GENERAL COMMENTS

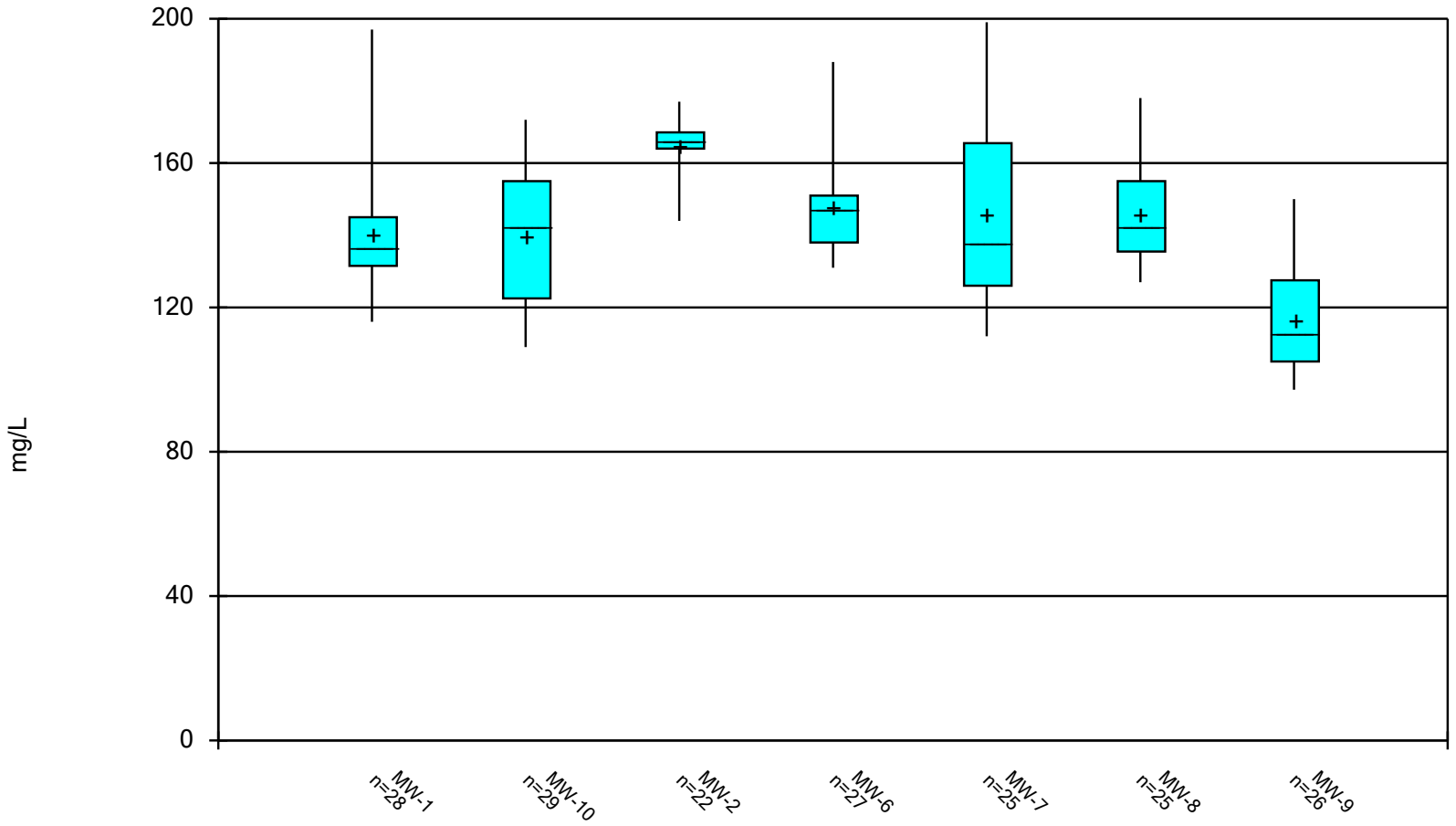
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report. This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of Evergy Metro, Inc. for specific application to the Iatan Generating Station. No warranties, express or implied, are intended or made.

The signatures of the certifying registered geologist and professional engineer on this document represents that to the best of their knowledge, information, and belief in the exercise of their professional judgement in accordance with the standard of practice, it is their professional opinions that the aforementioned information is accurate as of the date of such signatures. Any opinion or decisions by them are made on the basis of their experience, qualifications, and professional judgement and are not to be construed as warranties or guaranties. In addition, opinions relating to regulatory, environmental, geologic, geochemical, and geotechnical conditions interpretations or other estimates are based on available data, and actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

Appendix A

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: Calcium Analysis Run 11/13/2023 9:14 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Box & Whiskers Plot

Constituent: Calcium (mg/L) Analysis Run 11/13/2023 9:15 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

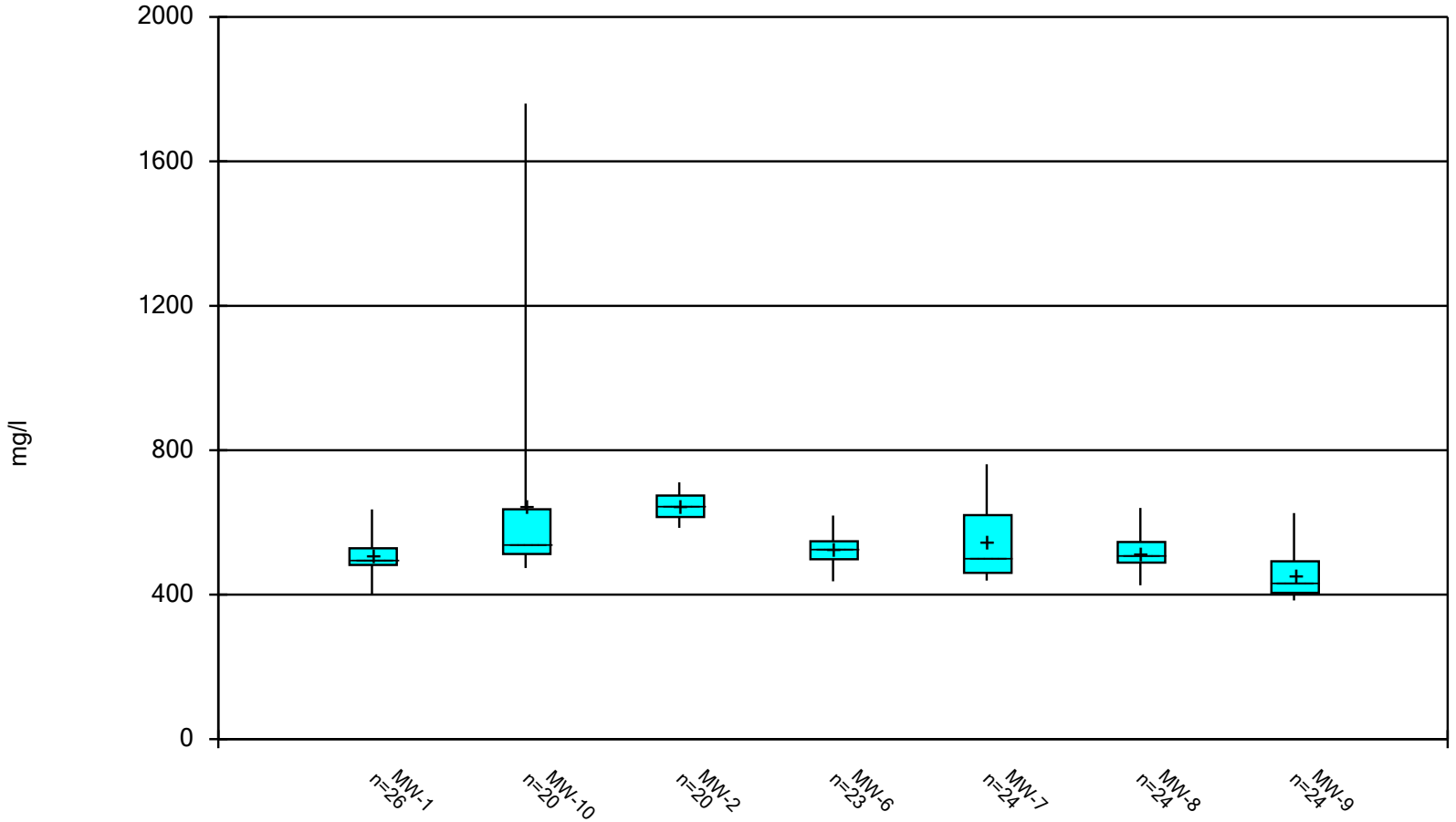
	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	134	123	170	142	145	136	119
9/29/2016	134	118	169	139	144	132	102
11/9/2016	136	124	169	142	146	135	103
12/21/2016	134	123	166	146	138	139	116
2/3/2017	116	109	146	136	116	133	105
5/24/2017	128	125	166	150	123	138	108
7/5/2017	129	120	165	147	125	142	97.2
8/17/2017	134	122	168	150	133	145	110
10/5/2017	141	131	177	157	135	155	113
10/6/2017	140 (i)		175 (i)	157 (i)	136 (i)	154 (i)	
11/14/2017	130	119	161	151	125	145	113
5/21/2018	131	115	164	150	123	130	105
11/12/2018	137	138	166	147	192	170	122
1/10/2019		157			185	149	
3/14/2019		151			132	140	
5/20/2019	130	151	167	131	184	141	115
7/11/2019		153	175	138	199		
8/20/2019		143			183		
11/4/2019	132	142	168	134	185	141	119
1/15/2020	129 (i)	134 (i)	165 (i)				104 (i)
5/20/2020	131	150	164	138	140	144	105
8/25/2020		163 (i)					
11/9/2020	134	158 (V)	167	160	132	158	123
1/25/2021	145						
2/2/2021		160		164			106
3/1/2021		160		153			
5/20/2021	137	148	167	188	148	127	98.4
7/20/2021				147			
11/17/2021	152	131	165	147	112	178	106
1/25/2022	145					171	
3/1/2022	138					162	
5/11/2022	148	122 (m1)	164	171	130 (V)	155	105
7/14/2022	148			149			
8/17/2022	141			136			
11/7/2022	141	167	150	134	127	150	145
1/9/2023		163					139
2/6/2023		172					132
5/15/2023	197	152	144	151	141	131	150
7/6/2023	156						149
8/14/2023	161	199 (i)					133
Median	136.5	142	166	147	138	142	113
LowerQ.	131.5	122.5	164	138	126	135.5	105
UpperQ.	145	155	168.5	151	165.5	155	127.5
Min	116	109	144	131	112	127	97.2
Max	197	172	177	188	199	178	150
Mean	140	139.6	164.5	148.1	145.7	145.9	116.9

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 11/13/2023, 9:15 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Calcium (mg/L)	MW-1	28	140	14.6	2.759	136.5	116	197	0
Calcium (mg/L)	MW-10	29	139.6	18.13	3.367	142	109	172	0
Calcium (mg/L)	MW-2	22	164.5	8.087	1.724	166	144	177	0
Calcium (mg/L)	MW-6	27	148.1	12.4	2.386	147	131	188	0
Calcium (mg/L)	MW-7	25	145.7	25.99	5.197	138	112	199	0
Calcium (mg/L)	MW-8	25	145.9	13.63	2.727	142	127	178	0
Calcium (mg/L)	MW-9	26	116.9	15.59	3.057	113	97.2	150	0

Box & Whiskers Plot



Constituent: Dissolved Solids Analysis Run 11/13/2023 9:15 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Box & Whiskers Plot

Constituent: Dissolved Solids (mg/l) Analysis Run 11/13/2023 9:16 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

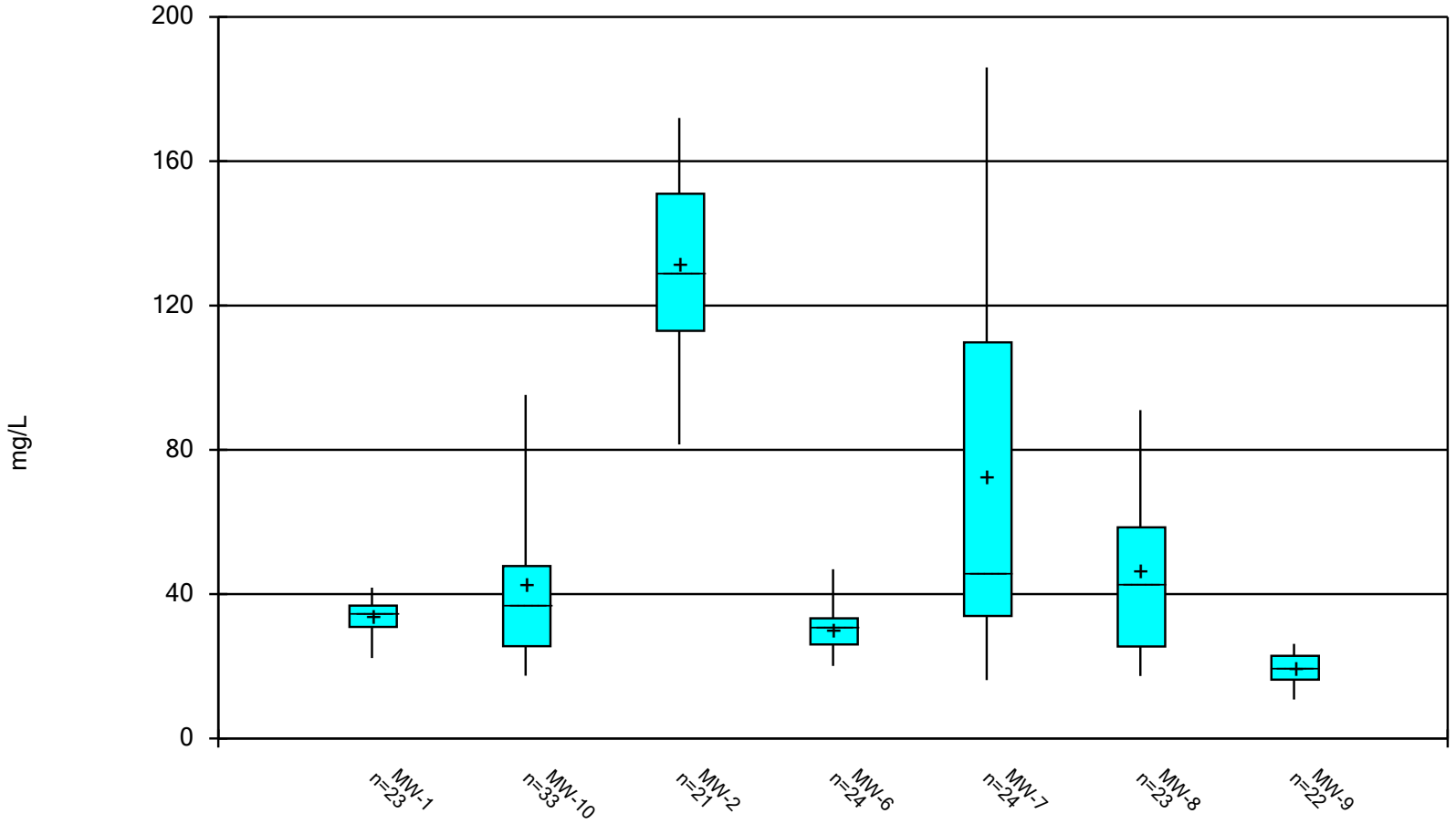
	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	513	532	696	522	560	494	475
9/29/2016	486	502	651	498	554	517	398
11/9/2016	484	516	711	506	538	471	476
12/21/2016	493	497	636	519	492	493	415
2/3/2017	506	531	661	527	487	515	442
5/24/2017	477	1760	690	544	462	485	415
7/5/2017	481	474	638	508	445	500	386
8/17/2017	500	539	690	542	466	504	431
10/5/2017	472	539	683	528	459	505	414
5/21/2018	496	509	648	540	439	437	412
11/12/2018	485	554	590	484	681	563	435
1/10/2019					724	502	
3/14/2019					472		
5/20/2019	470	697	666	468	737	518	457
7/11/2019					761		
8/20/2019					743		
11/4/2019	457	534	585	437	682	465	392
5/20/2020	507	585	659	491	525	516	385
11/9/2020	520	645	640	548	453	571	475
2/2/2021	484					518	
5/20/2021	500	628	611	619	513	426	384
7/20/2021				542			
8/4/2021				550			
11/17/2021	537	491	595	508	446	640	394
1/25/2022	511					594	
3/1/2022						569	
5/11/2022	587	563	622	604	475	562	412
7/14/2022	564			548			
8/17/2022	519						
11/7/2022	402	1040	587	492	451	530	594
1/9/2023							509
2/6/2023							511
5/15/2023	569	860	619	554	535	484	626
7/6/2023	589						553
8/14/2023	636						521
Median	500	539	644	527	502.5	510	433
LowerQ.	482.5	512.5	615	498	460.5	489	405
UpperQ.	528.5	636.5	674.5	548	620.5	546	492.5
Min	402	474	585	437	439	426	384
Max	636	1760	711	619	761	640	626
Mean	509.4	649.8	643.9	525.2	545.8	515.8	454.7

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 11/13/2023, 9:16 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Dissolved Solids (mg/l)	MW-1	26	509.4	48.19	9.451	500	402	636	0
Dissolved Solids (mg/l)	MW-10	20	649.8	295.4	66.05	539	474	1760	0
Dissolved Solids (mg/l)	MW-2	20	643.9	38.64	8.64	644	585	711	0
Dissolved Solids (mg/l)	MW-6	23	525.2	40.12	8.365	527	437	619	0
Dissolved Solids (mg/l)	MW-7	24	545.8	110.2	22.49	502.5	439	761	0
Dissolved Solids (mg/l)	MW-8	24	515.8	48.68	9.937	510	426	640	0
Dissolved Solids (mg/l)	MW-9	24	454.7	67.62	13.8	433	384	626	0

Box & Whiskers Plot



Constituent: Sulfate Analysis Run 11/13/2023 9:17 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Box & Whiskers Plot

Constituent: Sulfate (mg/L) Analysis Run 11/13/2023 9:17 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-10	MW-2	MW-6	MW-7	MW-8	MW-9
8/18/2016	32.4	17.8	142	30.2	70.2	23.3	16.7
9/29/2016	35.3	19.7	151	33.5	70.6	24.2	26.2
11/9/2016	33.2	17.4	155	31.4	62.6	23.8	23
12/21/2016	36.2	17.7	155	28.6	50	25.5	22.2
2/3/2017	36.9	19.1	150	28.5	41.9	39.6	21.1
5/24/2017	27.4	22.4	172	32.7	16.2	42.8	15.9
7/5/2017	34.2	24.7	158	37.2	19.5	54.8	24.8
8/17/2017	35.2	26.5	149	37.6	34.1	43	19.8
10/5/2017	34.5	26.4	151	34.5	24.3	43.4	21.5
5/21/2018	32.6	23.6	137	30.9	23.8	25.4	18.3
11/12/2018	24.6	32.9	81.5	27.3	149	85.8	25.8
1/10/2019		38			159	48.4	
3/14/2019		40.1			33.9		
5/20/2019	28.9	37.3	119	20.2	166	40.9	22.8
7/11/2019		33	112	20.1	186		
8/20/2019		34.6			166		
11/4/2019	22.3	33.6	98.8	20.2	170	37.6	25.4
1/15/2020	27.3 (i)	28.5 (i)	125 (i)				23.4 (i)
5/20/2020	27.6	43.1	126	20.4	54.4	45	20.7
7/13/2020		47.7					
8/25/2020		47.9					
11/9/2020	30.9	42.3	129	24.8	34	58.5	17.4
2/2/2021		46.7					
3/1/2021		48.4		32.2			
5/20/2021	33.3	46.7	126	46.9	57.2	17.3	19.7
7/20/2021		38.6		31.6			
11/17/2021	35.4	35.7	114	32.2	31	91	19.2
1/25/2022						77.4	
3/1/2022	40.3					73.3	
5/11/2022	41.8	35.2	109	39.7	40.9	58.5	17.1
7/14/2022	40.7						
8/17/2022	40.6			30.5			
11/7/2022	36.8	85.8	105	24.8	39.9	45.9	13.8
1/9/2023		78.2					
2/6/2023		74.5					13.5
5/15/2023	36.2	95.2	125	33.1	40.6	40.1	13.8
7/6/2023		92.7					
8/14/2023	43.8 (i)	93.1					10.8
Median	34.5	37.3	129	31.15	45.95	43	19.75
LowerQ.	30.9	25.55	113	26.05	33.95	25.5	16.3
UpperQ.	36.8	47.8	151	33.3	109.8	58.5	22.9
Min	22.3	17.4	81.5	20.1	16.2	17.3	10.8
Max	41.8	95.2	172	46.9	186	91	26.2
Mean	33.8	42.93	131.7	30.38	72.55	46.33	19.52

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 11/13/2023, 9:17 AM

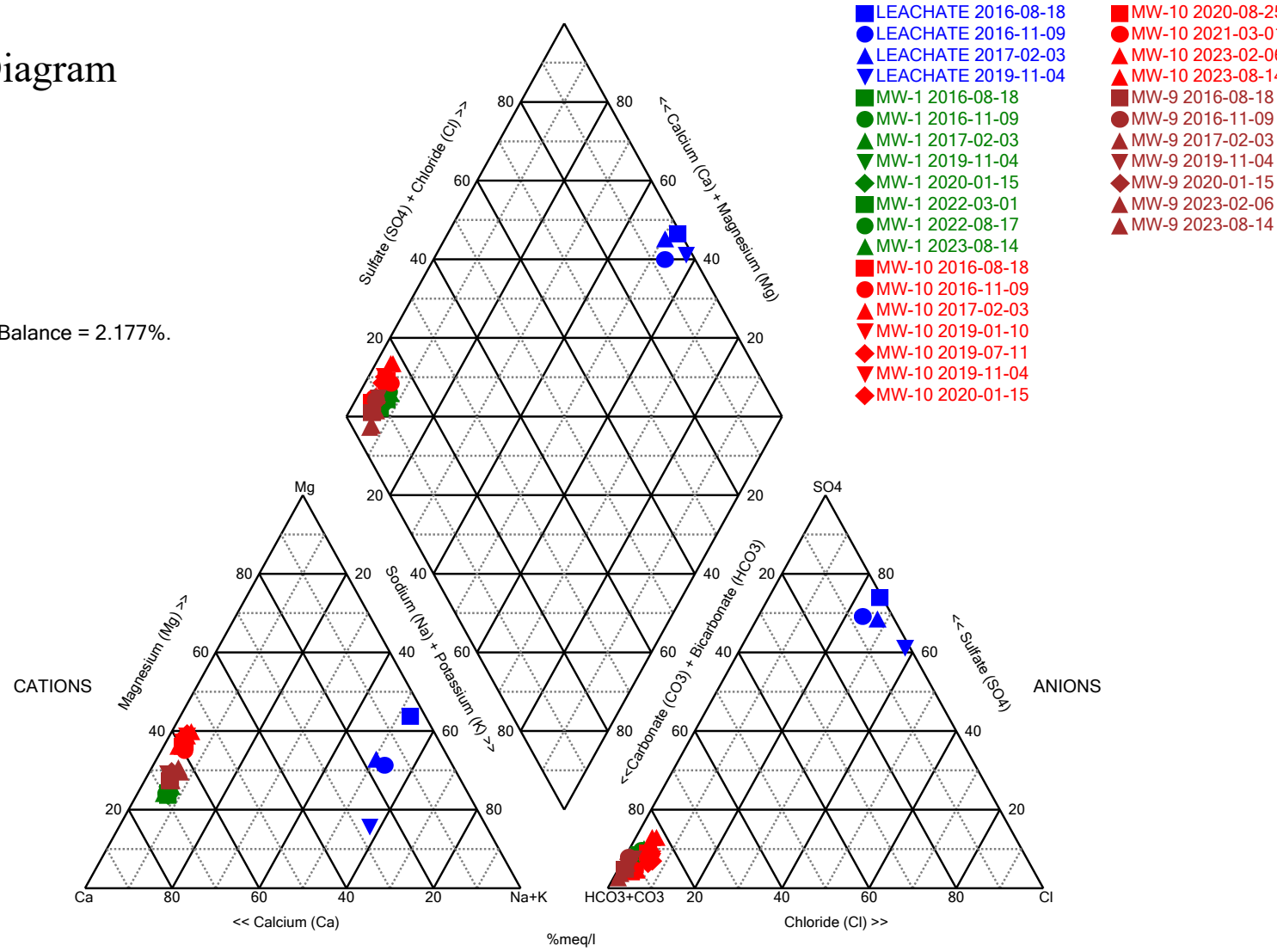
Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Sulfate (mg/L)	MW-1	23	33.8	5.092	1.062	34.5	22.3	41.8	0
Sulfate (mg/L)	MW-10	33	42.93	23.16	4.031	37.3	17.4	95.2	0
Sulfate (mg/L)	MW-2	21	131.7	23.16	5.053	129	81.5	172	0
Sulfate (mg/L)	MW-6	24	30.38	6.588	1.345	31.15	20.1	46.9	0
Sulfate (mg/L)	MW-7	24	72.55	57.2	11.67	45.95	16.2	186	0
Sulfate (mg/L)	MW-8	23	46.33	20.32	4.237	43	17.3	91	0
Sulfate (mg/L)	MW-9	22	19.52	4.338	0.9249	19.75	10.8	26.2	0

Appendix B

Piper Diagram Plots and Analytical Results

Piper Diagram

Cation-Anion Balance = 2.177%.



Analysis Run 11/13/2023 9:19 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Piper Diagram

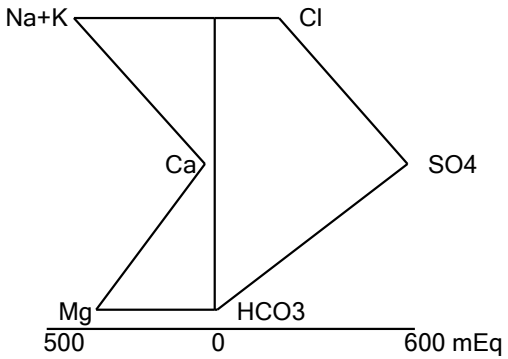
Analysis Run 11/13/2023 9:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-1 2016-08-18	11.7	6.56	134	27.4	5.93	32.4	436	10
MW-1 2016-11-09	11.1	6	136	28.4	5.95	33.2	383	10
MW-1 2017-02-03	11	5.93	116	26.8	6	36.9	394	10
MW-1 2019-11-04	11.8	6.49	132	27	6.61	22.3	420	10
MW-1 2020-01-15	11.6	6.17	129	26.7	5.32	27.3	406	10
MW-1 2022-03-01	11.7	6.64	138	29.2	6.01	40.3	742	10
MW-1 2022-08-17	11.3	7.46	141	31.6	6.38	40.6	480	10
MW-1 2023-08-14	12.2	6.59	161	33.6	9.17	43.8	565	10
MW-10 2016-08-18	7.77	4.45	123	47.3	7.47	17.8	480	10
MW-10 2016-11-09	7.11	4.02	124	47.3	9.15	17.4	428	10
MW-10 2017-02-03	7.2	3.93	109	46.7	10.3	19.1	442	10
MW-10 2019-01-10	8.51	5.08	157	64.3	21	38	555	10
MW-10 2019-07-11	8.12	5.11	153	63.8	22.5	33	537	10
MW-10 2019-11-04	7.41	4.57	142	54.2	21.6	33.6	526	10
MW-10 2020-01-15	7.65	4.39	134	52.8	18.1	28.5	496	10
MW-10 2020-08-25	11.9	4.51	163	59.1	16.4	47.9	589	10
MW-10 2021-03-01	14.9	4.56	160	56.5	17.1	48.4	570	10
MW-10 2023-02-06	10.6	5.87	172	70.7	16.3	74.5	601	10
MW-10 2023-08-14	9.59	4.49	199	71.2	15	93.1	750	10
MW-9 2016-08-18	7.59	6.4	119	29.3	1.95	16.7	416	10
MW-9 2016-11-09	6.27	4.83	103	27.7	0.5	23	329	10
MW-9 2017-02-03	8.7	5.36	105	30.9	1.16	21.1	385	10
MW-9 2019-11-04	6.75	5.35	119	31.1	3.88	25.4	398	10
MW-9 2020-01-15	6.44	4.94	104	28.4	0.5	23.4	350	10
MW-9 2023-02-06	12.6	8.15	132	37.5	1.29	13.5	476	10
MW-9 2023-08-14	11.5	6.19	133	33	1.22	10.8	533	10
LEACHATE 2016-08-18	9250	689	573	4240	6990	28000	644	10
LEACHATE 2016-11-09	1230	90.7	334	398	876	3460	480	10
LEACHATE 2017-02-03	1880	121	560	671	1760	6070	505	10
LEACHATE 2019-11-04	1110	51.7	460	163	2340	5230	206	10

Appendix C

Stiff Diagrams



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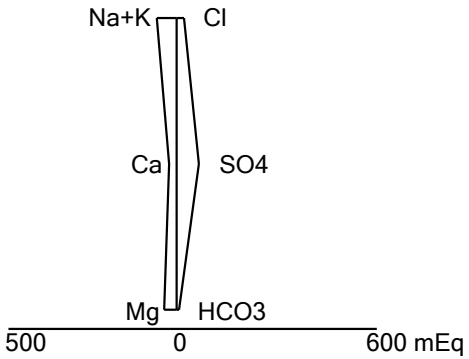
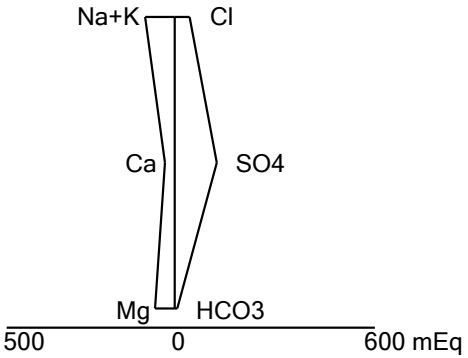
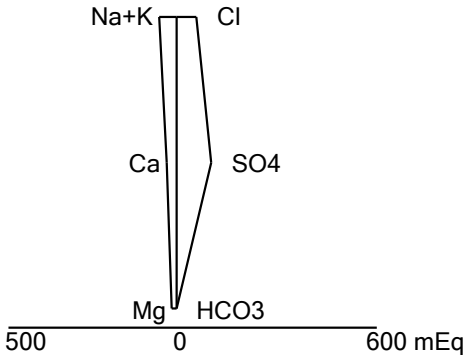


2016-11-09



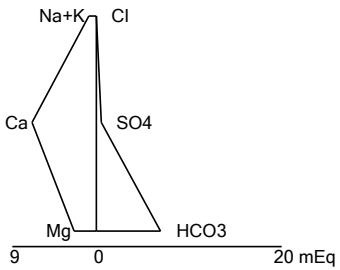
2017-02-03



2019-11-04

Stiff Diagram - LEACHATE Analysis Run 11/13/2023 10:04 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr



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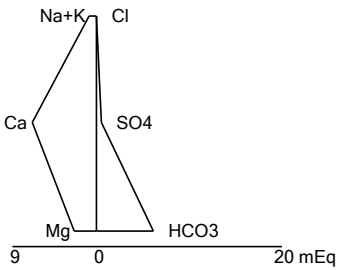
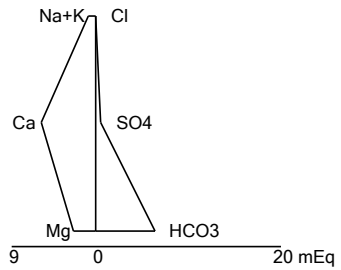


2016-11-09



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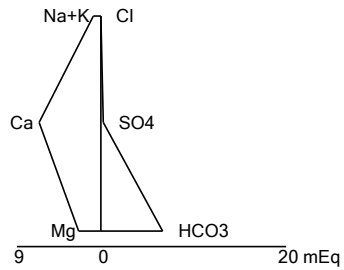
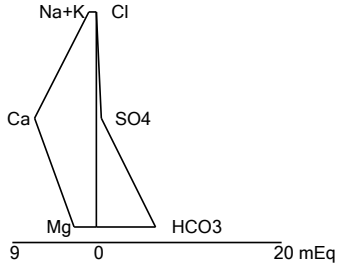
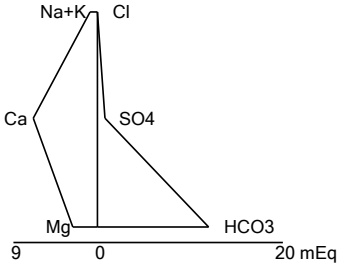


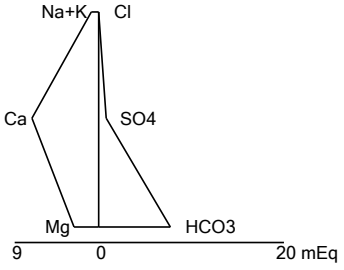
2019-11-04



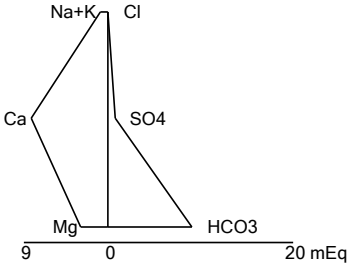
2020-01-15



2022-03-01



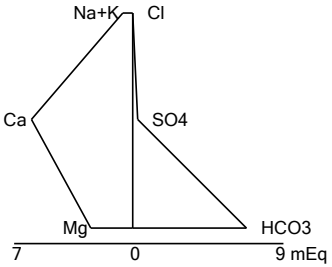
2022-08-17



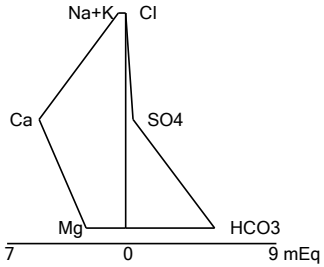
2023-08-14

Stiff Diagram - MW-1 Analysis Run 11/13/2023 10:12 AM View: CCR LF III

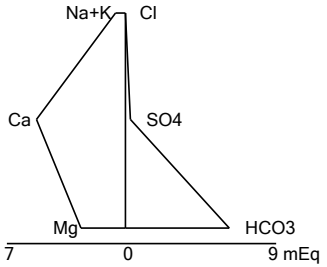
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr



2016-08-18



2016-11-09



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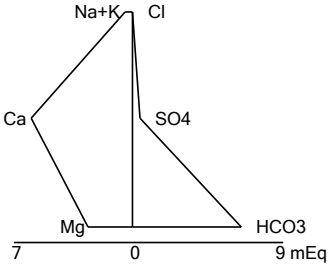
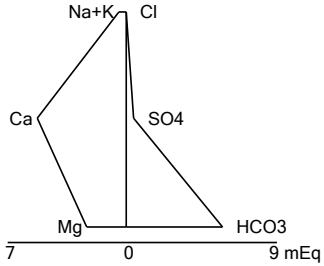


2019-11-04



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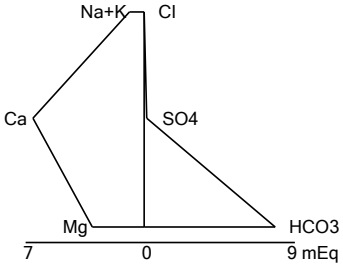
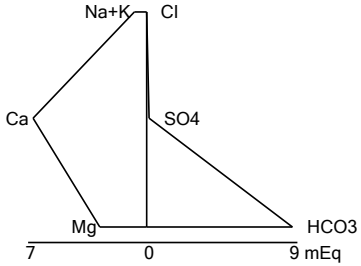


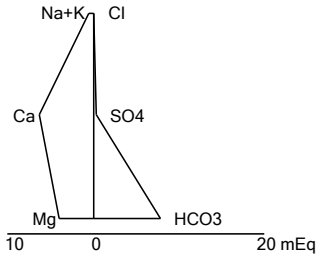
2023-02-06



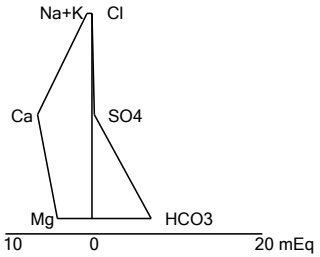
2023-08-14

Stiff Diagram - MW-9 Analysis Run 11/13/2023 10:12 AM View: CCR LF III

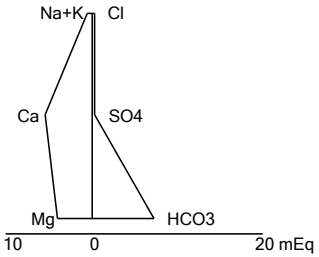
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr



2016-08-18



2016-11-09



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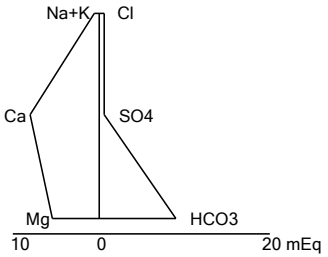
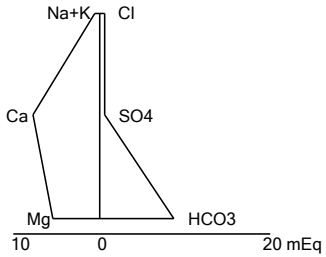


2019-01-10



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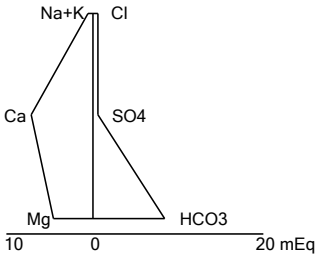

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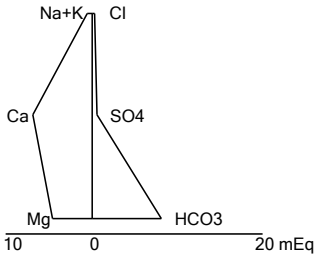

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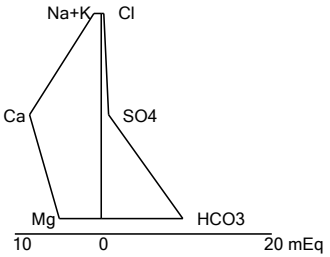
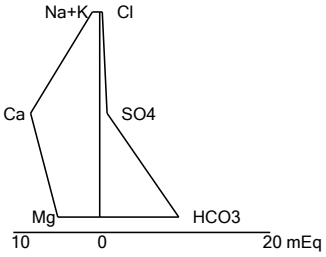


2020-08-25



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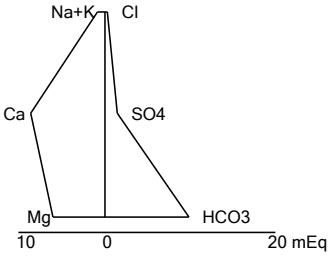
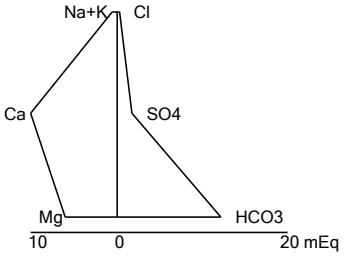


2023-02-06



2023-08-14

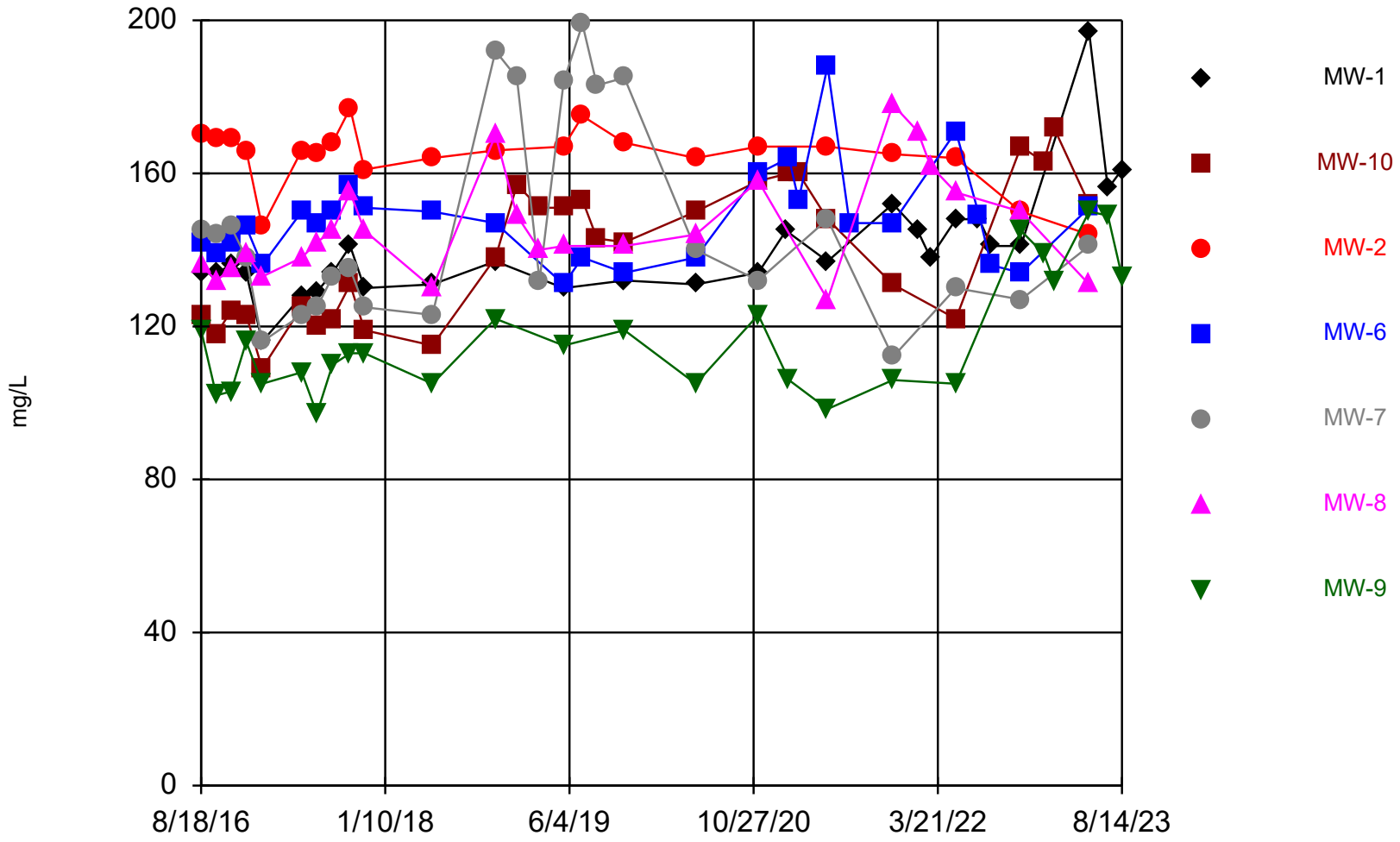
Stiff Diagram - MW-10 Analysis Run 11/13/2023 10:03 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Appendix D

Time Series Plots

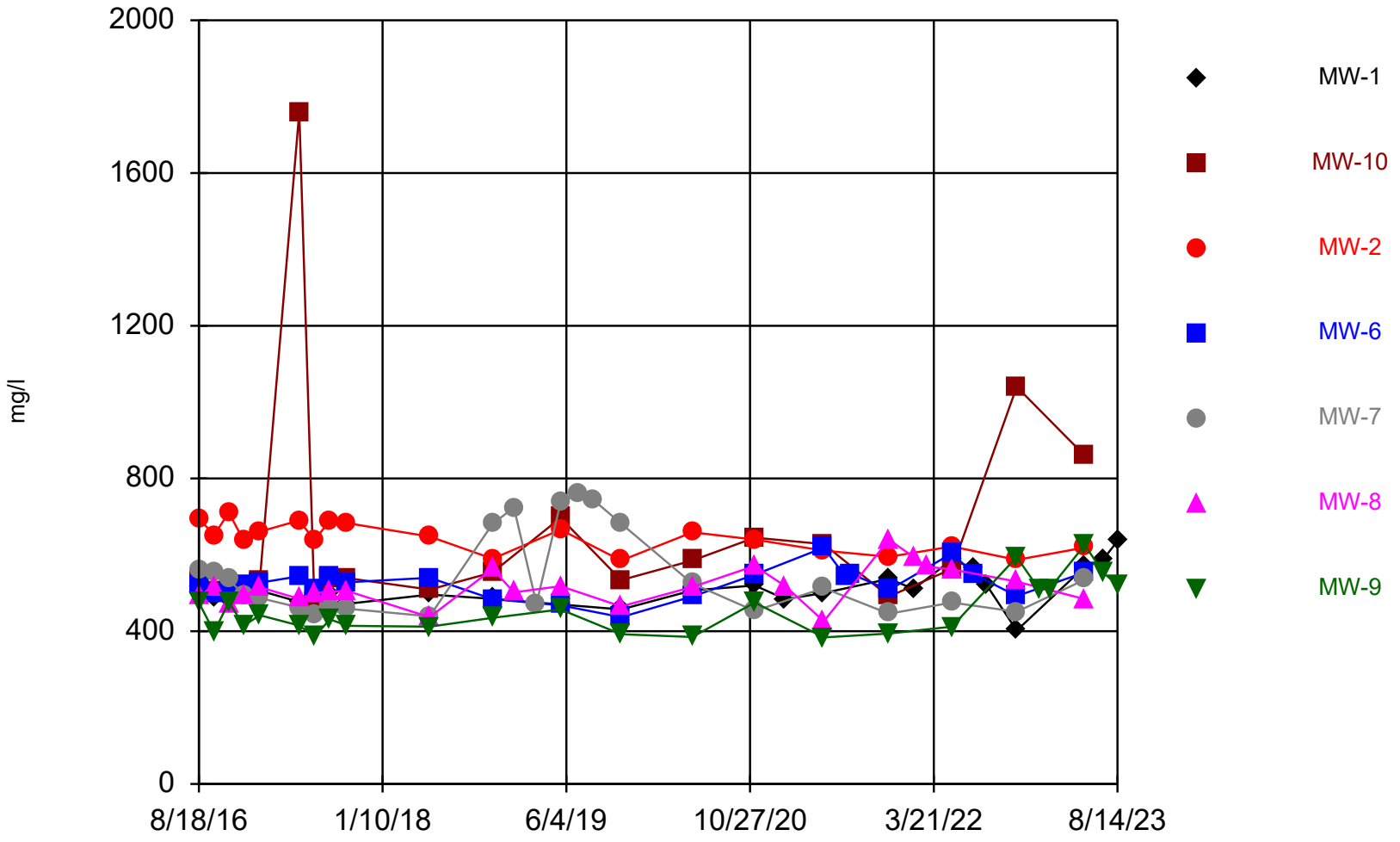
Time Series



Constituent: Calcium Analysis Run 11/13/2023 9:09 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

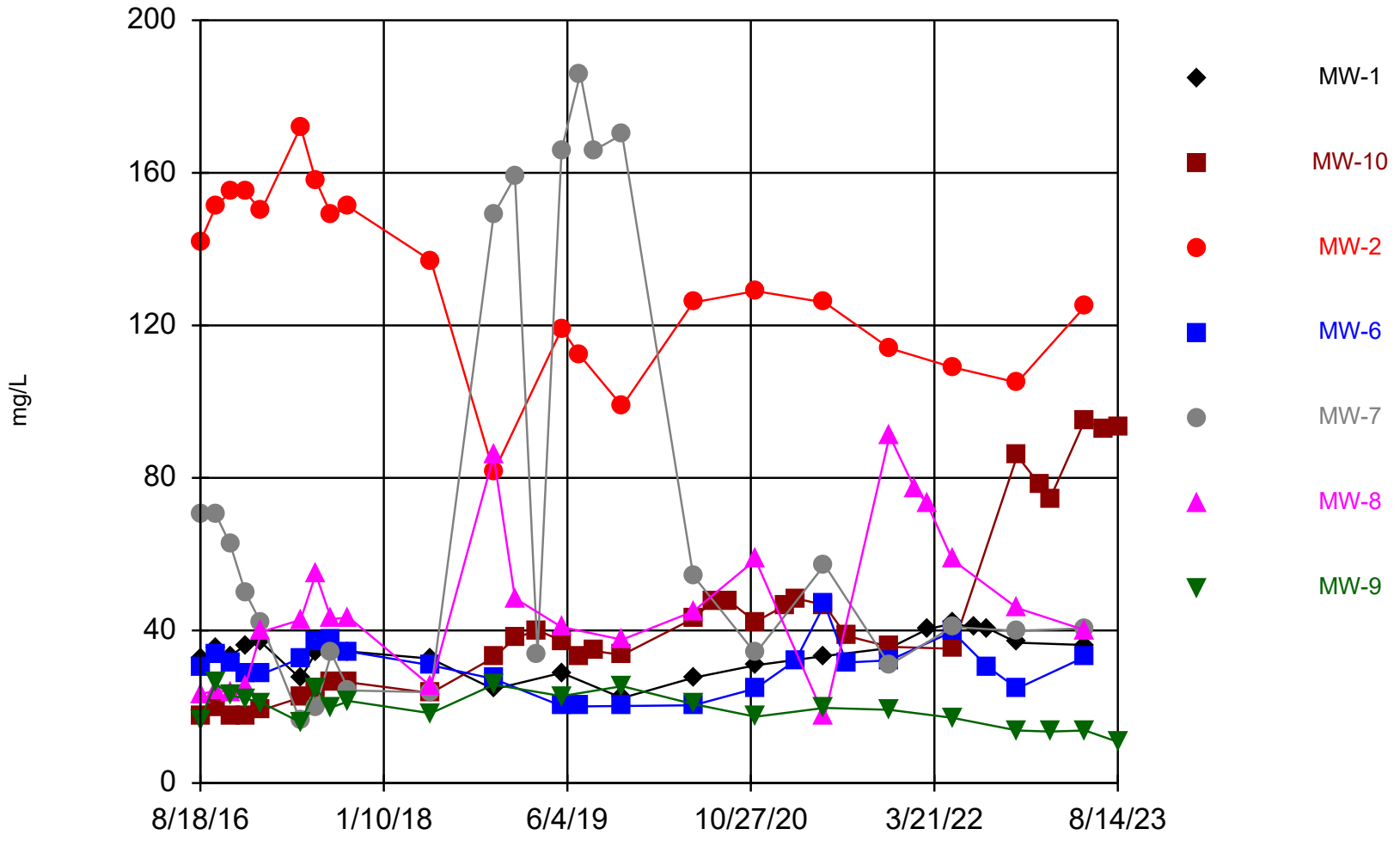
Time Series



Constituent: Dissolved Solids Analysis Run 11/13/2023 9:09 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Time Series



Constituent: Sulfate Analysis Run 11/13/2023 9:09 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

APPENDIX D

LABORATORY ANALYTICAL REPORTS

- January 2023 – First verification sampling for the Fall 2022 detection monitoring event.
- February 2023 – Second verification sampling for the Fall 2022 detection monitoring event.
- May 2023 – Spring 2023 semiannual detection monitoring sampling event.
- July 2023 – First verification sampling for the Spring 2023 detection monitoring sampling event.
- August 2023 - Second verification sampling for Spring 2023 detection monitoring sampling event.
- November 2023 - Fall 2023 semiannual detection monitoring sampling event.

ANALYTICAL REPORT

January 13, 2023

SCS Engineers - KS

Sample Delivery Group:	L1574606
Samples Received:	01/10/2023
Project Number:	27213167.22 - H
Description:	Evergy Iatan Gen Station LF GW 2022-23

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-9 L1574606-01 GW

Collected by: Matt Vander Putten | Collected date/time: 01/09/23 13:55 | Received date/time: 01/10/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1986621	1	01/11/23 11:43	01/11/23 12:46	DTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1986840	1	01/11/23 14:25	01/11/23 22:37	ABL	Mt. Juliet, TN

DUPLICATE 1 L1574606-02 GW

Collected by: Matt Vander Putten | Collected date/time: 01/09/23 13:55 | Received date/time: 01/10/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1986621	1	01/11/23 11:43	01/11/23 12:46	DTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1986836	1	01/11/23 13:40	01/11/23 20:45	ZSA	Mt. Juliet, TN

MW-10 L1574606-03 GW

Collected by: Matt Vander Putten | Collected date/time: 01/09/23 13:30 | Received date/time: 01/10/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1986468	1	01/11/23 03:59	01/11/23 03:59	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1986836	1	01/11/23 13:40	01/11/23 20:13	ZSA	Mt. Juliet, TN

DUPLICATE 2 L1574606-04 GW

Collected by: Matt Vander Putten | Collected date/time: 01/09/23 13:30 | Received date/time: 01/10/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1986468	1	01/11/23 04:40	01/11/23 04:40	GEB	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	509000		10000	1	01/11/2023 12:46	WG1986621

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	139000		1000	1	01/11/2023 22:37	WG1986840

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	538000		10000	1	01/11/2023 12:46	WG1986621

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	134000		1000	1	01/11/2023 20:45	WG1986836

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	78200		5000	1	01/11/2023 03:59	WG1986468

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	163000	V	1000	1	01/11/2023 20:13	WG1986836

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	77700		5000	1	01/11/2023 04:40	WG1986468

Method Blank (MB)

(MB) R3880633-1 01/11/23 12:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1574087-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1574087-01 01/11/23 12:46 • (DUP) R3880633-3 01/11/23 12:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	334000	341000	1	2.07		5

L1574136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1574136-01 01/11/23 12:46 • (DUP) R3880633-4 01/11/23 12:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	156000	152000	1	2.60		5

Laboratory Control Sample (LCS)

(LCS) R3880633-2 01/11/23 12:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	7420000	84.3	77.3-123	

QUALITY CONTROL SUMMARY

L1574606-03,04

Method Blank (MB)

(MB) R3879878-1 01/11/23 00:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1574535-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1574535-01 01/11/23 01:56 • (DUP) R3879878-3 01/11/23 02:09

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	57800	57300	1	0.831		15

L1574617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1574617-01 01/11/23 07:11 • (DUP) R3879878-6 01/11/23 07:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	1.50		15

Laboratory Control Sample (LCS)

(LCS) R3879878-2 01/11/23 00:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	41000	102	80.0-120	

L1574606-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1574606-03 01/11/23 03:59 • (MS) R3879878-4 01/11/23 04:13 • (MSD) R3879878-5 01/11/23 04:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	78200	127000	125000	97.1	93.0	1	80.0-120			1.62	15

L1574617-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1574617-01 01/11/23 07:11 • (MS) R3879878-7 01/11/23 07:38

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	ND	50800	97.8	1	80.0-120	

QUALITY CONTROL SUMMARY

L1574606-02,03

Method Blank (MB)

(MB) R3880187-1 01/11/23 20:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3880187-2 01/11/23 20:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	9870	98.7	80.0-120	

L1574606-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1574606-03 01/11/23 20:13 • (MS) R3880187-4 01/11/23 20:18 • (MSD) R3880187-5 01/11/23 20:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	163000	169000	170000	59.3	73.2	1	75.0-125	V	V	0.819	20

Method Blank (MB)

(MB) R3880230-1 01/11/23 22:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3880230-2 01/11/23 22:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	10000	100	80.0-120	

L1574606-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1574606-01 01/11/23 22:37 • (MS) R3880230-4 01/11/23 22:42 • (MSD) R3880230-5 01/11/23 22:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	139000	147000	147000	78.3	83.6	1	75.0-125			0.364	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jay.martin@evergy.c

Project Description:
Evergy Iatan Gen Station LF GW 2022-23

City/State Collected: Iatan MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213167.22 - H

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
Matt VanderPutten

Site/Facility ID #

P.O. #

Collected by (signature):
Matt VanderPutten

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
Std

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-9	Grab	GW	NA	1/9/23	1355	2	X		X		701
MW-9 MS/MSD		GW			1355	2	X		X		
DUPLICATE 1		GW			1355	2	X		X		-02
MW-10		GW			1330	2	X	X			703
MW-10 MS/MSD		GW			1330	1		X			
DUPLICATE 2		GW			1330	1		X			-04

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1S74606
J210

Acctnum: **AQUAOPKS**
Template: **T136056**
Prelogin: **P973745**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 0221 5671 5374 5623

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y (N)
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR	If preservation required by Login: Date/Time
Matt VanderPutten	1/9/23	1500			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C 3.4 0=3.4 Bottles Received: 10	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 01/10/23 Time: 0845	Hold: / Condition: NCF / (OK)

ANALYTICAL REPORT

February 12, 2023

SCS Engineers - KS

Sample Delivery Group:	L1583631
Samples Received:	02/08/2023
Project Number:	27213167.22 - H
Description:	Evergy Iatan Generating Station

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-9 L1583631-01 GW

Collected by: Todd Mitchell | Collected date/time: 02/06/23 13:40 | Received date/time: 02/08/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2002502	1	02/09/23 09:18	02/09/23 11:27	AS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2002924	1	02/09/23 08:49	02/09/23 21:34	ABL	Mt. Juliet, TN

DUPLICATE 1 L1583631-02 GW

Collected by: Todd Mitchell | Collected date/time: 02/06/23 13:40 | Received date/time: 02/08/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2002502	1	02/09/23 09:18	02/09/23 11:27	AS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2003441	1	02/10/23 09:48	02/10/23 14:48	KMG	Mt. Juliet, TN

MW-10 L1583631-03 GW

Collected by: Todd Mitchell | Collected date/time: 02/06/23 12:15 | Received date/time: 02/08/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2002826	1	02/09/23 10:44	02/09/23 10:44	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2002924	1	02/09/23 08:49	02/09/23 21:45	ABL	Mt. Juliet, TN

DUPLICATE 2 L1583631-04 GW

Collected by: Todd Mitchell | Collected date/time: 02/06/23 12:15 | Received date/time: 02/08/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2002826	1	02/09/23 11:25	02/09/23 11:25	LBR	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	511000		10000	1	02/09/2023 11:27	WG2002502

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	132000		1000	1	02/09/2023 21:34	WG2002924

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	502000		10000	1	02/09/2023 11:27	WG2002502

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	125000		1000	1	02/10/2023 14:48	WG2003441

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	74500		5000	1	02/09/2023 10:44	WG2002826

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	172000		1000	1	02/09/2023 21:45	WG2002924

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	74900		5000	1	02/09/2023 11:25	WG2002826

Method Blank (MB)

(MB) R3889741-1 02/09/23 11:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1583631-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1583631-01 02/09/23 11:27 • (DUP) R3889741-3 02/09/23 11:27

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	511000	518000	1	1.36		5

Laboratory Control Sample (LCS)

(LCS) R3889741-2 02/09/23 11:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8050000	91.5	77.3-123	

Method Blank (MB)

(MB) R3889678-1 02/09/23 04:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1583579-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1583579-01 02/09/23 05:37 • (DUP) R3889678-3 02/09/23 05:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	15400	13100	1	15.9	P1	15

L1583583-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1583583-05 02/09/23 08:33 • (DUP) R3889678-5 02/09/23 08:47

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3889678-2 02/09/23 04:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	41800	105	80.0-120	

L1583579-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1583579-01 02/09/23 05:37 • (MS) R3889678-4 02/09/23 06:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	15400	59900	89.0	1	80.0-120	

L1583631-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1583631-03 02/09/23 10:44 • (MS) R3889678-6 02/09/23 10:58 • (MSD) R3889678-7 02/09/23 11:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	74500	120000	120000	91.2	91.8	1	80.0-120			0.247	15

Method Blank (MB)

(MB) R3889391-8 02/09/23 21:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3889391-9 02/09/23 21:32

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	10100	101	80.0-120	

L1583631-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1583631-01 02/09/23 21:34 • (MS) R3889391-11 02/09/23 21:40 • (MSD) R3889391-12 02/09/23 21:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	132000	138000	137000	57.9	53.6	1	75.0-125	V	V	0.310	20

L1583631-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1583631-03 02/09/23 21:45 • (MS) R3889391-13 02/09/23 21:47 • (MSD) R3889391-14 02/09/23 21:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	172000	174000	175000	26.3	37.4	1	75.0-125	V	V	0.638	20

Method Blank (MB)

(MB) R3889694-1 02/10/23 14:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3889694-2 02/10/23 14:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9970	99.7	80.0-120	

L1583732-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1583732-09 02/10/23 14:18 • (MS) R3889694-4 02/10/23 14:23 • (MSD) R3889694-5 02/10/23 14:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	67500	75600	75000	81.3	75.1	1	75.0-125			0.825	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jay.martin@evergy.c

Project Description:
Evergy Iatan Gen Station LF GW 2022-23

City/State Collected: Iatan, MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213167.22 - H

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
Todd Mitchell

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
STD

Immediately Packed on Ice N ___ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-9	G	GW		2/6/23	1340	2	X		X		701
MW-9 MS/MSD		GW				2	X		X		
DUPLICATE 1		GW				2	X		X		-02
MW-10		GW			1215	2	X	X			703
MW-10 MS/MSD		GW				1		X			
DUPLICATE 2		GW				1		X			-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 158363

G013

Acctnum: **AQUAOPKS**
Template: **T136056**
Prelogin: **P978591**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5455 8210

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Todd Mitchell	2/6/23	1620		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NA °C 1.5 to 1.5 / Bottles Received: 10 / If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/8/23 / Time: 915 / Hold: / Condition: NCF / OK

ANALYTICAL REPORT

May 24, 2023

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

SCS Engineers - KS

Sample Delivery Group:	L1616822
Samples Received:	05/16/2023
Project Number:	27213167.23-A
Description:	Evergy Iatan Gen Station LF GW 2022-23

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-1 L1616822-01 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 10:25 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 03:19	05/23/23 03:19	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:17	SPL	Mt. Juliet, TN

MW-2 L1616822-02 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 11:10 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 04:00	05/23/23 04:00	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:20	SPL	Mt. Juliet, TN

MW-6 L1616822-03 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 11:10 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 04:14	05/23/23 04:14	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:23	SPL	Mt. Juliet, TN

MW-7 L1616822-04 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 10:20 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 04:27	05/23/23 04:27	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:03	SPL	Mt. Juliet, TN

MW-8 L1616822-05 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 12:30 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 05:22	05/23/23 05:22	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:31	SPL	Mt. Juliet, TN

DUPLICATE L1616822-06 GW

Collected by: B. Coleman | Collected date/time: 05/15/23 00:00 | Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064647	1	05/23/23 05:36	05/23/23 05:36	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062584	1	05/19/23 09:36	05/19/23 13:34	SPL	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	569000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6440		1000	1	05/23/2023 03:19	WG2064647
Fluoride	232		150	1	05/23/2023 03:19	WG2064647
Sulfate	36200		5000	1	05/23/2023 03:19	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	502		200	1	05/19/2023 13:17	WG2062584
Calcium	197000		1000	1	05/19/2023 13:17	WG2062584

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	619000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6360		1000	1	05/23/2023 04:00	WG2064647
Fluoride	280		150	1	05/23/2023 04:00	WG2064647
Sulfate	125000		5000	1	05/23/2023 04:00	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	276		200	1	05/19/2023 13:20	WG2062584
Calcium	144000		1000	1	05/19/2023 13:20	WG2062584

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	554000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1900	B	1000	1	05/23/2023 04:14	WG2064647
Fluoride	287		150	1	05/23/2023 04:14	WG2064647
Sulfate	33100		5000	1	05/23/2023 04:14	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	210		200	1	05/19/2023 13:23	WG2062584
Calcium	151000		1000	1	05/19/2023 13:23	WG2062584

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	535000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1620	B	1000	1	05/23/2023 04:27	WG2064647
Fluoride	313		150	1	05/23/2023 04:27	WG2064647
Sulfate	40600		5000	1	05/23/2023 04:27	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/19/2023 13:03	WG2062584
Calcium	141000	V	1000	1	05/19/2023 13:03	WG2062584

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	484000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1620	B	1000	1	05/23/2023 05:22	WG2064647
Fluoride	308		150	1	05/23/2023 05:22	WG2064647
Sulfate	40100		5000	1	05/23/2023 05:22	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/19/2023 13:31	WG2062584
Calcium	131000		1000	1	05/19/2023 13:31	WG2062584

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	481000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1660	B	1000	1	05/23/2023 05:36	WG2064647
Fluoride	304		150	1	05/23/2023 05:36	WG2064647
Sulfate	40000		5000	1	05/23/2023 05:36	WG2064647

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/19/2023 13:34	WG2062584
Calcium	131000		1000	1	05/19/2023 13:34	WG2062584

Method Blank (MB)

(MB) R3928944-1 05/22/23 12:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1616421-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616421-02 05/22/23 12:51 • (DUP) R3928944-3 05/22/23 12:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	ND	ND	1	200	P1	5

L1616822-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616822-01 05/22/23 12:51 • (DUP) R3928944-4 05/22/23 12:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	569000	583000	1	2.43		5

Laboratory Control Sample (LCS)

(LCS) R3928944-2 05/22/23 12:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8570000	97.4	77.3-123	

Method Blank (MB)

(MB) R3928139-1 05/22/23 20:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	563	J	379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1616570-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1616570-03 05/22/23 23:41 • (DUP) R3928139-3 05/22/23 23:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12800	12800	1	0.334		15
Fluoride	181	177	1	2.41		15
Sulfate	19200	19200	1	0.219		15

L1616822-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1616822-04 05/23/23 04:27 • (DUP) R3928139-5 05/23/23 04:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1620	1590	1	2.11		15
Fluoride	313	304	1	3.14		15
Sulfate	40600	40100	1	1.27		15

Laboratory Control Sample (LCS)

(LCS) R3928139-2 05/22/23 20:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40400	101	80.0-120	
Fluoride	8000	8470	106	80.0-120	
Sulfate	40000	39500	98.8	80.0-120	

L1616570-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1616570-03 05/22/23 23:41 • (MS) R3928139-4 05/23/23 00:07

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	12800	64800	104	1	80.0-120	
Fluoride	5000	181	5460	106	1	80.0-120	
Sulfate	50000	19200	69900	101	1	80.0-120	

L1616822-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616822-04 05/23/23 04:27 • (MS) R3928139-6 05/23/23 04:55 • (MSD) R3928139-7 05/23/23 05:08

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	1620	53200	53100	103	103	1	80.0-120			0.297	15
Fluoride	5000	313	5540	5510	105	104	1	80.0-120			0.680	15
Sulfate	50000	40600	90000	89300	98.8	97.5	1	80.0-120			0.721	15

QUALITY CONTROL SUMMARY

L1616822-01,02,03,04,05,06

Method Blank (MB)

(MB) R3927024-1 05/19/23 12:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3927024-2 05/19/23 13:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	1000	100	80.0-120	
Calcium	10000	9700	97.0	80.0-120	

L1616822-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616822-04 05/19/23 13:03 • (MS) R3927024-4 05/19/23 13:08 • (MSD) R3927024-5 05/19/23 13:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	ND	1130	1080	103	98.4	1	75.0-125			4.13	20
Calcium	10000	141000	154000	145000	132	48.3	1	75.0-125	V	V	5.58	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to: **Jason Franks**

Email To: **jfranks@scsengineers.com;jrockhold@scsengine**

Project Description: **Evergy Iatan Gen Station LF GW 2022-23**

City/State Collected: Weston, MO

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project # **27213167.22-A**

Lab Project # **AQUAOPKS-IATAN**

Collected by (print): B. Coleman

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STD

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres							Remarks	Sample # (lab only)
MW-1	G	GW	-	5/15/23	1025	3	X	X	X								-01
MW-2		GW			1110	3	X	X	X								-02
MW-6		GW			1110	3	X	X	X								-03
MW-7		GW			1020	3	X	X	X								-04
MW-8		GW			1230	3	X	X	X								-05
MW-7 MS/MSD		GW			-	3	X	X	X								
DUPLICATE		GW			-	3	X	X	X								-06

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1616822

E147

Acctnum: **AQUAOPKS**
Template: **T136059**
Prelogin: **P999222**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 5882 7565 0934

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	5/15/23	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: USAT 5.0 °C Bottles Received: 21	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 05/16/23 Time: 0901	Hold: / Condition: NCF / OK

ANALYTICAL REPORT

June 03, 2023

SCS Engineers - KS

Sample Delivery Group:	L1616887
Samples Received:	05/16/2023
Project Number:	27213167.23-A
Description:	Evergy Iatan Gen Station LF GW 2022-23

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

MW-9 L1616887-01 GW

Collected by: B Coleman
Collected date/time: 05/15/23 13:40
Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2064651	1	05/23/23 18:45	05/23/23 18:45	MDM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062586	1	05/19/23 14:32	05/20/23 14:13	ZSA	Mt. Juliet, TN

MW-10 L1616887-02 GW

Collected by: B Coleman
Collected date/time: 05/15/23 11:55
Received date/time: 05/16/23 09:01

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2064023	1	05/22/23 11:54	05/22/23 12:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2065198	1	05/23/23 18:54	05/23/23 18:54	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2062586	1	05/19/23 14:32	05/20/23 13:34	ZSA	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	626000		10000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1430		1000	1	05/23/2023 18:45	WG2064651
Fluoride	346		150	1	05/23/2023 18:45	WG2064651
Sulfate	13800		5000	1	05/23/2023 18:45	WG2064651

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/20/2023 14:13	WG2062586
Calcium	150000		1000	1	05/20/2023 14:13	WG2062586

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	860000		20000	1	05/22/2023 12:51	WG2064023

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15700		1000	1	05/23/2023 18:54	WG2065198
Fluoride	472		150	1	05/23/2023 18:54	WG2065198
Sulfate	95200		5000	1	05/23/2023 18:54	WG2065198

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/20/2023 13:34	WG2062586
Calcium	152000		1000	1	05/20/2023 13:34	WG2062586

Method Blank (MB)

(MB) R3928944-1 05/22/23 12:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1616421-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616421-02 05/22/23 12:51 • (DUP) R3928944-3 05/22/23 12:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	ND	ND	1	200	P1	5

L1616822-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616822-01 05/22/23 12:51 • (DUP) R3928944-4 05/22/23 12:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	569000	583000	1	2.43		5

Laboratory Control Sample (LCS)

(LCS) R3928944-2 05/22/23 12:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8570000	97.4	77.3-123	

Method Blank (MB)

(MB) R3928399-1 05/23/23 10:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1616869-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1616869-07 05/23/23 18:07 • (DUP) R3928399-7 05/23/23 18:19

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8820	9070	1	2.78		15
Fluoride	ND	ND	1	200	P1	15
Sulfate	ND	ND	1	0.804		15

L1616495-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1616495-03 05/23/23 14:13 • (DUP) R3928399-3 05/23/23 14:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	285000	286000	1	0.227	E	15
Fluoride	336	340	1	1.07		15
Sulfate	448000	450000	1	0.377	E	15

Laboratory Control Sample (LCS)

(LCS) R3928399-2 05/23/23 10:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	36700	91.8	80.0-120	
Fluoride	8000	7710	96.4	80.0-120	
Sulfate	40000	39300	98.3	80.0-120	

L1616869-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1616869-07 05/23/23 18:07 • (MS) R3928399-8 05/23/23 18:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	8820	57400	97.1	1	80.0-120	
Fluoride	5000	ND	4500	88.7	1	80.0-120	
Sulfate	50000	ND	55200	102	1	80.0-120	

L1616495-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616495-03 05/23/23 14:13 • (MS) R3928399-4 05/23/23 14:38 • (MSD) R3928399-5 05/23/23 14:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	285000	318000	317000	64.8	64.4	1	80.0-120	E V	E V	0.0681	15
Fluoride	5000	336	4840	4810	90.0	89.5	1	80.0-120			0.541	15
Sulfate	50000	448000	433000	437000	0.000	0.000	1	80.0-120	E V	E V	1.05	15

Method Blank (MB)

(MB) R3932506-1 05/23/23 11:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1617133-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617133-01 05/23/23 21:38 • (DUP) R3932506-7 05/23/23 22:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	88800	88700	1	0.153		15
Fluoride	ND	ND	1	1.28		15
Sulfate	1830000	1830000	1	0.258	E	15

L1617144-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1617144-04 05/24/23 05:08 • (DUP) R3932506-15 05/24/23 10:25

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	16400	16800	1	2.54		15
Fluoride	433	446	1	2.96		15
Sulfate	2120000	2180000	1	2.74	E	15

L1616887-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616887-02 05/23/23 18:54 • (DUP) R3932506-3 05/23/23 19:21

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15700	15600	1	0.640		15
Fluoride	472	466	1	1.15		15
Sulfate	95200	94600	1	0.640		15

L1617133-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617133-01 05/23/23 21:52 • (DUP) R3932506-8 05/23/23 22:20

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	1920000	1930000	10	0.185		15

Laboratory Control Sample (LCS)

(LCS) R3932506-2 05/23/23 11:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38900	97.3	80.0-120	
Fluoride	8000	8040	101	80.0-120	
Sulfate	40000	40800	102	80.0-120	

L1617133-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617133-01 05/23/23 21:38 • (MS) R3932506-9 05/23/23 22:33 • (MSD) R3932506-10 05/23/23 22:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	88800	135000	137000	92.0	97.2	1	80.0-120			1.91	15
Fluoride	5000	ND	4310	4400	83.6	85.3	1	80.0-120			1.92	15
Sulfate	50000	1830000	1840000	1880000	12.1	99.8	1	80.0-120	E V	E	2.36	15

L1617144-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617144-04 05/24/23 05:08 • (MS) R3932506-17 05/24/23 10:52 • (MSD) R3932506-18 05/24/23 11:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	16400	68000	65000	103	97.2	1	80.0-120			4.50	15
Fluoride	5000	433	4960	4750	90.4	86.3	1	80.0-120			4.28	15
Sulfate	50000	2120000	2160000	2050000	89.2	0.000	1	80.0-120	E	E V	5.18	15

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/23/23 18:54 • (MS) R3932506-5 05/23/23 19:48 • (MSD) R3932506-6 05/23/23 20:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	15700	64600	63700	97.7	96.1	1	80.0-120			1.30	15
Fluoride	5000	472	5390	5310	98.3	96.8	1	80.0-120			1.44	15
Sulfate	50000	95200	143000	141000	95.6	91.6	1	80.0-120			1.42	15

QUALITY CONTROL SUMMARY

L1616887-01,02

Method Blank (MB)

(MB) R3927399-1 05/20/23 13:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3927399-2 05/20/23 13:31

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	1030	103	80.0-120	
Calcium	10000	10300	103	80.0-120	

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/20/23 13:34 • (MS) R3927399-4 05/20/23 13:39 • (MSD) R3927399-5 05/20/23 13:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1130	1140	101	102	1	75.0-125			1.18	20
Calcium	10000	152000	160000	160000	78.5	79.1	1	75.0-125			0.0332	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jrockhold@scsengine

Project Description:
Evergy Iatan Gen Station LF GW 2022-23

City/State Collected: Weston, MO

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27213167.23-A

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
B. Coffman

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately
Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STD

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres							Remarks	Sample # (lab only)
MW-9	G	GW	-	9/15/23	1340	3	X	X	X								-01
MW-10	G	GW	-	9/15/23	1155	3	X	X	X								-02

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 161687

E148

Acctnum: **AQUAOPKS**
Template: **T166691**
Prelogin: **P999225**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 3981 7565 0734

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	9/15/23	1400			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 6	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 09/15/23 Time: 0901	Hold: Condition: NCF / OK

ANALYTICAL REPORT

July 18, 2023

SCS Engineers - KS

Sample Delivery Group:	L1633196
Samples Received:	07/07/2023
Project Number:	27213167.23 - H
Description:	Evergy Iatan Gen Station LF GW 2023-24

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-1 L1633196-01 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 14:20 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2092679	1	07/11/23 14:19	07/12/23 10:44	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2091635	1	07/10/23 13:42	07/11/23 11:38	ZSA	Mt. Juliet, TN

DUPLICATE 1 L1633196-02 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 00:00 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2092845	1	07/11/23 15:53	07/11/23 23:00	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2091635	1	07/10/23 13:42	07/11/23 12:16	ZSA	Mt. Juliet, TN

MW-2 L1633196-03 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 13:50 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2091635	1	07/10/23 13:42	07/11/23 12:19	ZSA	Mt. Juliet, TN

MW-6 L1633196-04 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 15:00 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2091635	1	07/10/23 13:42	07/11/23 12:27	ZSA	Mt. Juliet, TN

MW-9 L1633196-05 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 12:40 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2092728	1	07/11/23 14:46	07/11/23 16:28	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2091635	1	07/10/23 13:42	07/13/23 13:55	SPL	Mt. Juliet, TN

MW-10 L1633196-06 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 13:10 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2095726	1	07/17/23 20:56	07/17/23 20:56	GEB	Mt. Juliet, TN

DUPLICATE 2 L1633196-07 GW

Collected by: B. Coleman | Collected date/time: 07/06/23 00:00 | Received date/time: 07/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2095726	1	07/17/23 21:55	07/17/23 21:55	GEB	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	589000		10000	1	07/12/2023 10:44	WG2092679

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	07/11/2023 11:38	WG2091635
Calcium	156000	V	1000	1	07/11/2023 11:38	WG2091635

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	603000		13300	1	07/11/2023 23:00	WG2092845

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	07/11/2023 12:16	WG2091635
Calcium	154000		1000	1	07/11/2023 12:16	WG2091635

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	07/11/2023 12:19	WG2091635

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	07/11/2023 12:27	WG2091635

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	553000		10000	1	07/11/2023 16:28	WG2092728

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	149000		1000	1	07/13/2023 13:55	WG2091635

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	92700		5000	1	07/17/2023 20:56	WG2095726

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	92400		5000	1	07/17/2023 21:55	WG2095726

Method Blank (MB)

(MB) R3948715-1 07/12/23 10:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1632357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1632357-01 07/12/23 10:44 • (DUP) R3948715-3 07/12/23 10:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	833000	848000	1	1.75		5

L1632465-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1632465-06 07/12/23 10:44 • (DUP) R3948715-4 07/12/23 10:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	450000	446000	1	0.893		5

Laboratory Control Sample (LCS)

(LCS) R3948715-2 07/12/23 10:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8470000	96.3	77.3-123	

Method Blank (MB)

(MB) R3948641-1 07/11/23 16:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		10000	10000

L1632465-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1632465-05 07/11/23 16:28 • (DUP) R3948641-3 07/11/23 16:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	595000	612000	1	2.87		5

L1632465-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1632465-07 07/11/23 16:28 • (DUP) R3948641-4 07/11/23 16:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	1190000	1260000	1	5.55	J3	5

Laboratory Control Sample (LCS)

(LCS) R3948641-2 07/11/23 16:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8530000	96.9	77.3-123	

Method Blank (MB)

(MB) R3948630-1 07/11/23 23:00

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1632954-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1632954-07 07/11/23 23:00 • (DUP) R3948630-3 07/11/23 23:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	795000	765000	1	3.76		5

L1632964-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1632964-09 07/11/23 23:00 • (DUP) R3948630-4 07/11/23 23:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	358000	363000	1	1.39		5

Laboratory Control Sample (LCS)

(LCS) R3948630-2 07/11/23 23:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8440000	95.9	77.3-123	

Method Blank (MB)

(MB) R3949782-1 07/17/23 09:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1633148-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1633148-04 07/17/23 14:29 • (DUP) R3949782-3 07/17/23 14:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	292000	292000	1	0.00205	E	15

L1633196-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1633196-06 07/17/23 20:56 • (DUP) R3949782-6 07/17/23 21:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	92700	92600	1	0.0881		15

Laboratory Control Sample (LCS)

(LCS) R3949782-2 07/17/23 10:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	40800	102	80.0-120	

L1633148-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1633148-04 07/17/23 14:29 • (MS) R3949782-4 07/17/23 14:59 • (MSD) R3949782-5 07/17/23 15:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	292000	344000	344000	103	104	1	80.0-120	E	E	0.0985	15

L1633196-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1633196-06 07/17/23 20:56 • (MS) R3949782-7 07/17/23 21:25 • (MSD) R3949782-8 07/17/23 21:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	92700	135000	135000	83.8	83.8	1	80.0-120			0.00550	15

Method Blank (MB)

(MB) R3947171-1 07/11/23 11:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3947171-2 07/11/23 11:25

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	989	98.9	80.0-120	
Calcium	10000	10100	101	80.0-120	

L1633148-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1633148-04 07/11/23 11:28 • (MS) R3947171-4 07/11/23 11:33 • (MSD) R3947171-5 07/11/23 11:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1060	1080	95.7	98.1	1	75.0-125			2.22	20
Calcium	10000	75800	84400	84700	86.5	89.0	1	75.0-125			0.296	20

L1633196-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1633196-01 07/11/23 11:38 • (MS) R3947171-6 07/11/23 11:41 • (MSD) R3947171-7 07/11/23 11:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1090	1110	96.3	98.8	1	75.0-125			2.22	20
Calcium	10000	156000	162000	161000	58.3	53.9	1	75.0-125	V	V	0.270	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to: **Jason Franks**

Email To: **jfranks@scsengineers.com;jrockhold@scsengine**

Project Description: **Evergy Iatan Gen Station LF GW 2023-24**

City/State Collected: Iatan, Mo

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project # **27213167.23 - H**

Lab Project # **AQUAOPKS-IATAN**

Collected by (print): B. Coleman

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Quote #

Date Results Needed: STD

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron 250mlHDPE-HNO3	Boron, Calcium 250mlHDPE-HNO3	Calcium 250mlHDPE-HNO3	Sulfate 125mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-1	G	GW	-	7/6/23	1420	2		X			X		-01
MW-1 MS/MSD	G	GW	-		-	2		X			X		-02
DUPLICATE 1	G	GW	-		-	2		X			X		-03
MW-2	G	GW	-		1350	1	X						-04
MW-6	G	GW	-		1506	1	X						-05
MW-9	G	GW	-		1240	2			X		X		-06
MW-10	G	GW	-		1310	1				X			-07
MW-10 MS/MSD	G	GW	-		-	1				X			-08
DUPLICATE 2	G	GW	-		-	1				X			-09

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 6481 5470 3642

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/6/23	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received: GBAG 4.4+3.4

Date: 7/7/23 Time: 9:00

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1633196
H232

Acctnum: **AQUAOPKS**
Template: **T136056**
Prelogin: **P1010463**
PM: **206 - Jeff Carr**
PB:

Shipped Via:

ANALYTICAL REPORT

August 29, 2023

SCS Engineers - KS

Sample Delivery Group:	L1646349
Samples Received:	08/15/2023
Project Number:	27213167.23 - H
Description:	Evergy Iatan Gen Station LF GW 2023-24

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-1 L1646349-01 GW

Collected by: Matt Vander Putten | Collected date/time: 08/14/23 13:25 | Received date/time: 08/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2118243	1	08/21/23 15:36	08/22/23 22:14	MMF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2121829	1	08/28/23 10:37	08/28/23 15:35	ZSA	Mt. Juliet, TN

DUPLICATE 1 L1646349-02 GW

Collected by: Matt Vander Putten | Collected date/time: 08/14/23 13:25 | Received date/time: 08/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2118243	1	08/21/23 15:36	08/22/23 22:14	MMF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2121829	1	08/28/23 10:37	08/28/23 16:24	ZSA	Mt. Juliet, TN

MW-9 L1646349-03 GW

Collected by: Matt Vander Putten | Collected date/time: 08/14/23 14:15 | Received date/time: 08/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2118243	1	08/21/23 15:36	08/22/23 22:14	MMF	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2121829	1	08/28/23 10:37	08/28/23 16:27	ZSA	Mt. Juliet, TN

MW-10 L1646349-04 GW

Collected by: Matt Vander Putten | Collected date/time: 08/14/23 12:40 | Received date/time: 08/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2115659	1	08/17/23 10:12	08/17/23 10:12	GEB	Mt. Juliet, TN

DUPLICATE 2 L1646349-05 GW

Collected by: Matt Vander Putten | Collected date/time: 08/14/23 12:40 | Received date/time: 08/15/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2115659	1	08/17/23 10:57	08/17/23 10:57	GEB	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	636000	Q	13300	1	08/22/2023 22:14	WG2118243

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	161000		1000	1	08/28/2023 15:35	WG2121829

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	613000	Q	13300	1	08/22/2023 22:14	WG2118243

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	163000		1000	1	08/28/2023 16:24	WG2121829

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	521000	Q	10000	1	08/22/2023 22:14	WG2118243

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	133000		1000	1	08/28/2023 16:27	WG2121829

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	93100	J6	5000	1	08/17/2023 10:12	WG2115659

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	95900		5000	1	08/17/2023 10:57	WG2115659

Method Blank (MB)

(MB) R3965174-1 08/22/23 22:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		10000	10000

L1646349-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1646349-01 08/22/23 22:14 • (DUP) R3965174-3 08/22/23 22:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	636000	639000	1	0.419		5

L1646349-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1646349-02 08/22/23 22:14 • (DUP) R3965174-4 08/22/23 22:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	613000	636000	1	3.63		5

Laboratory Control Sample (LCS)

(LCS) R3965174-2 08/22/23 22:14

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	7830000	89.0	77.3-123	

QUALITY CONTROL SUMMARY

L1646349-04,05

Method Blank (MB)

(MB) R3961896-1 08/17/23 03:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		594	5000

L1646171-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1646171-01 08/17/23 06:14 • (DUP) R3961896-3 08/17/23 06:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	21800	21800	1	0.0252		15

L1646290-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1646290-01 08/17/23 08:28 • (DUP) R3961896-5 08/17/23 09:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	222000	222000	1	0.000180	E	15

Laboratory Control Sample (LCS)

(LCS) R3961896-2 08/17/23 03:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfate	40000	41100	103	80.0-120	

L1646171-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1646171-01 08/17/23 06:14 • (MS) R3961896-4 08/17/23 06:44

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	21800	70200	96.8	1	80.0-120	

L1646349-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1646349-04 08/17/23 10:12 • (MS) R3961896-6 08/17/23 10:27 • (MSD) R3961896-7 08/17/23 10:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	93100	129000	129000	72.1	72.4	1	80.0-120	J6	J6	0.112	15

Method Blank (MB)

(MB) R3966498-1 08/28/23 15:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R3966498-2 08/28/23 15:32

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	10000	100	80.0-120	

L1646349-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1646349-01 08/28/23 15:35 • (MS) R3966498-4 08/28/23 15:40 • (MSD) R3966498-5 08/28/23 15:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	161000	170000	169000	81.0	76.3	1	75.0-125			0.280	20

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Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jrockhold@scsengine

Project Description:
Evergy Iatan Gen Station LF GW 2023-24

City/State Collected: Iatan MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213167.23 - H

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
Matt VanderPutten

Site/Facility ID #

P.O. #

Collected by (signature):
Matt VanderPutten

Immediately Packed on Ice N / Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed: Std

Quote #

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium 250mlHDPE-HNO3	Sulfate 125mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-1	Grab	GW	NA	8/14/23	1325	2	X		X		-01
MW-1 MS/MSD		GW			1325	1	X				
DUPLICATE 1		GW			1325	2	X		X		-02
MW-9		GW			1415	2	X		X		-03
MW-10		GW			1240	1		X			-04
MW-10 MS/MSD		GW			1240	1		X			
DUPLICATE 2		GW			1240	1		X			-05

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 164634
G014

Acctnum: **AQUAOPKS**
Template: **T136056**
Prelogin: **P1015801**
PM: **206 - Jeff Carr**
PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6481 5470 3383

Sample Receipt Checklist
COC Seal Present/Intact: __NP (Y) __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: Y __N
RAD Screen <0.5 mR/hr: (Y) __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Matt VanderPutten	8/14/23	1530			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: GRAB .4 to .4	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/15/23 Time: 9:00	Hold: Condition: NCF / (OK)

ANALYTICAL REPORT

November 27, 2023

SCS Engineers - KS

Sample Delivery Group:	L1677875
Samples Received:	11/14/2023
Project Number:	27213167.23-C
Description:	Evergy Iatan Gen Station LF GW 2023-24

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-1 L1677875-01 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 12:00 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174179	1	11/19/23 17:59	11/19/23 18:54	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 08:46	11/23/23 08:46	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 09:19	JTM	Mt. Juliet, TN

MW-2 L1677875-02 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 11:05 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174191	1	11/19/23 18:59	11/20/23 09:34	DLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 09:00	11/23/23 09:00	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 09:27	JTM	Mt. Juliet, TN

MW-6 L1677875-03 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 11:15 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 09:41	11/23/23 09:41	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 09:30	JTM	Mt. Juliet, TN

MW-7 L1677875-04 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 14:05 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174191	1	11/19/23 18:59	11/20/23 09:34	JAC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 09:55	11/23/23 09:55	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 08:57	JTM	Mt. Juliet, TN

MW-8 L1677875-05 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 13:25 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174196	1	11/19/23 14:48	11/19/23 15:11	JAC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 10:36	11/23/23 10:36	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 09:33	JTM	Mt. Juliet, TN

DUPLICATE L1677875-06 GW

Collected by: Todd Mitchell | Collected date/time: 11/13/23 14:05 | Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174182	1	11/19/23 16:03	11/19/23 16:57	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 10:50	11/23/23 10:50	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173473	1	11/20/23 12:18	11/21/23 09:36	JTM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	635000		13300	1	11/19/2023 18:54	WG2174179

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18800		1000	1	11/23/2023 08:46	WG2175659
Fluoride	199		150	1	11/23/2023 08:46	WG2175659
Sulfate	43500		5000	1	11/23/2023 08:46	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 09:19	WG2173473
Calcium	176000		1000	1	11/21/2023 09:19	WG2173473

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	579000		10000	1	11/20/2023 09:34	WG2174191

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5850		1000	1	11/23/2023 09:00	WG2175659
Fluoride	314		150	1	11/23/2023 09:00	WG2175659
Sulfate	92700		5000	1	11/23/2023 09:00	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 09:27	WG2173473
Calcium	153000		1000	1	11/21/2023 09:27	WG2173473

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	667000		13300	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	2640		1000	1	11/23/2023 09:41	WG2175659
Fluoride	238		150	1	11/23/2023 09:41	WG2175659
Sulfate	44400		5000	1	11/23/2023 09:41	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 09:30	WG2173473
Calcium	191000		1000	1	11/21/2023 09:30	WG2173473

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	553000		10000	1	11/20/2023 09:34	WG2174191

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1770		1000	1	11/23/2023 09:55	WG2175659
Fluoride	316		150	1	11/23/2023 09:55	WG2175659
Sulfate	39300		5000	1	11/23/2023 09:55	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/21/2023 08:57	WG2173473
Calcium	162000	V	1000	1	11/21/2023 08:57	WG2173473

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	466000		10000	1	11/19/2023 15:11	WG2174196

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1770		1000	1	11/23/2023 10:36	WG2175659
Fluoride	321		150	1	11/23/2023 10:36	WG2175659
Sulfate	39000		5000	1	11/23/2023 10:36	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 09:33	WG2173473
Calcium	132000		1000	1	11/21/2023 09:33	WG2173473

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	486000		10000	1	11/19/2023 16:57	WG2174182

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1720		1000	1	11/23/2023 10:50	WG2175659
Fluoride	319		150	1	11/23/2023 10:50	WG2175659
Sulfate	39100	J6	5000	1	11/23/2023 10:50	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 09:36	WG2173473
Calcium	133000		1000	1	11/21/2023 09:36	WG2173473

Method Blank (MB)

(MB) R4002953-1 11/19/23 18:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U	J	10000	10000

L1677387-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1677387-03 11/19/23 18:54 • (DUP) R4002953-3 11/19/23 18:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	161000	162000	1	0.619		5

L1677499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677499-01 11/19/23 18:54 • (DUP) R4002953-4 11/19/23 18:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3060000	3070000	1	0.327		5

Laboratory Control Sample (LCS)

(LCS) R4002953-2 11/19/23 18:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8570000	97.4	85.0-115	

Method Blank (MB)

(MB) R4002954-1 11/19/23 16:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		10000	10000

L1677485-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1677485-03 11/19/23 16:57 • (DUP) R4002954-3 11/19/23 16:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	882000	974000	1	9.91	J3	5

L1677485-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1677485-04 11/19/23 16:57 • (DUP) R4002954-4 11/19/23 16:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1060000	1120000	1	5.15	J3	5

Laboratory Control Sample (LCS)

(LCS) R4002954-2 11/19/23 16:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8690000	98.8	85.0-115	

Method Blank (MB)

(MB) R4003095-1 11/20/23 09:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		10000	10000

L1677463-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677463-01 11/20/23 09:34 • (DUP) R4003095-3 11/20/23 09:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	838000	880000	1	4.89		5

L1677697-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677697-01 11/20/23 09:34 • (DUP) R4003095-4 11/20/23 09:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	621000	645000	1	3.79		5

Laboratory Control Sample (LCS)

(LCS) R4003095-2 11/20/23 09:34

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8120000	92.3	85.0-115	

Method Blank (MB)

(MB) R4002491-1 11/19/23 15:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U	J	10000	10000

L1677875-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1677875-05 11/19/23 15:11 • (DUP) R4002491-3 11/19/23 15:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	466000	484000	1	3.79		5

Laboratory Control Sample (LCS)

(LCS) R4002491-2 11/19/23 15:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8290000	94.2	85.0-115	

Method Blank (MB)

(MB) R4004024-1 11/23/23 06:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1677798-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1677798-05 11/23/23 08:05 • (DUP) R4004024-3 11/23/23 08:19

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14000	13800	1	1.35		15
Fluoride	ND	ND	1	4.57		15
Sulfate	39500	39100	1	1.01		15

L1677875-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1677875-06 11/23/23 10:50 • (DUP) R4004024-6 11/23/23 11:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1720	1710	1	0.0933		15
Fluoride	319	317	1	0.818		15
Sulfate	39100	39100	1	0.00256		15

Laboratory Control Sample (LCS)

(LCS) R4004024-2 11/23/23 07:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.8	80.0-120	
Fluoride	8000	8010	100	80.0-120	
Sulfate	40000	39300	98.3	80.0-120	

L1677875-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1677875-04 11/23/23 09:55 • (MS) R4004024-4 11/23/23 10:09 • (MSD) R4004024-5 11/23/23 10:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40000	1770	42800	43000	103	103	1	80.0-120			0.245	15
Fluoride	8000	316	8830	8850	106	107	1	80.0-120			0.293	15
Sulfate	40000	39300	71300	71400	80.1	80.2	1	80.0-120			0.0561	15

L1677875-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1677875-06 11/23/23 10:50 • (MS) R4004024-7 11/23/23 11:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40000	1720	42000	101	1	80.0-120	
Fluoride	8000	319	8650	104	1	80.0-120	
Sulfate	40000	39100	70900	79.5	1	80.0-120	J6

Method Blank (MB)

(MB) R4002916-1 11/21/23 08:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R4002916-2 11/21/23 08:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	981	98.1	80.0-120	
Calcium	10000	9590	95.9	80.0-120	

L1677875-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1677875-04 11/21/23 08:57 • (MS) R4002916-4 11/21/23 09:03 • (MSD) R4002916-5 11/21/23 09:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1080	1080	97.9	97.7	1	75.0-125			0.213	20
Calcium	10000	162000	169000	169000	73.5	70.4	1	75.0-125	V	V	0.178	20

L1678027-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1678027-09 11/21/23 09:09 • (MS) R4002916-6 11/21/23 09:12 • (MSD) R4002916-7 11/21/23 09:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1090	1070	99.3	97.3	1	75.0-125			1.89	20
Calcium	10000	361000	365000	364000	40.5	29.7	1	75.0-125	V	V	0.295	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
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Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jrockhold@scsengine

Project Description:
Evergy Iatan Gen Station LF GW 2023-24

City/State Collected: Weston, Mo

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213167.23-C

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
Todd Mitchell

Site/Facility ID #

P.O. #

Collected by (signature):
Todd Mitchell

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
STD

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres							Remarks	Sample # (lab only)
								C2									
MW-1	G	GW		11/13/23	1200	3	X	X	X								-01
MW-2		GW			1105	3	X	X	X								-02
MW-6		GW			1115	3	X	X	X								-03
MW-7		GW			1405	3	X	X	X								-04
MW-8		GW			1325	3	X	X	X								-05
MS/MSD		GW			1405	3	X	X	X								-04
DUPLICATE		GW			1405	3	X	X	X								-06

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1677875
B247
Table #
Acctnum: **AQUAOPKS**
Template: **T136059**
Prelogin: **P1033056**
PM: **206 - Jeff Carr**
PB:
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6841 8343 9514

Sample Receipt Checklist
COC Seal Present/Intact: __NP (Y) N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: (Y) N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Todd Mitchell	11/13/23	1630		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4 °C Bottles Received: 2.4+0=2.4 7
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11.14.23 Time: 9:00

If pr... PH-10BDH4321 TRC 2352362 CR6-20221V ...Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

November 27, 2023

SCS Engineers - KS

Sample Delivery Group:	L1677876
Samples Received:	11/14/2023
Project Number:	27213167.23-C
Description:	Evergy Iatan Gen Station LF GW 2023-24

Report To: Jason Franks
8575 W. 110th Street
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

MW-9 L1677876-01 GW

Collected by: Todd Mitchell
Collected date/time: 11/13/23 12:50
Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174191	1	11/19/23 18:59	11/20/23 09:34	JAC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 11:31	11/23/23 11:31	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173471	1	11/20/23 13:42	11/21/23 00:07	JTM	Mt. Juliet, TN

MW-10 L1677876-02 GW

Collected by: Todd Mitchell
Collected date/time: 11/13/23 14:10
Received date/time: 11/14/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2174179	1	11/19/23 17:59	11/19/23 18:54	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2175659	1	11/23/23 11:45	11/23/23 11:45	ASM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2173471	1	11/20/23 13:42	11/21/23 00:10	JTM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	523000		10000	1	11/20/2023 09:34	WG2174191

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1210		1000	1	11/23/2023 11:31	WG2175659
Fluoride	344		150	1	11/23/2023 11:31	WG2175659
Sulfate	5890		5000	1	11/23/2023 11:31	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 00:07	WG2173471
Calcium	133000		1000	1	11/21/2023 00:07	WG2173471

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	846000		20000	1	11/19/2023 18:54	WG2174179

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14300		1000	1	11/23/2023 11:45	WG2175659
Fluoride	398		150	1	11/23/2023 11:45	WG2175659
Sulfate	99100		5000	1	11/23/2023 11:45	WG2175659

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/21/2023 00:10	WG2173471
Calcium	200000		1000	1	11/21/2023 00:10	WG2173471

Method Blank (MB)

(MB) R4002953-1 11/19/23 18:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U	J	10000	10000

L1677387-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1677387-03 11/19/23 18:54 • (DUP) R4002953-3 11/19/23 18:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	161000	162000	1	0.619		5

L1677499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677499-01 11/19/23 18:54 • (DUP) R4002953-4 11/19/23 18:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3060000	3070000	1	0.327		5

Laboratory Control Sample (LCS)

(LCS) R4002953-2 11/19/23 18:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8570000	97.4	85.0-115	

Method Blank (MB)

(MB) R4003095-1 11/20/23 09:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		10000	10000

L1677463-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677463-01 11/20/23 09:34 • (DUP) R4003095-3 11/20/23 09:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	838000	880000	1	4.89		5

L1677697-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1677697-01 11/20/23 09:34 • (DUP) R4003095-4 11/20/23 09:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	621000	645000	1	3.79		5

Laboratory Control Sample (LCS)

(LCS) R4003095-2 11/20/23 09:34

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8120000	92.3	85.0-115	

Method Blank (MB)

(MB) R4004024-1 11/23/23 06:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1677798-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1677798-05 11/23/23 08:05 • (DUP) R4004024-3 11/23/23 08:19

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14000	13800	1	1.35		15
Fluoride	ND	ND	1	4.57		15
Sulfate	39500	39100	1	1.01		15

L1677875-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1677875-06 11/23/23 10:50 • (DUP) R4004024-6 11/23/23 11:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1720	1710	1	0.0933		15
Fluoride	319	317	1	0.818		15
Sulfate	39100	39100	1	0.00256		15

Laboratory Control Sample (LCS)

(LCS) R4004024-2 11/23/23 07:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.8	80.0-120	
Fluoride	8000	8010	100	80.0-120	
Sulfate	40000	39300	98.3	80.0-120	

L1677875-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1677875-04 11/23/23 09:55 • (MS) R4004024-4 11/23/23 10:09 • (MSD) R4004024-5 11/23/23 10:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40000	1770	42800	43000	103	103	1	80.0-120			0.245	15
Fluoride	8000	316	8830	8850	106	107	1	80.0-120			0.293	15
Sulfate	40000	39300	71300	71400	80.1	80.2	1	80.0-120			0.0561	15

L1677875-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1677875-06 11/23/23 10:50 • (MS) R4004024-7 11/23/23 11:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40000	1720	42000	101	1	80.0-120	
Fluoride	8000	319	8650	104	1	80.0-120	
Sulfate	40000	39100	70900	79.5	1	80.0-120	J6

QUALITY CONTROL SUMMARY

L1677876-01,02

Method Blank (MB)

(MB) R4002575-1 11/20/23 22:58

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200
Calcium	U		79.3	1000

Laboratory Control Sample (LCS)

(LCS) R4002575-2 11/20/23 23:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	977	97.7	80.0-120	
Calcium	10000	9320	93.2	80.0-120	

L1677873-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1677873-03 11/20/23 23:03 • (MS) R4002575-4 11/20/23 23:08 • (MSD) R4002575-5 11/20/23 23:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1080	1090	98.3	100	1	75.0-125			1.48	20
Calcium	10000	163000	170000	168000	63.5	48.9	1	75.0-125	V	V	0.862	20

GLOSSARY OF TERMS

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Alabama	40660	Nebraska	NE-OS-15-05
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Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 W. 110th Street
Overland Park, KS 66210

Pres Chk

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com;jrockhold@scsengine

Project Description:
Evergy Iatan Gen Station LF GW 2023-24

City/State Collected: Weston, Mo

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213167.23-C

Lab Project #
AQUAOPKS-IATAN

Collected by (print):
Todd Mitchell

Site/Facility ID #

P.O. #

Collected by (signature):
Todd Mitchell
Immediately
Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed
STD

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres							Remarks	Sample # (lab only)
MW-9	G	GW		11/13/23	1250	3	X	X	X								-01
MW-10	G	GW		11/13/23	1410	3	X	X	X								-02

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1677876

Table #

Acctnum: **AQUAOPKS**
Template: **T166691**
Prelogin: **P1033057**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6841 8343 9514

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Todd Mitchell	11/13/23			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.8 °C Bottles Received: 2.4+0=24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11.14.23 Time: 9:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

APPENDIX E

STATISTICAL ANALYSES

E.1 Fall 2022 Semiannual Detection Monitoring Statistical Analyses

E.2 Spring 2023 Semiannual Detection Monitoring Statistical Analyses

Appendix E.1

Fall 2022 Semiannual Detection Monitoring Statistical Analyses

SCS ENGINEERS

Environmental Consulting & Contracting

MEMORANDUM

March 20, 2023

To: Iatan Generating Station
20250 State Route 45 N
Platte County, Missouri
Evergy Metro, Inc.

From: SCS Engineers
John Rockhold, P.G.
Douglas Doerr, P.E.

RE: Determination of Statistically Significant Increase - CCR Landfill
Fall 2022 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Iatan Generating Station has been completed in substantial compliance with the "Statistical Method Certification by A Qualified Professional Engineer" dated October 12, 2017. Groundwater samples were collected on November 7, 2022. Review and validation of the results from the November 2022 Detection Monitoring Event was completed on December 20, 2022, which constitutes completion and finalization of detection monitoring laboratory analyses. Statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on January 9, 2023, and February 6, 2023.

The completed statistical evaluation identified three Appendix III constituents above their prediction limits.

Monitoring Well Constituents	*UPL	Observation November 7, 2022	1st Verification January 9, 2023	2nd Verification February 6, 2023
MW-9				
Calcium	121.5	145	139/134**	132/125**
Total Dissolved Solids	473.9	594	509/538**	511/502**
MW-10				
Calcium	160.1	167	163	172
Sulfate	48.43	85.8	78.2/77.7**	74.5/74.9**

*UPL – Upper Prediction Limit
** - Duplicate Sample

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified four SSIs above the background prediction limit. These include calcium and total dissolved solids at MW-9 and calcium and sulfate at monitoring well MW-10.

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas™ Output:

Statistical evaluation output from Sanitas™ for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample results, 1st verification re-sample results (when applicable), 2nd verification re-sample results (when applicable), extra sample results for pH because pH is collected as part of the sampling procedure, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

Iatan Generating Station
Determination of Statistically Significant Increases
CCR Landfill
March 20, 2023

ATTACHMENT 1

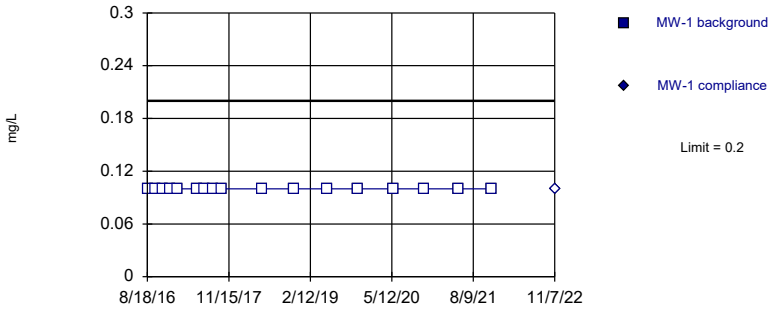
Sanitas™ Output

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

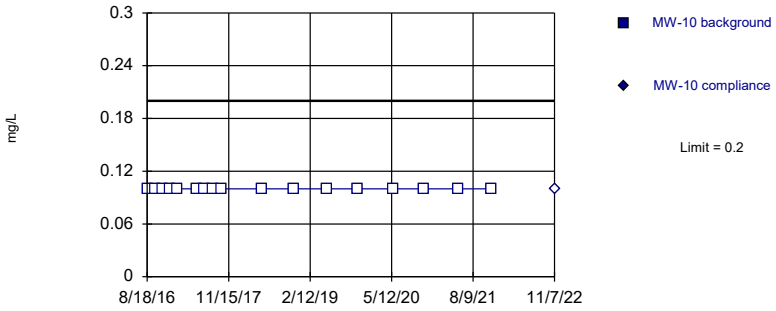
Constituent: Boron Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

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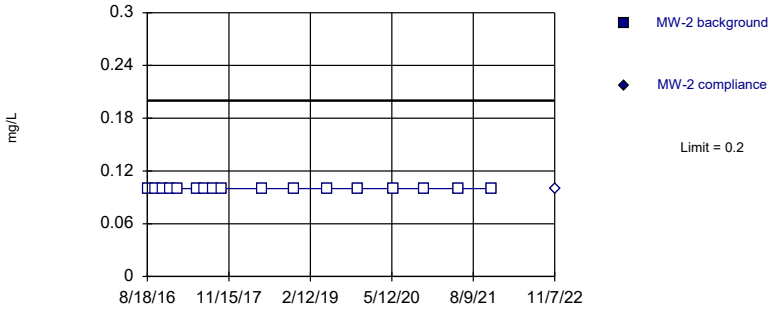
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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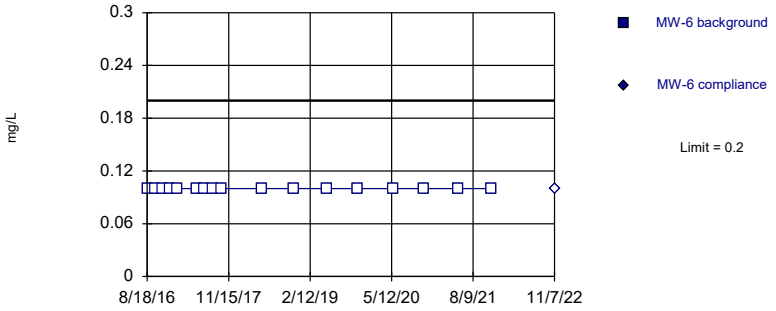
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron Analysis Run 3/12/2023 4:18 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	<0.2		<0.2		<0.2		<0.2	
9/29/2016	<0.2		<0.2		<0.2		<0.2	
11/9/2016	<0.2		<0.2		<0.2		<0.2	
12/21/2016	<0.2		<0.2		<0.2		<0.2	
2/3/2017	<0.2		<0.2		<0.2		<0.2	
5/24/2017	<0.2		<0.2		<0.2		<0.2	
7/5/2017	<0.2		<0.2		<0.2		<0.2	
8/17/2017	<0.2		<0.2		<0.2		<0.2	
10/5/2017	<0.2		<0.2		<0.2		<0.2	
5/21/2018	<0.2		<0.2		<0.2		<0.2	
11/12/2018	<0.2		<0.2		<0.2		<0.2	
5/20/2019	<0.2		<0.2		<0.2		<0.2	
11/4/2019	<0.2		<0.2		<0.2		<0.2	
5/20/2020	<0.2		<0.2		<0.2		<0.2	
11/9/2020	<0.2		<0.2		<0.2		<0.2	
5/20/2021	<0.2		<0.2		<0.2		<0.2	
11/17/2021	<0.2		<0.2		<0.2		<0.2	
11/7/2022		<0.2		<0.2		<0.2		<0.2

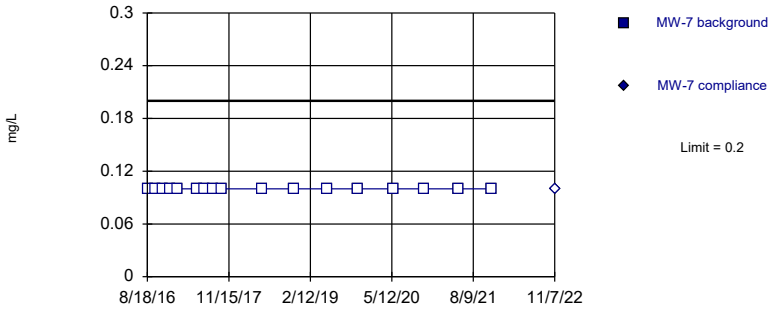
ND substitution: RL/2.

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

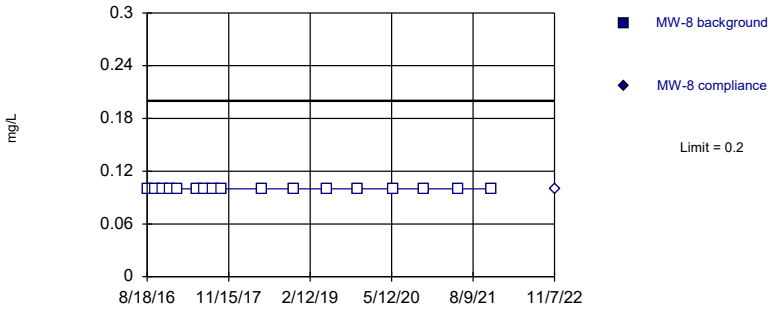
Constituent: Boron Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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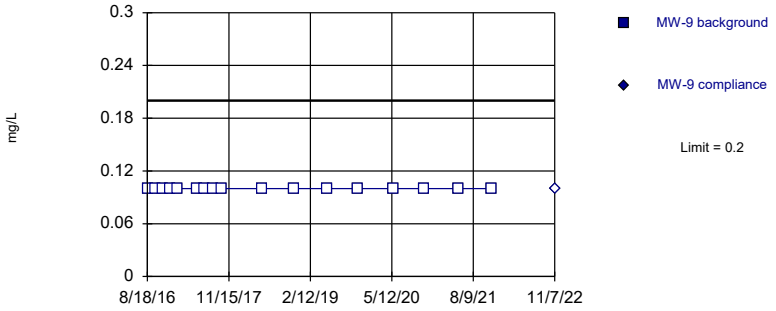
Constituent: Boron Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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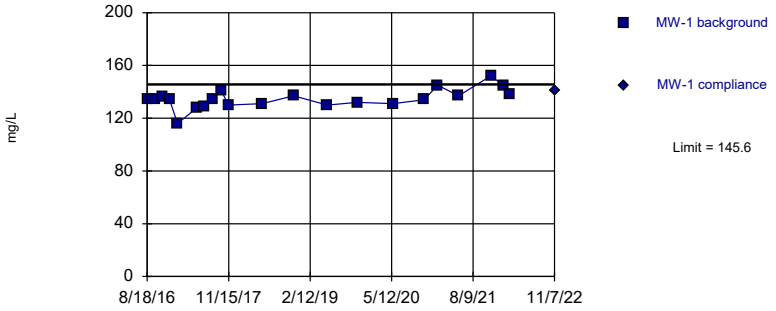
Constituent: Boron Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.36 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.7, Std. Dev.=7.358, n=21. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9334, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 3/12/2023 4:16 PM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron, Calcium Analysis Run 3/12/2023 4:18 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

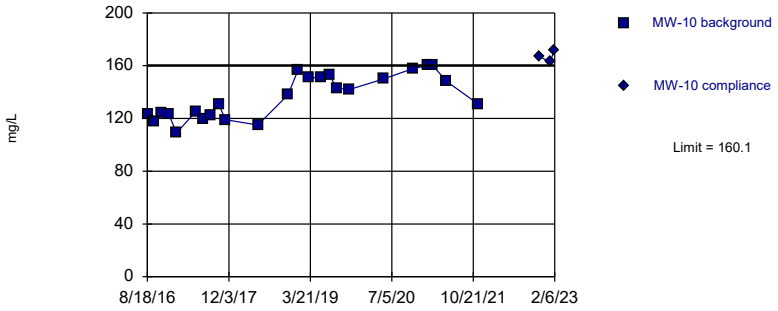
	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1
8/18/2016	<0.2		<0.2		<0.2		134	
9/29/2016	<0.2		<0.2		<0.2		134	
11/9/2016	<0.2		<0.2		<0.2		136	
12/21/2016	<0.2		<0.2		<0.2		134	
2/3/2017	<0.2		<0.2		<0.2		116	
5/24/2017	<0.2		<0.2		<0.2		128	
7/5/2017	<0.2		<0.2		<0.2		129	
8/17/2017	<0.2		<0.2		<0.2		134	
10/5/2017	<0.2		<0.2		<0.2		141	
11/14/2017							130	
5/21/2018	<0.2		<0.2		<0.2		131	
11/12/2018	<0.2		<0.2		<0.2		137	
5/20/2019	<0.2		<0.2		<0.2		130	
11/4/2019	<0.2		<0.2		<0.2		132	
5/20/2020	<0.2		<0.2		<0.2		131	
11/9/2020	<0.2		<0.2		<0.2		134	
1/25/2021							145	
5/20/2021	<0.2		<0.2		<0.2		137	
11/17/2021	<0.2		<0.2		<0.2		152	
1/25/2022							145	
3/1/2022							138	
11/7/2022		<0.2		<0.2		<0.2		141

ND substitution: RL/2.

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=136.3, Std. Dev.=16.33, n=24. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.917, critical = 0.884. Kappa = 1.459 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

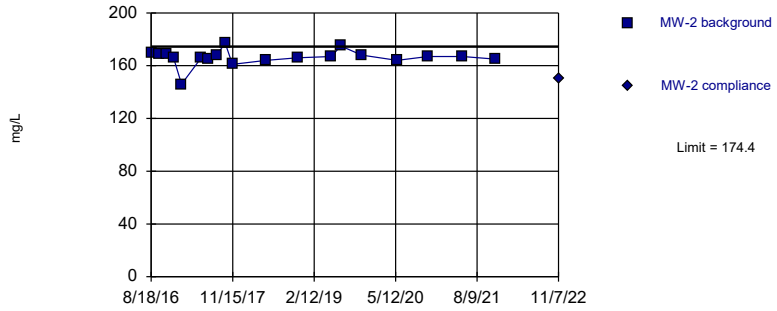
Constituent: Calcium Analysis Run 3/12/2023 4:16 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^5 transformation): Mean=1.3e11, Std. Dev.=2.1e10, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8654, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

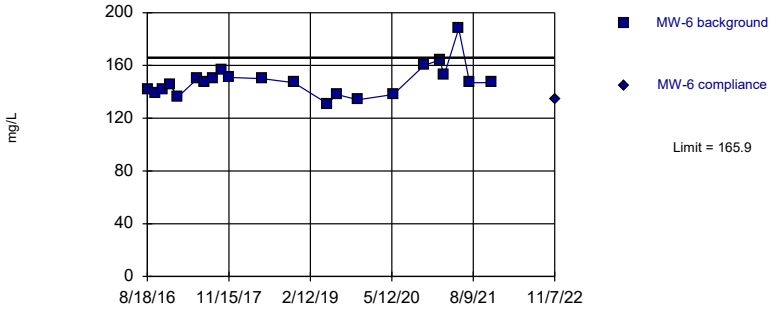
Constituent: Calcium Analysis Run 3/12/2023 4:16 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.16, Std. Dev.=0.4875, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8903, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

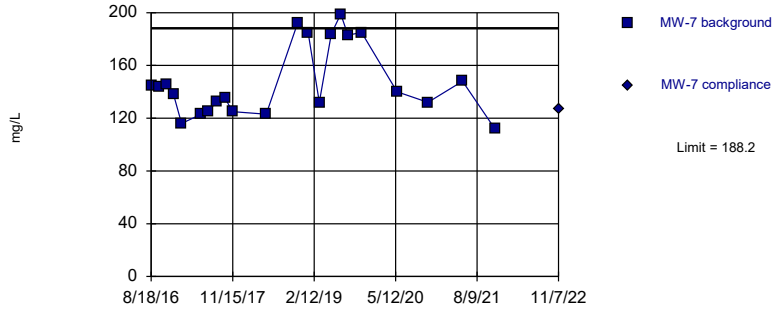
Constituent: Calcium Analysis Run 3/12/2023 4:16 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.1, Std. Dev.=1.094, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8824, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Calcium Analysis Run 3/12/2023 4:18 PM View: CCR LF III

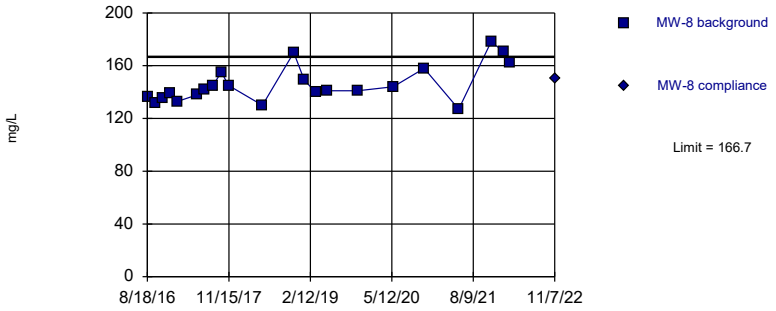
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7
8/18/2016	123		170		142		145	
9/29/2016	118		169		139		144	
11/9/2016	124		169		142		146	
12/21/2016	123		166		146		138	
2/3/2017	109		146		136		116	
5/24/2017	125		166		150		123	
7/5/2017	120		165		147		125	
8/17/2017	122		168		150		133	
10/5/2017	131		177		157		135	
11/14/2017	119		161		151		125	
5/21/2018	115		164		150		123	
11/12/2018	138		166		147		192	
1/10/2019	157						185	
3/14/2019	151						132	
5/20/2019	151		167		131		184	
7/11/2019	153		175		138		199	
8/20/2019	143						183	
11/4/2019	142		168		134		185	
5/20/2020	150		164		138		140	
11/9/2020	158		167		160		132	
2/2/2021	160				164			
3/1/2021	160				153			
5/20/2021	148		167		188		148	
7/20/2021					147			
11/17/2021	131		165		147		112	
11/7/2022		167		150		134		127
1/9/2023		163	1st verification					
2/6/2023		172	2nd verification					

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=146, Std. Dev.=14.04, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9085, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

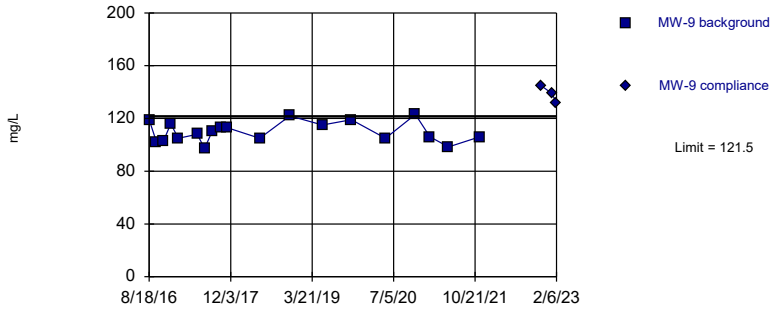
Constituent: Calcium Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.8, Std. Dev.=7.729, n=19. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9553, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

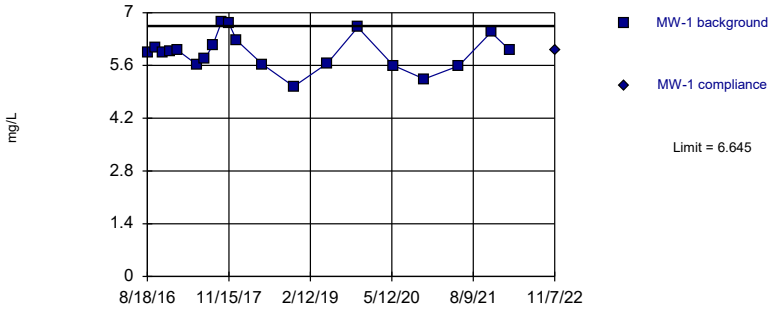
Constituent: Calcium Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.953, Std. Dev.=0.4609, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9636, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

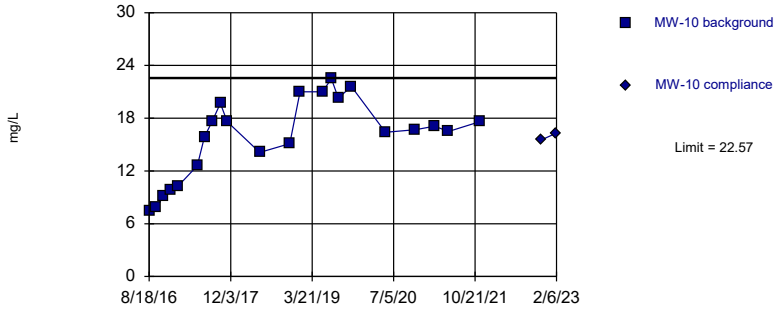
Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.81, Std. Dev.=4.565, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Calcium, Chloride Analysis Run 3/12/2023 4:18 PM View: CCR LF III

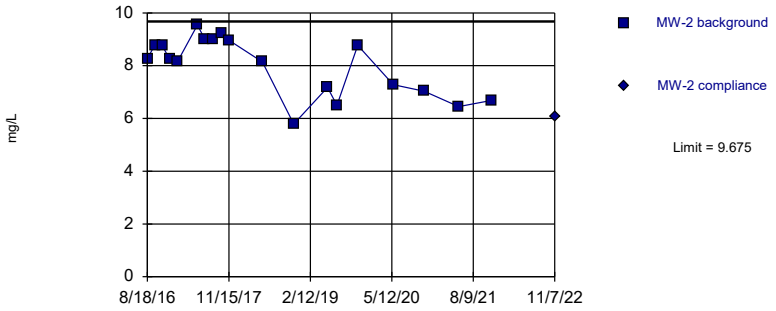
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1	MW-10	MW-10	
8/18/2016	136		119		5.93		7.47		
9/29/2016	132		102		6.07		7.83		
11/9/2016	135		103		5.95		9.15		
12/21/2016	139		116		5.97		9.84		
2/3/2017	133		105		6		10.3		
5/24/2017	138		108		5.61		12.6		
7/5/2017	142		97.2		5.78		15.9		
8/17/2017	145		110		6.13		17.6		
10/5/2017	155		113		6.75		19.7		
11/14/2017	145		113		6.73		17.6		
12/29/2017					6.27				
5/21/2018	130		105		5.63		14.1		
11/12/2018	170		122		5.04		15.1		
1/10/2019	149						21		
3/14/2019	140								
5/20/2019	141		115		5.66		21		
7/11/2019							22.5		
8/20/2019							20.3		
11/4/2019	141		119		6.61		21.6		
5/20/2020	144		105		5.6		16.4		
11/9/2020	158		123		5.24		16.7		
2/2/2021			106						
3/1/2021							17.1		
5/20/2021	127		98.4		5.59		16.5		
11/17/2021	178		106		6.48		17.6		
1/25/2022	171								
3/1/2022	162				6.01				
11/7/2022		150		145		6.01		15.5	
1/9/2023				139	1st verification				
2/6/2023				132	2nd verification			16.3	extra sample

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.987, Std. Dev.=1.109, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9208, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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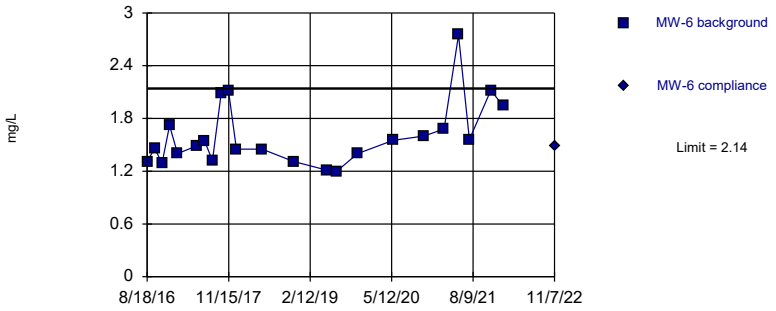
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.165, Std. Dev.=0.08384, n=23. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8898, critical = 0.881. Kappa = 1.47 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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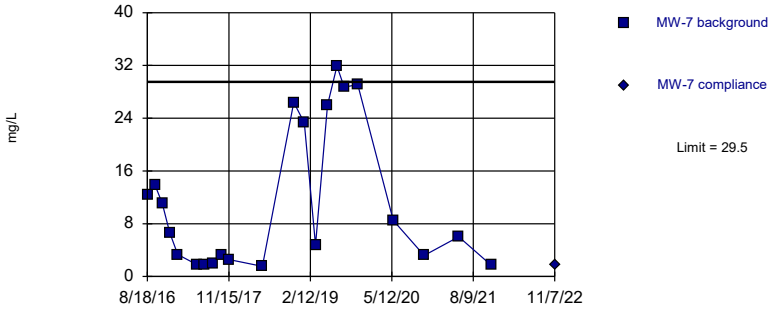
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=2.015, Std. Dev.=0.7258, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8816, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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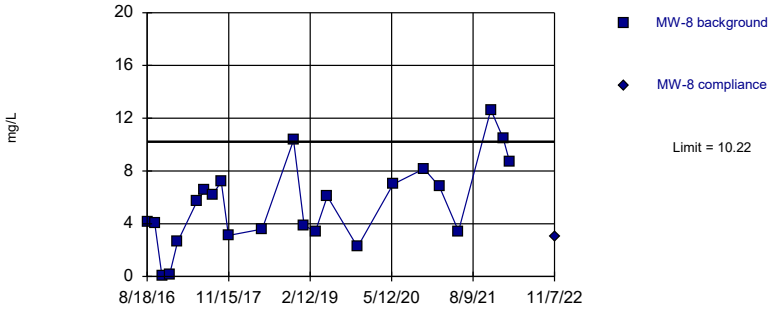
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.496, Std. Dev.=3.216, n=23. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.971, critical = 0.881. Kappa = 1.47 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Chloride Analysis Run 3/12/2023 4:18 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

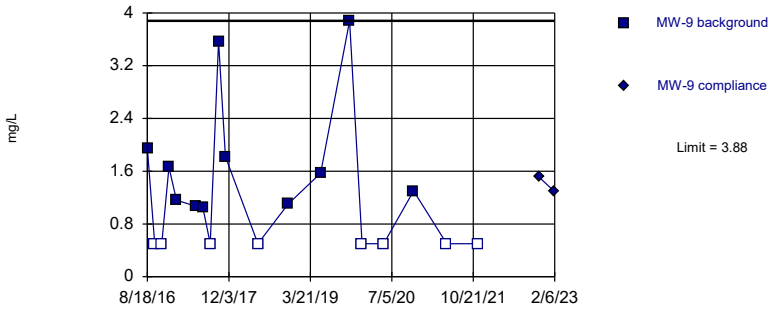
	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	8.26		1.31		12.3		1.5	
9/29/2016	8.79		1.46		13.9		1.42	
11/9/2016	8.76		1.29		11.1		1.76	
12/21/2016	8.24		1.72		6.64		1.89	
2/3/2017	8.17		1.4		3.32		4.02	
5/24/2017	9.54		1.49		1.76		3.63	
7/5/2017	8.99		1.54		1.81		4.44	
8/17/2017	8.98		1.32		2		3.53	
10/5/2017	9.23		2.09		3.32		4.55	
11/14/2017	8.97		2.12		2.58		4.86	
12/29/2017			1.45					
5/21/2018	8.14		1.45		1.54		1.5	
11/12/2018	5.79		1.31		26.4		12.1	
1/10/2019					23.3		5.63	
3/14/2019					4.77		4.79	
5/20/2019	7.18		1.21		26		3.98	
7/11/2019	6.5		1.2		31.9			
8/20/2019					28.7			
11/4/2019	8.77		1.4		29.1		3.99	
5/20/2020	7.28		1.55		8.49		4.89	
11/9/2020	7.03		1.6		3.18		9.92	
2/2/2021							8.22	
3/1/2021			1.68					
5/20/2021	6.45		2.75		6.03		1.34	
7/20/2021			1.56					
11/17/2021	6.68		2.12		1.72		14.4	
1/25/2022			1.94				12.2	
3/1/2022							10.1	
11/7/2022		6.07		1.49		1.84		4.74

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 19 background values. 42.11% NDs. Well-constituent pair annual alpha = 0.001357. Individual comparison alpha = 0.0006785 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

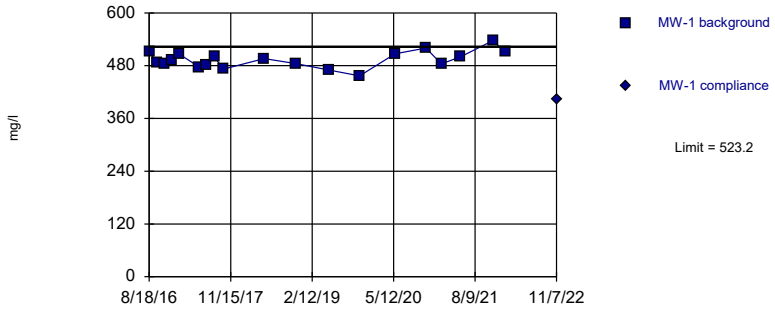
Constituent: Chloride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=493.6, Std. Dev.=19.43, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9872, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

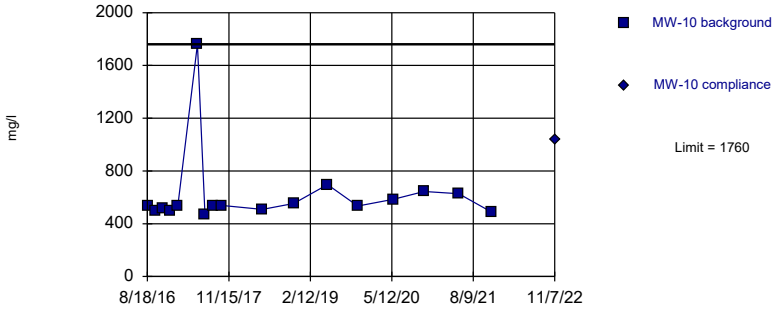
Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 17 background values. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

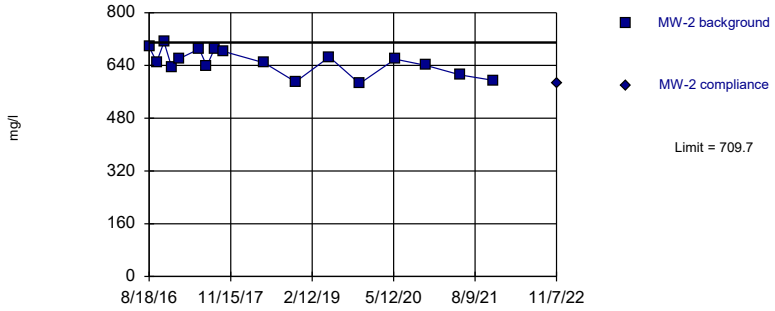
Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=650, Std. Dev.=38.24, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9527, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 3/12/2023 4:18 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

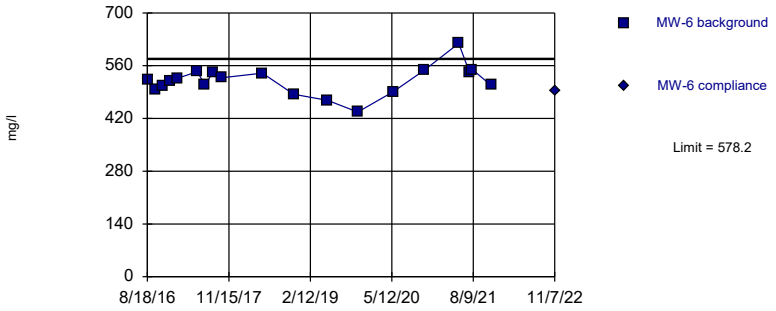
	MW-9	MW-9	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2
8/18/2016	1.95		513		532		696	
9/29/2016	<1		486		502		651	
11/9/2016	<1		484		516		711	
12/21/2016	1.66		493		497		636	
2/3/2017	1.16		506		531		661	
5/24/2017	1.07		477		1760		690	
7/5/2017	1.06		481		474		638	
8/17/2017	<1		500		539		690	
10/5/2017	3.57		472		539		683	
11/14/2017	1.82							
5/21/2018	<1		496		509		648	
11/12/2018	1.1		485		554		590	
5/20/2019	1.57		470		697		666	
11/4/2019	3.88		457		534		585	
1/15/2020	<1							
5/20/2020	<1		507		585		659	
11/9/2020	1.3		520		645		640	
2/2/2021			484					
5/20/2021	<1		500		628		611	
11/17/2021	<1		537		491		595	
1/25/2022			511					
11/7/2022		1.51		402		1040		587
2/6/2023		1.29 extra sample						

ND substitution: RL/2.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=520.1, Std. Dev.=38.18, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9459, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

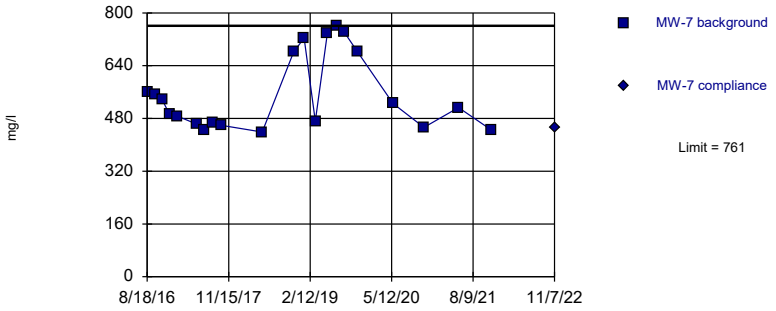
Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 21 background values. Well-constituent pair annual alpha = 0.001022. Individual comparison alpha = 0.000511 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

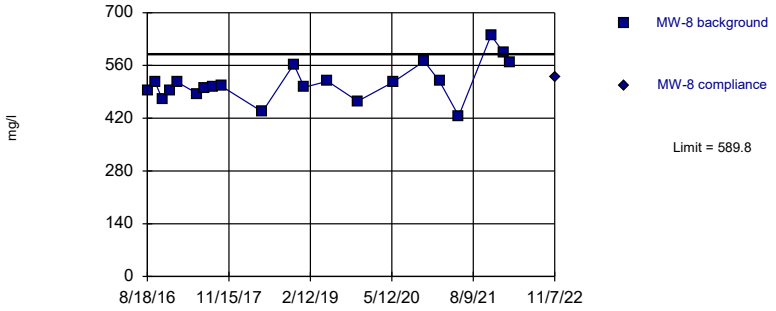
Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=514.4, Std. Dev.=50.56, n=21. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

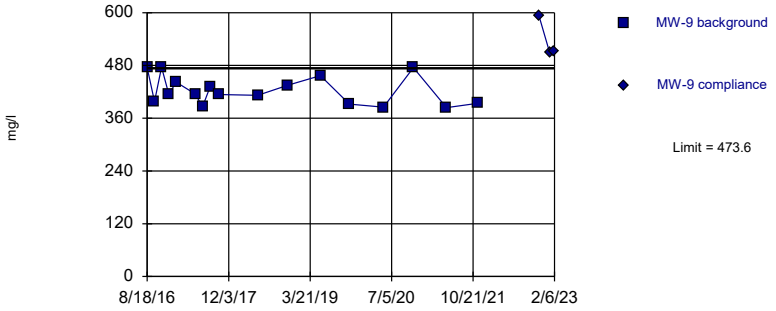
Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=422.7, Std. Dev.=32.63, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8959, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Dissolved Solids Analysis Run 3/12/2023 4:18 PM View: CCR LF III

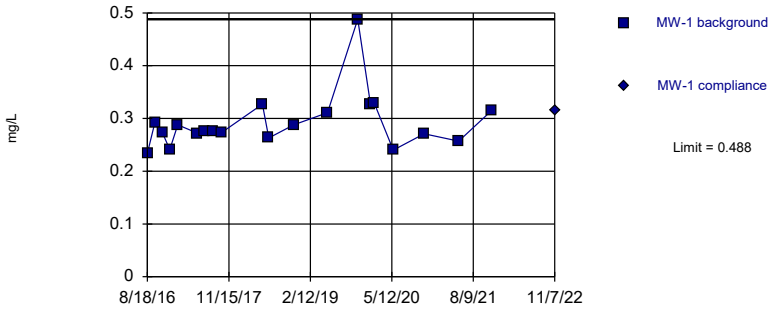
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	
8/18/2016	522		560		494		475		
9/29/2016	498		554		517		398		
11/9/2016	506		538		471		476		
12/21/2016	519		492		493		415		
2/3/2017	527		487		515		442		
5/24/2017	544		462		485		415		
7/5/2017	508		445		500		386		
8/17/2017	542		466		504		431		
10/5/2017	528		459		505		414		
5/21/2018	540		439		437		412		
11/12/2018	484		681		563		435		
1/10/2019			724		502				
3/14/2019			472						
5/20/2019	468		737		518		457		
7/11/2019			761						
8/20/2019			743						
11/4/2019	437		682		465		392		
5/20/2020	491		525		516		385		
11/9/2020	548		453		571		475		
2/2/2021					518				
5/20/2021	619		513		426		384		
7/20/2021	542								
8/4/2021	550								
11/17/2021	508		446		640		394		
1/25/2022					594				
3/1/2022					569				
11/7/2022		492		451		530		594	
1/9/2023								509	1st verification
2/6/2023								511	2nd verification

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.001125. Individual comparison alpha = 0.0005627 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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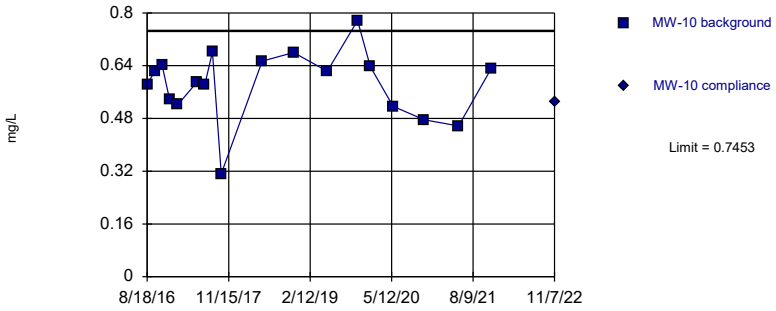
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5847, Std. Dev.=0.1042, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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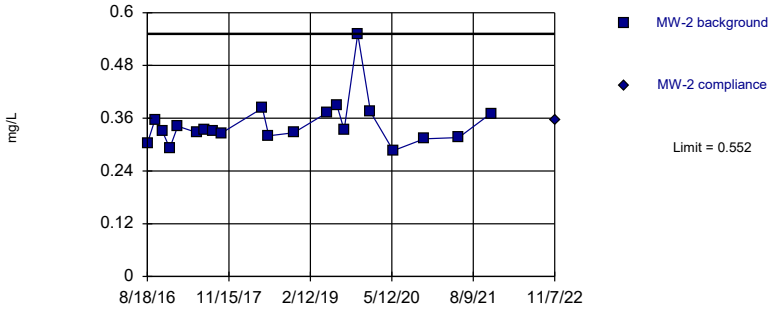
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 21 background values. Well-constituent pair annual alpha = 0.001022. Individual comparison alpha = 0.000511 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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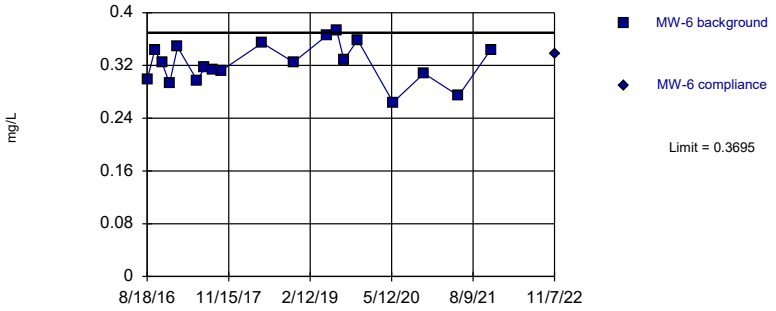
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3232, Std. Dev.=0.03043, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9771, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Fluoride Analysis Run 3/12/2023 4:18 PM View: CCR LF III

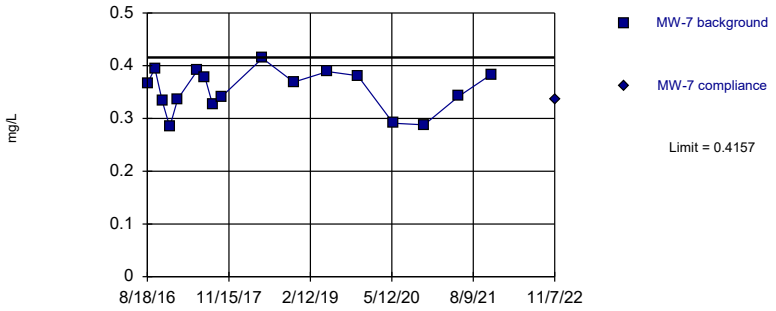
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	0.234		0.584		0.303		0.298	
9/29/2016	0.292		0.622		0.356		0.343	
11/9/2016	0.274		0.642		0.331		0.324	
12/21/2016	0.241		0.538		0.292		0.293	
2/3/2017	0.288		0.521		0.342		0.348	
5/24/2017	0.272		0.591		0.327		0.297	
7/5/2017	0.275		0.582		0.334		0.317	
8/17/2017	0.276		0.682		0.332		0.313	
10/5/2017	0.273		0.312		0.326		0.312	
5/21/2018	0.327		0.654		0.383		0.354	
6/26/2018	0.263				0.32			
11/12/2018	0.288		0.68		0.327		0.325	
5/20/2019	0.311		0.623		0.373		0.366	
7/11/2019					0.389		0.373	
8/20/2019					0.333		0.328	
11/4/2019	0.488		0.777		0.552		0.359	
1/15/2020	0.326		0.637		0.374			
2/4/2020	0.329							
5/20/2020	0.24		0.517		0.286		0.264	
11/9/2020	0.271		0.476		0.313		0.308	
5/20/2021	0.257		0.457		0.316		0.274	
11/17/2021	0.314		0.629		0.371		0.344	
11/7/2022		0.316		0.532		0.357		0.338

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3534, Std. Dev.=0.03987, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9285, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

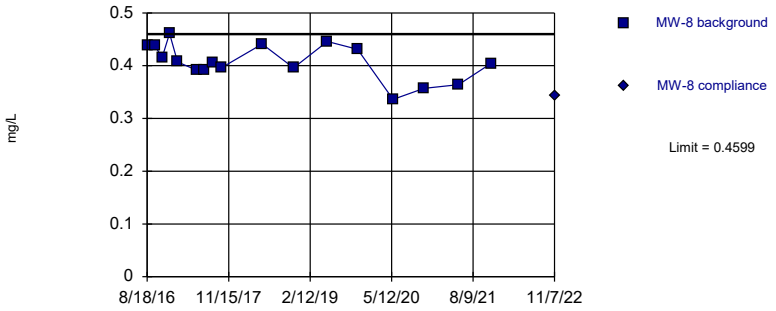
Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.407, Std. Dev.=0.03389, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9608, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

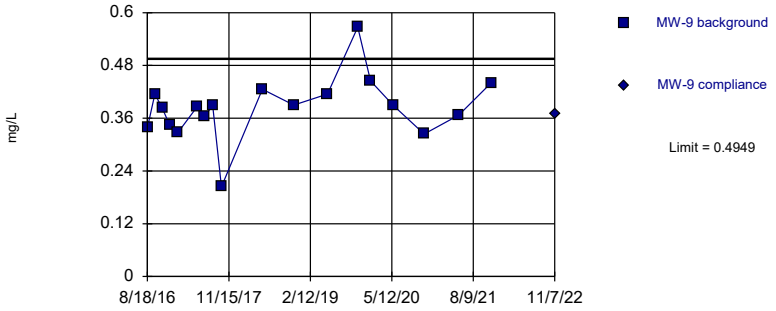
Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3842, Std. Dev.=0.07186, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9128, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

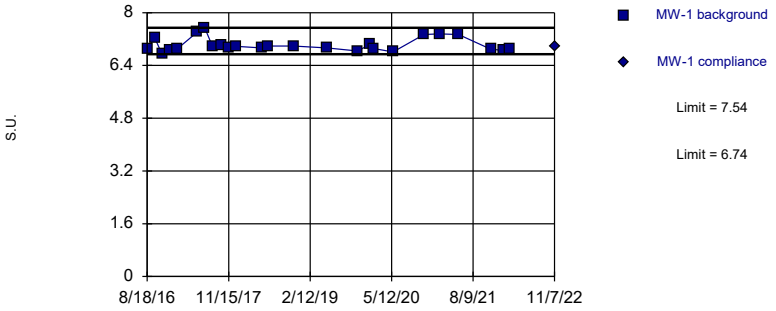
Constituent: Fluoride Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limits

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 25 background values. Well-constituent pair annual alpha = 0.001218. Individual comparison alpha = 0.0006092 (1 of 3). Seasonality was not detected with 95% confidence.

Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Fluoride, pH Analysis Run 3/12/2023 4:18 PM View: CCR LF III

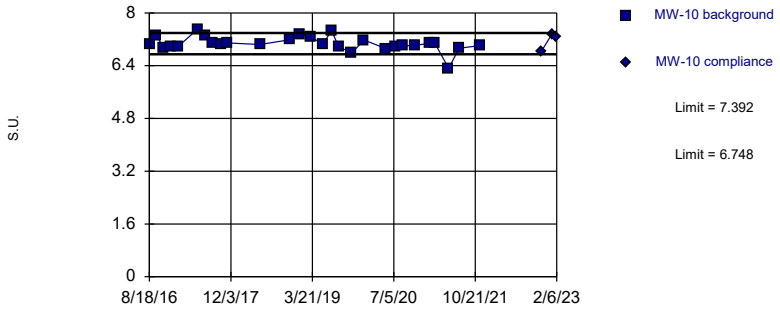
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1
8/18/2016	0.366		0.438		0.338		6.89	
9/29/2016	0.395		0.439		0.415		7.24	
11/9/2016	0.333		0.415		0.383		6.74	
12/21/2016	0.284		0.461		0.344		6.86	
2/3/2017	0.337		0.407		0.327		6.91	
5/24/2017	0.391		0.391		0.387		7.41	
7/5/2017	0.378		0.391		0.364		7.54	
8/17/2017	0.326		0.406		0.39		6.98	
10/5/2017	0.341		0.396		0.204		7.03	
11/14/2017							6.93	
12/29/2017							6.98	
5/21/2018	0.414		0.441		0.426		6.93	
6/26/2018							6.99	
11/12/2018	0.369		0.396		0.39		6.99	
5/20/2019	0.389		0.446		0.415		6.93	
11/4/2019	0.381		0.431		0.567		6.84	
1/15/2020					0.445		7.04	
2/4/2020							6.91	
5/20/2020	0.291		0.336		0.389		6.81	
11/9/2020	0.288		0.357		0.324		7.34	
2/2/2021							7.36	
5/20/2021	0.342		0.364		0.367		7.34	
11/17/2021	0.383		0.404		0.44		6.89	
1/25/2022							6.86	
3/1/2022							6.89	
11/7/2022		0.335		0.342		0.371		6.97

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.07, Std. Dev.=0.2253, n=28. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8976, critical = 0.896. Kappa = 1.428 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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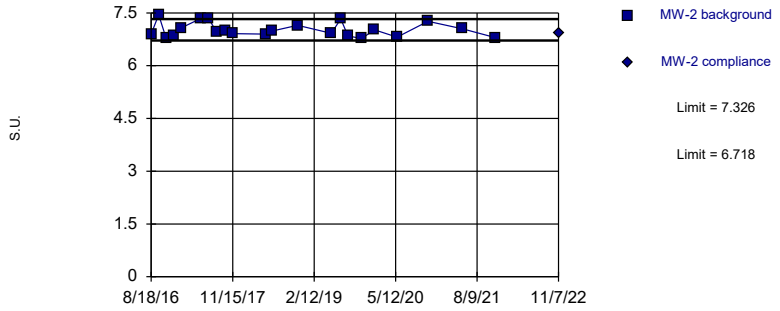
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.022, Std. Dev.=0.2053, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9056, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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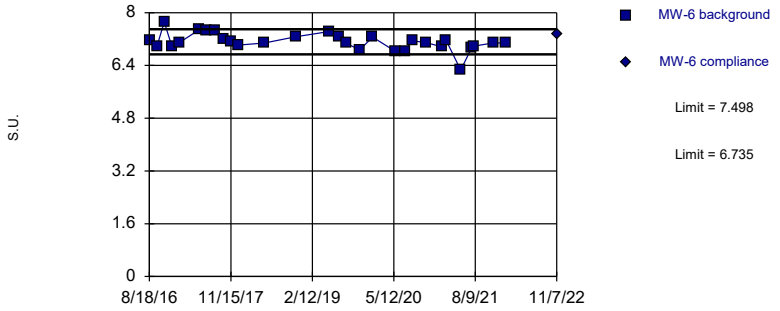
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.117, Std. Dev.=0.2681, n=29. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9337, critical = 0.898. Kappa = 1.422 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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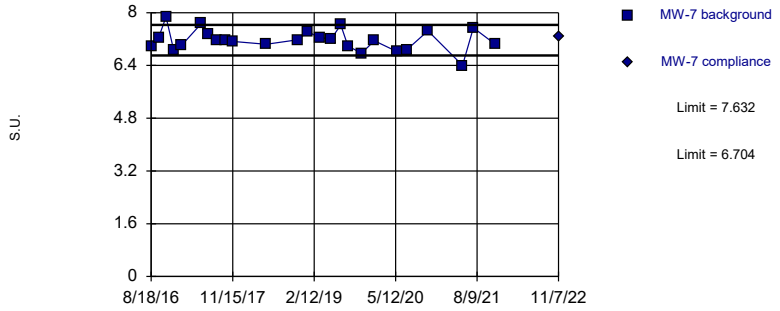
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.168, Std. Dev.=0.3202, n=25. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9819, critical = 0.888. Kappa = 1.448 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: pH Analysis Run 3/12/2023 4:18 PM View: CCR LF III

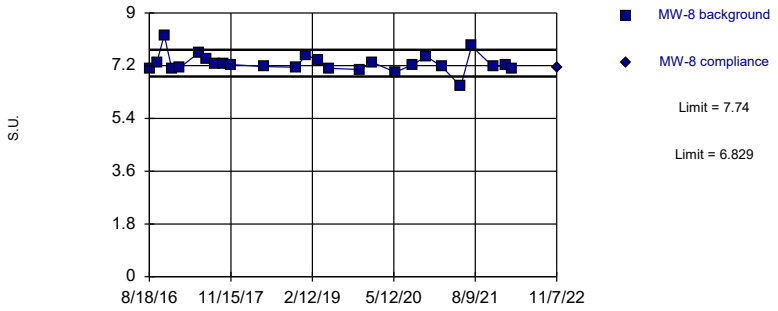
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7
8/18/2016	7.06		6.9		7.18		6.97	
9/29/2016	7.31		7.45		6.97		7.25	
11/9/2016	6.93		6.79		7.72		7.87	
12/21/2016	6.96		6.85		6.99		6.88	
2/3/2017	6.99		7.08		7.1		7.01	
5/24/2017	7.51		7.35		7.49		7.67	
7/5/2017	7.31		7.33		7.46		7.36	
8/17/2017	7.1		6.97		7.47		7.15	
10/5/2017	7.05		7		7.2		7.15	
11/14/2017	7.09		6.91		7.14		7.13	
12/29/2017					7.02			
5/21/2018	7.04		6.9		7.08		7.04	
6/26/2018			6.99					
11/12/2018	7.19		7.15		7.27		7.18	
1/10/2019	7.36						7.42	
3/14/2019	7.27						7.24	
5/20/2019	7.05		6.92		7.43		7.21	
7/11/2019	7.46		7.33		7.29		7.63	
8/20/2019	6.99		6.85		7.07		6.99	
11/4/2019	6.78		6.77		6.87		6.77	
1/15/2020	7.18		7.02		7.26		7.15	
5/20/2020	6.92		6.81		6.83		6.82	
7/13/2020	6.96				6.84		6.87	
8/25/2020	7				7.15			
11/9/2020	7.02		7.26		7.09		7.45	
2/2/2021	7.08				6.97			
3/1/2021	7.08				7.15			
5/20/2021	6.32		7.05		6.26		6.4	
7/20/2021	6.93				6.93		7.54	
8/4/2021					6.99			
11/17/2021	7.01		6.8		7.08		7.05	
1/25/2022					7.08			
11/7/2022		6.82		6.92		7.36		7.27
1/9/2023		7.36 extra sample						
2/6/2023		7.29 extra sample						

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.938, Std. Dev.=0.02805, n=26. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.891, critical = 0.891. Kappa = 1.441 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

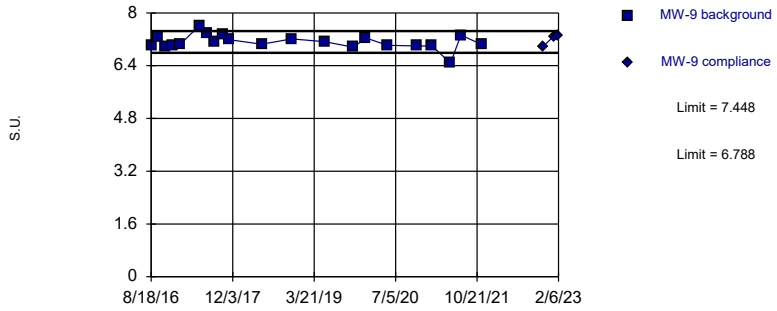
Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.118, Std. Dev.=0.2213, n=21. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8993, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

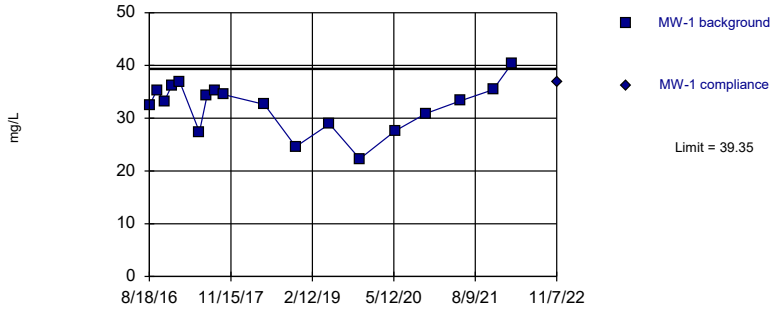
Constituent: pH Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.29, Std. Dev.=4.58, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9504, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

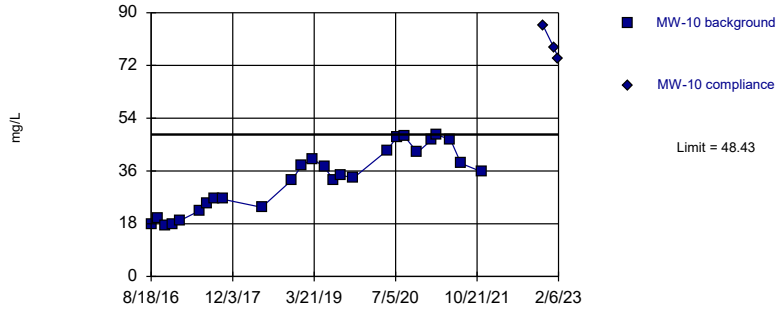
Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.15, Std. Dev.=10.6, n=26. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9201, critical = 0.891. Kappa = 1.441 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: pH, Sulfate Analysis Run 3/12/2023 4:18 PM View: CCR LF III

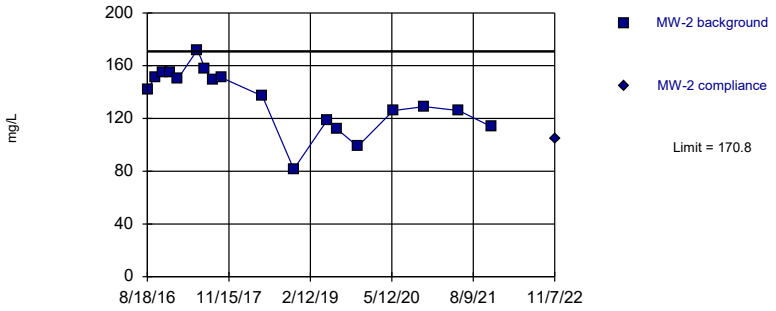
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1	MW-10	MW-10	
8/18/2016	7.1		7.02		32.4		17.8		
9/29/2016	7.32		7.28		35.3		19.7		
11/9/2016	8.24		6.99		33.2		17.4		
12/21/2016	7.1		7.02		36.2		17.7		
2/3/2017	7.13		7.05		36.9		19.1		
5/24/2017	7.66		7.61		27.4		22.4		
7/5/2017	7.44		7.37		34.2		24.7		
8/17/2017	7.27		7.13		35.2		26.5		
10/5/2017	7.25		7.35		34.5		26.4		
11/14/2017	7.24		7.19						
5/21/2018	7.17		7.05		32.6		23.6		
11/12/2018	7.15		7.21		24.6		32.9		
1/10/2019	7.57						38		
3/14/2019	7.38						40.1		
5/20/2019	7.11		7.13		28.9		37.3		
7/11/2019							33		
8/20/2019							34.6		
11/4/2019	7.07		6.96		22.3		33.6		
1/15/2020	7.31		7.24						
5/20/2020	6.98		7.02		27.6		43.1		
7/13/2020							47.7		
8/25/2020	7.23						47.9		
11/9/2020	7.52		7		30.9		42.3		
2/2/2021	7.18		7				46.7		
3/1/2021							48.4		
5/20/2021	6.5		6.48		33.3		46.7		
7/20/2021	7.87		7.33				38.6		
11/17/2021	7.17		7.04		35.4		35.7		
1/25/2022	7.21								
3/1/2022	7.1				40.3				
11/7/2022		7.12		6.98		36.8		85.8	
1/9/2023				7.29	extra sample			78.2	1st verification
2/6/2023				7.3	extra sample			74.5	2nd verification

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.8, Std. Dev.=23.36, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9505, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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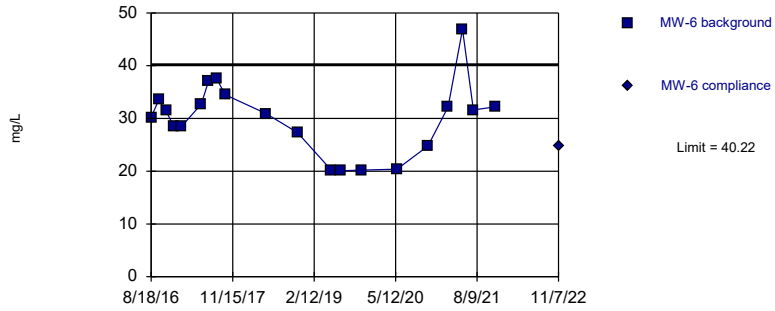
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.05, Std. Dev.=6.77, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9301, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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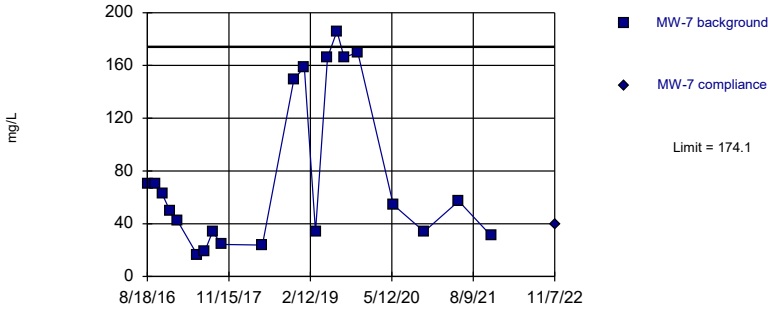
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.992, Std. Dev.=1.067, n=21. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8863, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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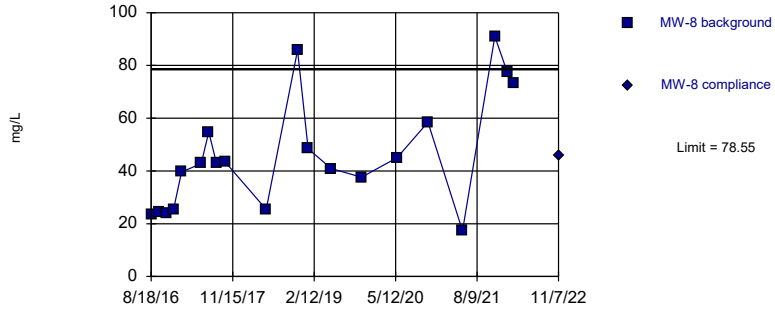
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=46.05, Std. Dev.=21.64, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9109, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Sulfate Analysis Run 3/12/2023 4:18 PM View: CCR LF III

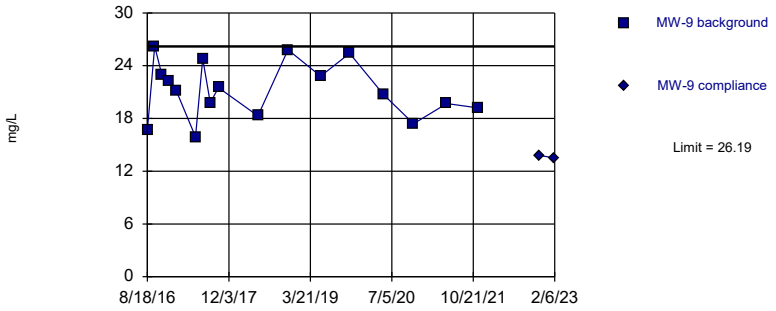
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	142		30.2		70.2		23.3	
9/29/2016	151		33.5		70.6		24.2	
11/9/2016	155		31.4		62.6		23.8	
12/21/2016	155		28.6		50		25.5	
2/3/2017	150		28.5		41.9		39.6	
5/24/2017	172		32.7		16.2		42.8	
7/5/2017	158		37.2		19.5		54.8	
8/17/2017	149		37.6		34.1		43	
10/5/2017	151		34.5		24.3		43.4	
5/21/2018	137		30.9		23.8		25.4	
11/12/2018	81.5		27.3		149		85.8	
1/10/2019					159		48.4	
3/14/2019					33.9			
5/20/2019	119		20.2		166		40.9	
7/11/2019	112		20.1		186			
8/20/2019					166			
11/4/2019	98.8		20.2		170		37.6	
5/20/2020	126		20.4		54.4		45	
11/9/2020	129		24.8		34		58.5	
3/1/2021			32.2					
5/20/2021	126		46.9		57.2		17.3	
7/20/2021			31.6					
11/17/2021	114		32.2		31		91	
1/25/2022							77.4	
3/1/2022							73.3	
11/7/2022		105		24.8		39.9		45.9

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.21, Std. Dev.=3.195, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9637, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 3/12/2023 4:17 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Sulfate Analysis Run 3/12/2023 4:18 PM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-9	MW-9	
8/18/2016	16.7		
9/29/2016	26.2		
11/9/2016	23		
12/21/2016	22.2		
2/3/2017	21.1		
5/24/2017	15.9		
7/5/2017	24.8		
8/17/2017	19.8		
10/5/2017	21.5		
5/21/2018	18.3		
11/12/2018	25.8		
5/20/2019	22.8		
11/4/2019	25.4		
5/20/2020	20.7		
11/9/2020	17.4		
5/20/2021	19.7		
11/17/2021	19.2		
11/7/2022		13.8	
2/6/2023		13.5	extra sample

Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 3/12/2023, 4:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-1	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-10	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-2	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-6	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-7	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-8	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-9	0.2	n/a	11/7/2022	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Calcium (mg/L)	MW-1	145.6	n/a	11/7/2022	141	No	21	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	**MW-10**	**160.1**	**n/a**	**2/6/2023**	**172**	**Yes**	**24**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Calcium (mg/L)	MW-2	174.4	n/a	11/7/2022	150	No	19	0	x^5	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-6	165.9	n/a	11/7/2022	134	No	22	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-7	188.2	n/a	11/7/2022	127	No	22	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-8	166.7	n/a	11/7/2022	150	No	22	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	**MW-9**	**121.5**	**n/a**	**2/6/2023**	**132**	**Yes**	**19**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Chloride (mg/L)	MW-1	6.645	n/a	11/7/2022	6.01	No	20	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-10	22.57	n/a	2/6/2023	16.3	No	22	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-2	9.675	n/a	11/7/2022	6.07	No	19	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-6	2.14	n/a	11/7/2022	1.49	No	23	0	x^(1/3)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-7	29.5	n/a	11/7/2022	1.84	No	22	0	x^(1/3)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-8	10.22	n/a	11/7/2022	2.983	No	23	0	No	0.001075	Param Intra 1 of 3 De...
Chloride (mg/L)	MW-9	3.88	n/a	2/6/2023	1.29	No	19	42.11	n/a	0.000...	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-1	523.2	n/a	11/7/2022	402	No	19	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-10	1760	n/a	11/7/2022	1040	No	17	0	n/a	0.000...	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-2	709.7	n/a	11/7/2022	587	No	17	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-6	578.2	n/a	11/7/2022	492	No	19	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-7	761	n/a	11/7/2022	451	No	21	0	n/a	0.000511	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-8	589.8	n/a	11/7/2022	530	No	21	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	**MW-9**	**473.6**	**n/a**	**2/6/2023**	**511**	**Yes**	**17**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Fluoride (mg/L)	MW-1	0.488	n/a	11/7/2022	0.316	No	20	0	n/a	0.000...	NP Intra (normality) ...
Fluoride (mg/L)	MW-10	0.7453	n/a	11/7/2022	0.532	No	18	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-2	0.552	n/a	11/7/2022	0.357	No	21	0	n/a	0.000511	NP Intra (normality) ...
Fluoride (mg/L)	MW-6	0.3695	n/a	11/7/2022	0.338	No	19	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-7	0.4157	n/a	11/7/2022	0.335	No	17	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-8	0.4599	n/a	11/7/2022	0.342	No	17	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-9	0.4949	n/a	11/7/2022	0.371	No	18	0	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-1	7.54	6.74	11/7/2022	6.97	No	25	0	n/a	0.000...	NP Intra (normality) ...
pH (S.U.)	MW-10	7.392	6.748	2/6/2023	7.29	No	28	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-2	7.326	6.718	11/7/2022	6.92	No	22	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.498	6.735	11/7/2022	7.36	No	29	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	7.632	6.704	11/7/2022	7.27	No	25	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-8	7.74	6.829	11/7/2022	7.12	No	26	0	x^(1/3)	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-9	7.448	6.788	2/6/2023	7.3	No	21	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-1	39.35	n/a	11/7/2022	36.8	No	18	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	**MW-10**	**48.43**	**n/a**	**2/6/2023**	**74.5**	**Yes**	**26**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Sulfate (mg/L)	MW-2	170.8	n/a	11/7/2022	105	No	18	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-6	40.22	n/a	11/7/2022	24.8	No	20	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-7	174.1	n/a	11/7/2022	39.9	No	21	0	x^(1/3)	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-8	78.55	n/a	11/7/2022	45.9	No	20	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-9	26.19	n/a	2/6/2023	13.5	No	17	0	No	0.001075	Param Intra 1 of 3

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
- [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [ ] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha... 0.02

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia at Alpha = 0.01

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation:

☐ Use Best W Statistic

☐ Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent > 75

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

☐ Optional Further Refinement: Use _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation: Natural Log

☐ Use Best W Statistic

☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)

- ◉ If Seasonality Is Detected
- ○ If Seasonality Is Detected Or Insufficient to Test
- ○ Always (When Sufficient Data)
- ○ Never

☐ Always Use Non-Parametric

Facility α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 7

Sampling Plan

Comparing Individual Observations

○ 1 of 1 ○ 1 of 2 ◉ 1 of 3 ○ 1 of 4

○ 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation: _____

Override DF: _____ Override Kappa: _____

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☑ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

- ○ Highest/Second Highest Background Value
- ◉ Most Recent PQL if available, or MDL
- ○ Most Recent Background Value (subst. method)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- [ ] Use Modified Alpha...
- [ ] 2-Tailed Test Mode...
- [ ] Combine Background Wells on Mann-Whitney...

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

APPENDIX E.2

Spring 2023 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

September 28, 2023

To: Iatan Generating Station
20250 State Route 45 N
Platte County, Missouri
Evergy Metro, Inc.

From: SCS Engineers
John Rockhold, P.G.
Douglas Doerr, P.E.

RE: Determination of Statistically Significant Increase - CCR Landfill
Spring 2023 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill at the Iatan Generating Station has been completed in substantial compliance with the "Statistical Method Certification by A Qualified Professional Engineer" dated October 12, 2017. Groundwater samples were collected on May 15, 2023. Review and validation of the results from the May 2023 Detection Monitoring Event was completed on June 30, 2023, which constitutes completion and finalization of detection monitoring laboratory analyses. Statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring. Two rounds of verification sampling were conducted for certain constituents on July 6, 2023, and August 14, 2023.

The completed statistical evaluation identified three Appendix III constituents above their prediction limits.

Monitoring Well Constituents	*UPL	Observation May 15, 2023	1st Verification July 6, 2023	2nd Verification August 14, 2023
MW-1				
Calcium	145.6	197	156/154**	161/163**
Total Dissolved Solids	523.2	569	589/603**	636/613**
MW-9				
Calcium	121.5	150	149	133
Total Dissolved Solids	473.9	626	553	521
MW-10				
Sulfate	48.43	95.2	92.7/92.4**	93.1/95.9**

*UPL – Upper Prediction Limit
** - Duplicate Sample

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified five SSIs above the background prediction limit. These include calcium and total dissolved solids at MW-1 and MW-9 and sulfate at monitoring well MW-10.

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas™ Output:

Statistical evaluation output from Sanitas™ for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample results, 1st verification re-sample results (when applicable), 2nd verification re-sample results (when applicable), extra sample results for pH because pH is collected as part of the sampling procedure, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

ATTACHMENT 1

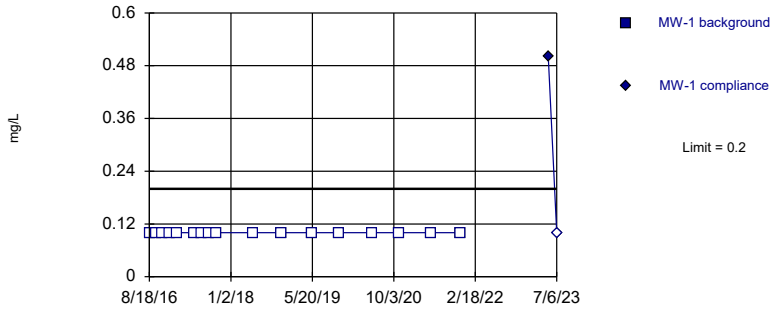
Sanitas™ Output

Sanitas™ v.10.0.06 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

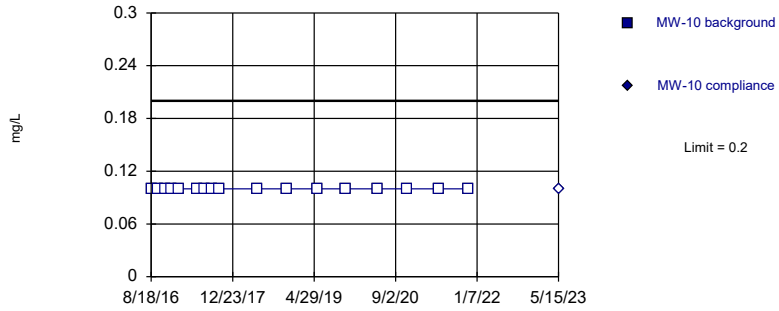
Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.10.0.06 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

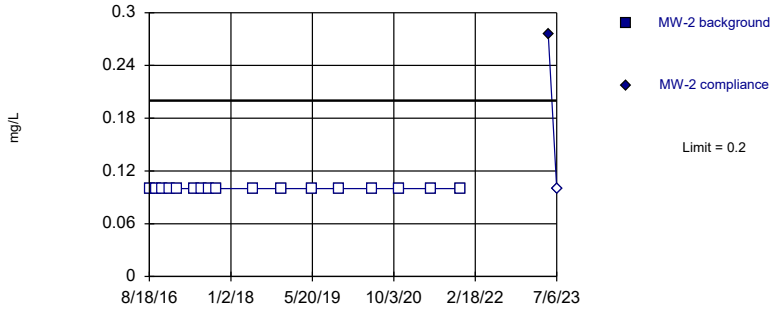
Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.10.0.06 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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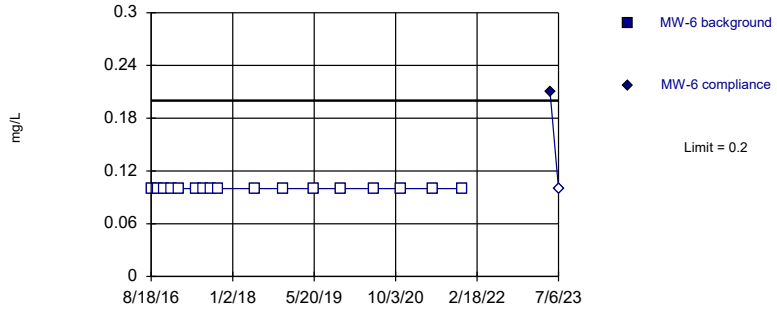
Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.10.0.06 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron Analysis Run 9/6/2023 11:28 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	<0.2		<0.2		<0.2		<0.2	
9/29/2016	<0.2		<0.2		<0.2		<0.2	
11/9/2016	<0.2		<0.2		<0.2		<0.2	
12/21/2016	<0.2		<0.2		<0.2		<0.2	
2/3/2017	<0.2		<0.2		<0.2		<0.2	
5/24/2017	<0.2		<0.2		<0.2		<0.2	
7/5/2017	<0.2		<0.2		<0.2		<0.2	
8/17/2017	<0.2		<0.2		<0.2		<0.2	
10/5/2017	<0.2		<0.2		<0.2		<0.2	
5/21/2018	<0.2		<0.2		<0.2		<0.2	
11/12/2018	<0.2		<0.2		<0.2		<0.2	
5/20/2019	<0.2		<0.2		<0.2		<0.2	
11/4/2019	<0.2		<0.2		<0.2		<0.2	
5/20/2020	<0.2		<0.2		<0.2		<0.2	
11/9/2020	<0.2		<0.2		<0.2		<0.2	
5/20/2021	<0.2		<0.2		<0.2		<0.2	
11/17/2021	<0.2		<0.2		<0.2		<0.2	
5/15/2023		0.502		<0.2		0.276		0.21
7/6/2023		<0.2 1st verification				<0.2 1st verification		<0.2 1st verification

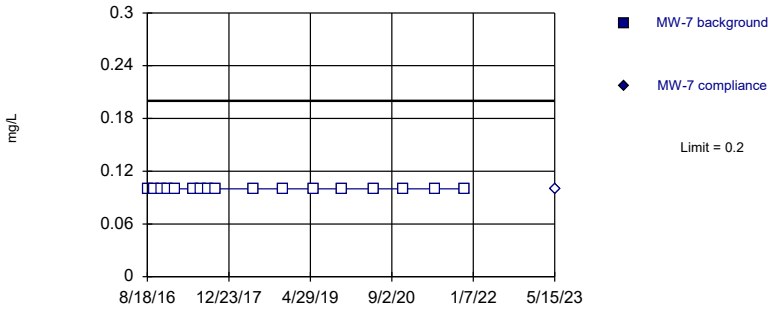
ND substitution: RL/2.

Sanitas™ v.10.0.06 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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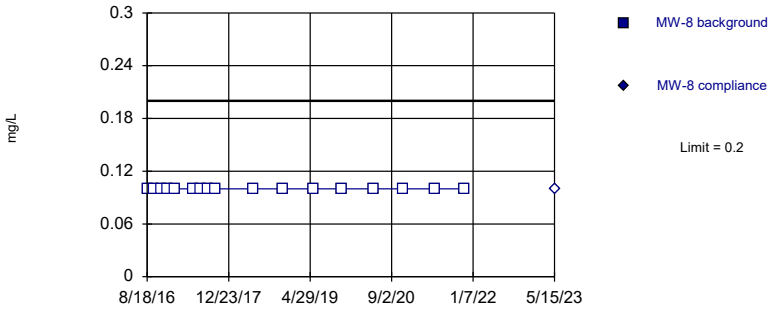
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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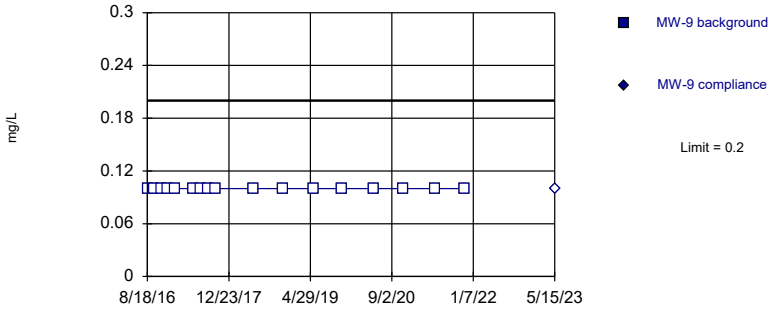
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 17) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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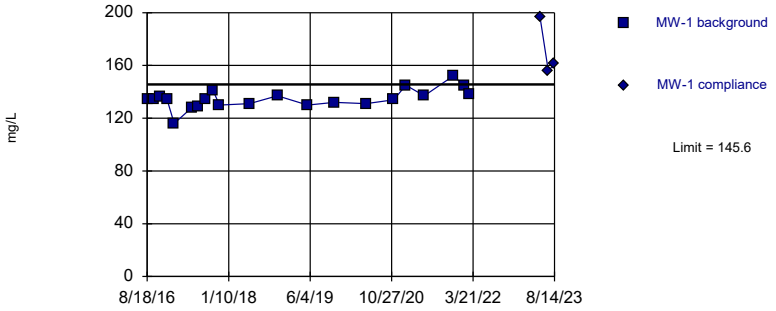
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.7, Std. Dev.=7.358, n=21. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9334, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron, Calcium Analysis Run 9/6/2023 11:28 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

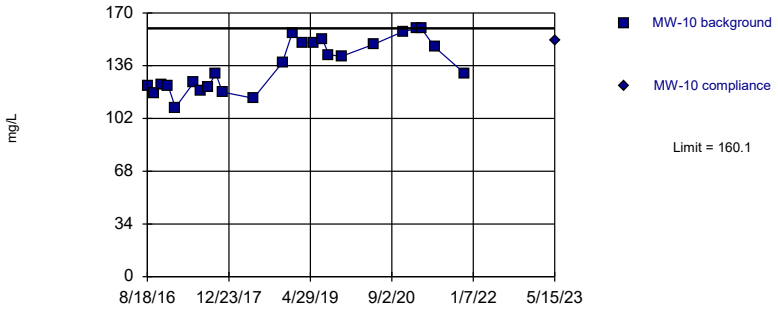
	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1	
8/18/2016	<0.2		<0.2		<0.2		134		
9/29/2016	<0.2		<0.2		<0.2		134		
11/9/2016	<0.2		<0.2		<0.2		136		
12/21/2016	<0.2		<0.2		<0.2		134		
2/3/2017	<0.2		<0.2		<0.2		116		
5/24/2017	<0.2		<0.2		<0.2		128		
7/5/2017	<0.2		<0.2		<0.2		129		
8/17/2017	<0.2		<0.2		<0.2		134		
10/5/2017	<0.2		<0.2		<0.2		141		
11/14/2017							130		
5/21/2018	<0.2		<0.2		<0.2		131		
11/12/2018	<0.2		<0.2		<0.2		137		
5/20/2019	<0.2		<0.2		<0.2		130		
11/4/2019	<0.2		<0.2		<0.2		132		
5/20/2020	<0.2		<0.2		<0.2		131		
11/9/2020	<0.2		<0.2		<0.2		134		
1/25/2021							145		
5/20/2021	<0.2		<0.2		<0.2		137		
11/17/2021	<0.2		<0.2		<0.2		152		
1/25/2022							145		
3/1/2022							138		
5/15/2023		<0.2		<0.2		<0.2		197	
7/6/2023								156	1st verification
8/14/2023								161	2nd verification

ND substitution: RL/2.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=136.3, Std. Dev.=16.33, n=24. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.917, critical = 0.884. Kappa = 1.459 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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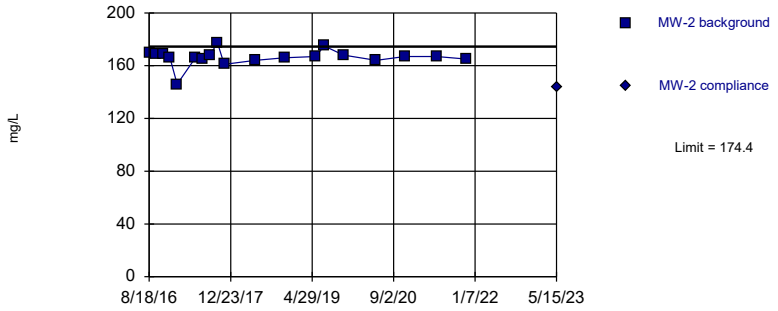
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^5 transformation): Mean=1.3e11, Std. Dev.=2.1e10, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8654, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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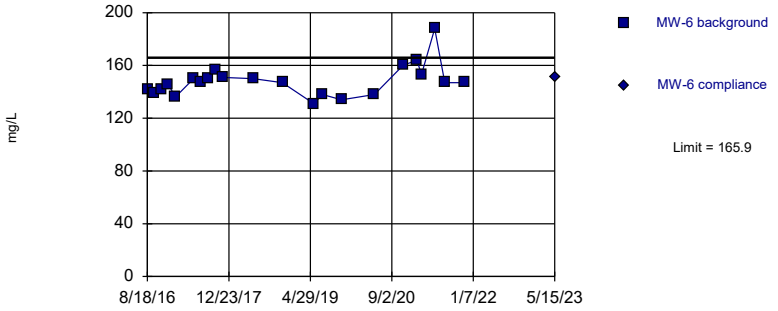
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.16, Std. Dev.=0.4875, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8903, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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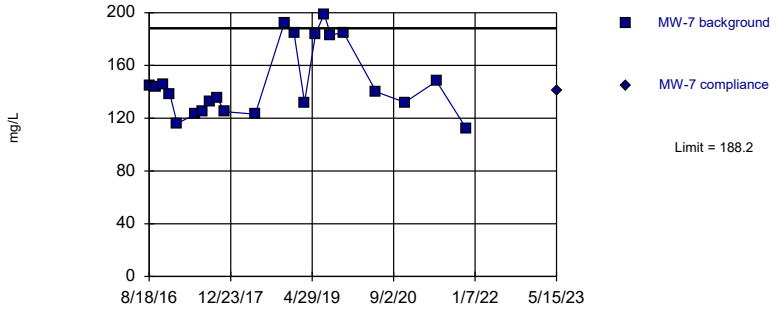
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.1, Std. Dev.=1.094, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8824, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Calcium Analysis Run 9/6/2023 11:28 AM View: CCR LF III

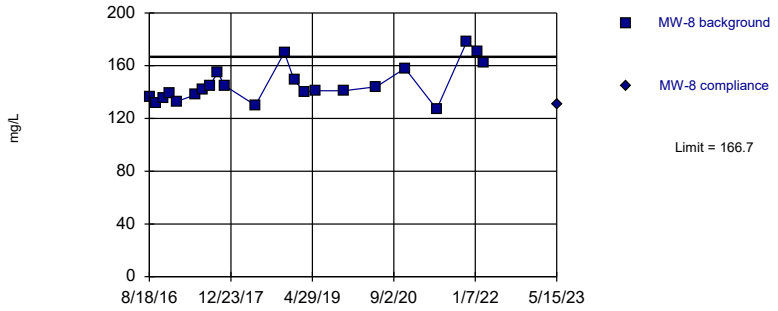
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7
8/18/2016	123		170		142		145	
9/29/2016	118		169		139		144	
11/9/2016	124		169		142		146	
12/21/2016	123		166		146		138	
2/3/2017	109		146		136		116	
5/24/2017	125		166		150		123	
7/5/2017	120		165		147		125	
8/17/2017	122		168		150		133	
10/5/2017	131		177		157		135	
11/14/2017	119		161		151		125	
5/21/2018	115		164		150		123	
11/12/2018	138		166		147		192	
1/10/2019	157						185	
3/14/2019	151						132	
5/20/2019	151		167		131		184	
7/11/2019	153		175		138		199	
8/20/2019	143						183	
11/4/2019	142		168		134		185	
5/20/2020	150		164		138		140	
11/9/2020	158 (V)		167		160		132	
2/2/2021	160				164			
3/1/2021	160				153			
5/20/2021	148		167		188		148	
7/20/2021					147			
11/17/2021	131		165		147		112	
5/15/2023		152		144		151		141

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=146, Std. Dev.=14.04, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9085, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

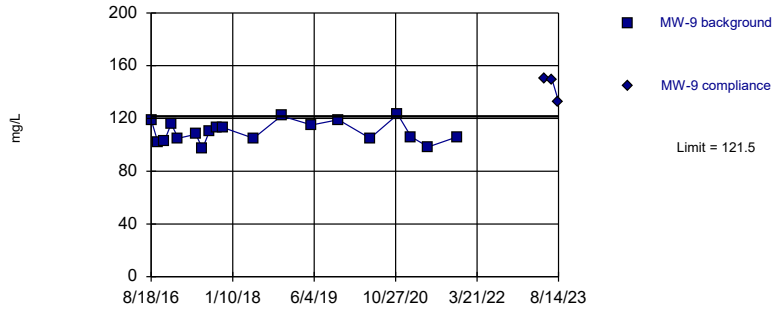
Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.8, Std. Dev.=7.729, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9553, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

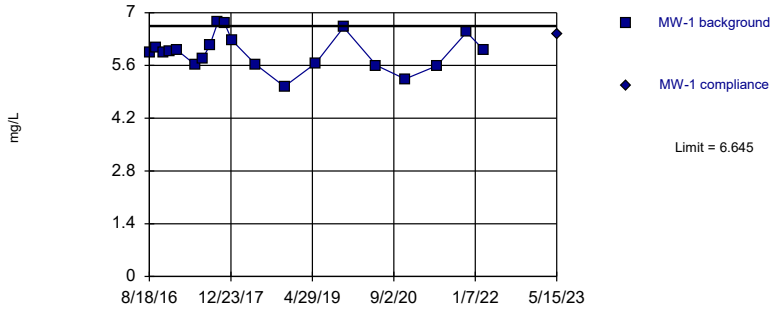
Constituent: Calcium Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.953, Std. Dev.=0.4609, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9636, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

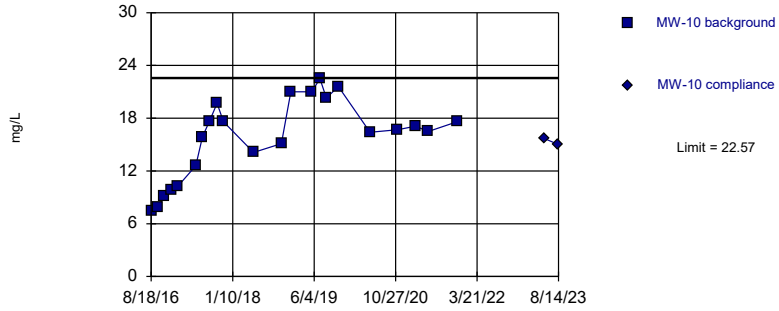
Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.81, Std. Dev.=4.565, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Calcium, Chloride Analysis Run 9/6/2023 11:28 AM View: CCR LF III

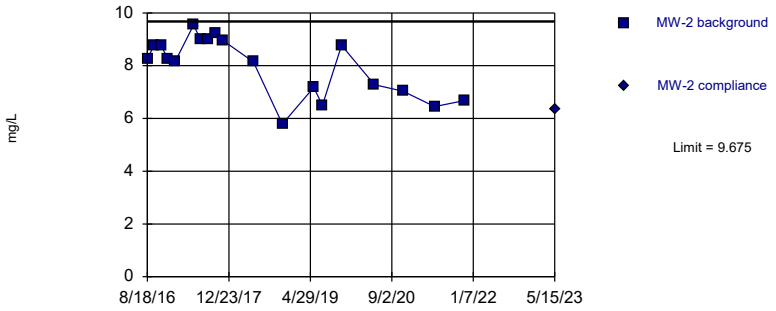
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1	MW-10	MW-10
8/18/2016	136		119		5.93		7.47	
9/29/2016	132		102		6.07		7.83	
11/9/2016	135		103		5.95		9.15	
12/21/2016	139		116		5.97		9.84	
2/3/2017	133		105		6		10.3	
5/24/2017	138		108		5.61		12.6	
7/5/2017	142		97.2		5.78		15.9	
8/17/2017	145		110		6.13		17.6	
10/5/2017	155		113		6.75		19.7	
11/14/2017	145		113		6.73		17.6	
12/29/2017					6.27			
5/21/2018	130		105		5.63		14.1	
11/12/2018	170		122		5.04		15.1	
1/10/2019	149						21	
3/14/2019	140							
5/20/2019	141		115		5.66		21	
7/11/2019							22.5	
8/20/2019							20.3	
11/4/2019	141		119		6.61		21.6	
5/20/2020	144		105		5.6		16.4	
11/9/2020	158		123		5.24		16.7	
2/2/2021			106					
3/1/2021							17.1	
5/20/2021	127		98.4		5.59		16.5	
11/17/2021	178		106		6.48		17.6	
1/25/2022	171							
3/1/2022	162				6.01			
5/15/2023		131		150		6.44		15.7
7/6/2023				149	1st verification			
8/14/2023				133	2nd verification			15 extra

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.987, Std. Dev.=1.109, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9208, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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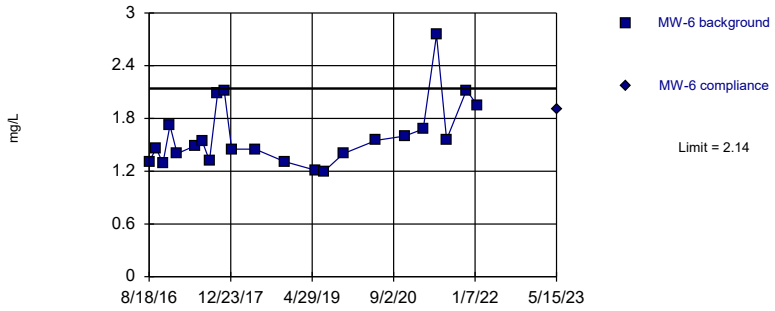
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.165, Std. Dev.=0.08384, n=23. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8898, critical = 0.881. Kappa = 1.47 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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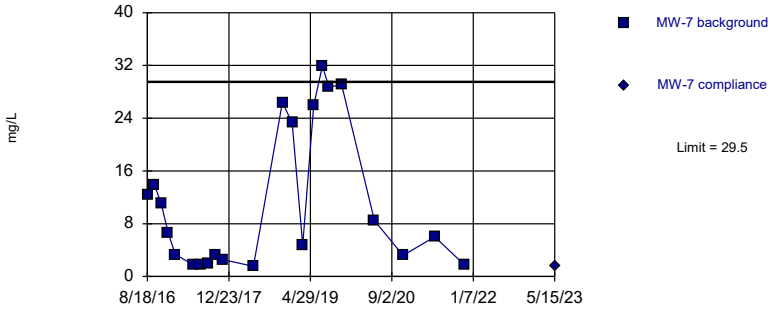
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=2.015, Std. Dev.=0.7258, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8816, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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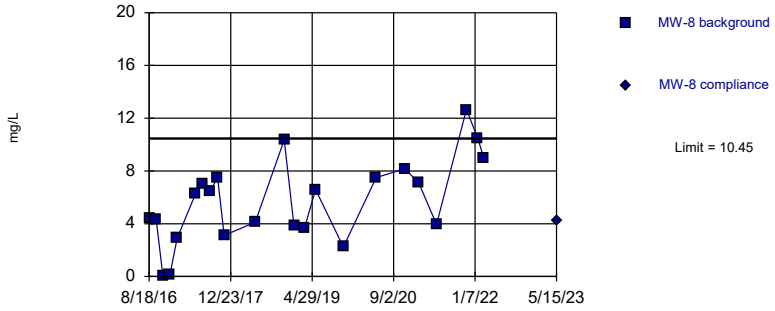
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.729, Std. Dev.=3.215, n=23. Seasonality was detected with 95% confidence and data were deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9755, critical = 0.881. Kappa = 1.47 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Chloride Analysis Run 9/6/2023 11:28 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	8.26		1.31		12.3		1.5	
9/29/2016	8.79		1.46		13.9		1.42	
11/9/2016	8.76		1.29		11.1		1.76	
12/21/2016	8.24		1.72		6.64		1.89	
2/3/2017	8.17		1.4		3.32		4.02	
5/24/2017	9.54		1.49		1.76		3.63	
7/5/2017	8.99		1.54		1.81		4.44	
8/17/2017	8.98		1.32		2		3.53	
10/5/2017	9.23		2.09		3.32		4.55	
11/14/2017	8.97		2.12		2.58		4.86	
12/29/2017			1.45					
5/21/2018	8.14		1.45		1.54		1.5	
11/12/2018	5.79		1.31		26.4		12.1	
1/10/2019					23.3		5.63	
3/14/2019					4.77		4.79	
5/20/2019	7.18		1.21		26		3.98	
7/11/2019	6.5		1.2		31.9			
8/20/2019					28.7			
11/4/2019	8.77		1.4		29.1		3.99	
5/20/2020	7.28		1.55		8.49		4.89	
11/9/2020	7.03		1.6		3.18		9.92	
2/2/2021							8.22	
3/1/2021			1.68					
5/20/2021	6.45		2.75		6.03		1.34	
7/20/2021			1.56					
11/17/2021	6.68		2.12		1.72		14.4	
1/25/2022			1.94				12.2	
3/1/2022							10.1	
5/15/2023		6.36		1.9		1.62		1.62

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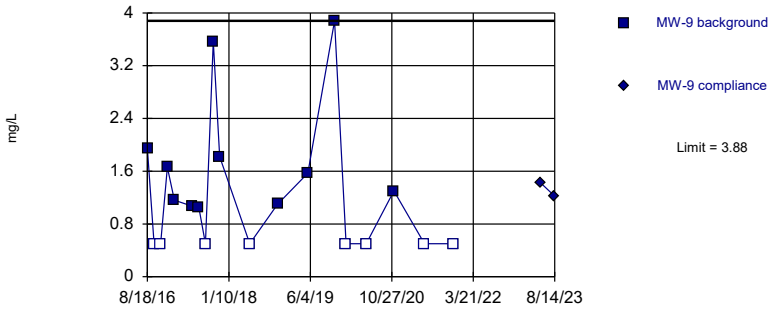
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 19 background values. 42.11% NDs. Well-constituent pair annual alpha = 0.001357. Individual comparison alpha = 0.0006785 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Chloride Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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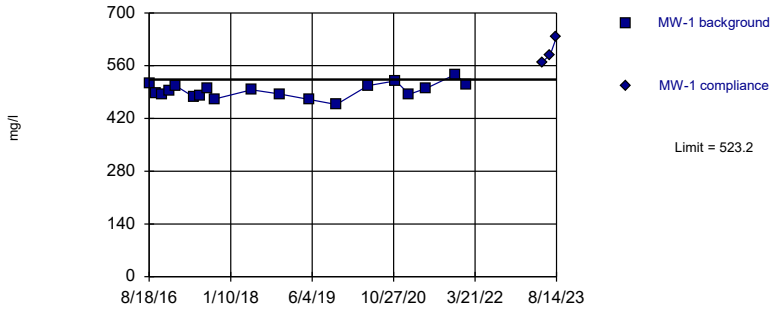
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=493.6, Std. Dev.=19.43, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9872, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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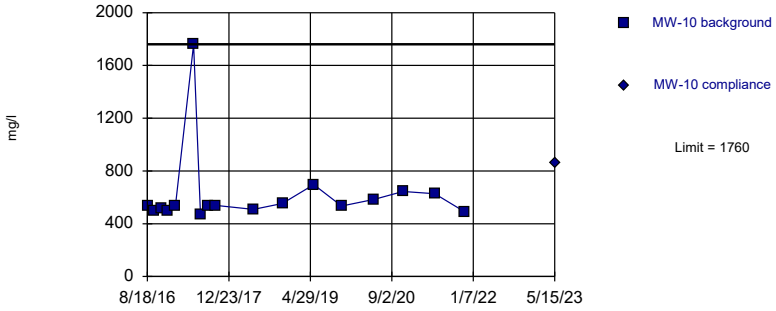
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 17 background values. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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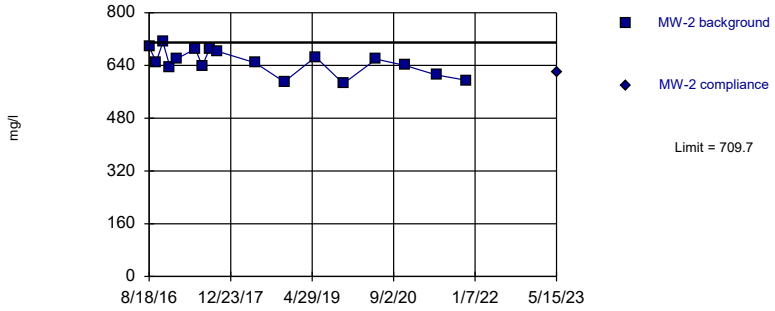
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=650, Std. Dev.=38.24, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9527, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 9/6/2023 11:28 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

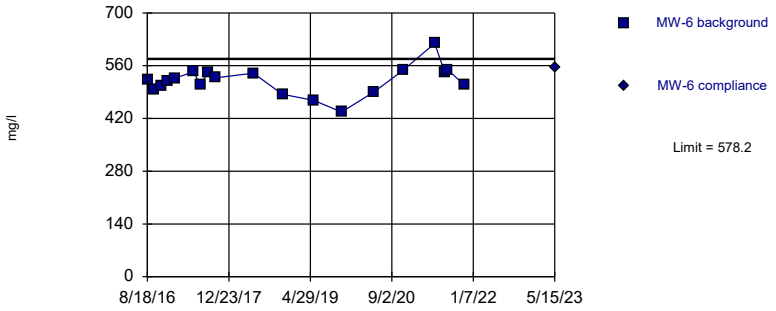
	MW-9	MW-9	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2
8/18/2016	1.95		513		532		696	
9/29/2016	<1		486		502		651	
11/9/2016	<1		484		516		711	
12/21/2016	1.66		493		497		636	
2/3/2017	1.16		506		531		661	
5/24/2017	1.07		477		1760		690	
7/5/2017	1.06		481		474		638	
8/17/2017	<1		500		539		690	
10/5/2017	3.57		472		539		683	
11/14/2017	1.82							
5/21/2018	<1		496		509		648	
11/12/2018	1.1		485		554		590	
5/20/2019	1.57		470		697		666	
11/4/2019	3.88		457		534		585	
1/15/2020	<1							
5/20/2020	<1		507		585		659	
11/9/2020	1.3 (B)		520		645		640	
2/2/2021			484					
5/20/2021	<1		500		628		611	
11/17/2021	<1		537		491		595	
1/25/2022			511					
5/15/2023		1.43		569		860		619
7/6/2023				589	1st verification			
8/14/2023		1.22 extra		636	2nd verification			

ND substitution: RL/2.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=520.1, Std. Dev.=38.18, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9459, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

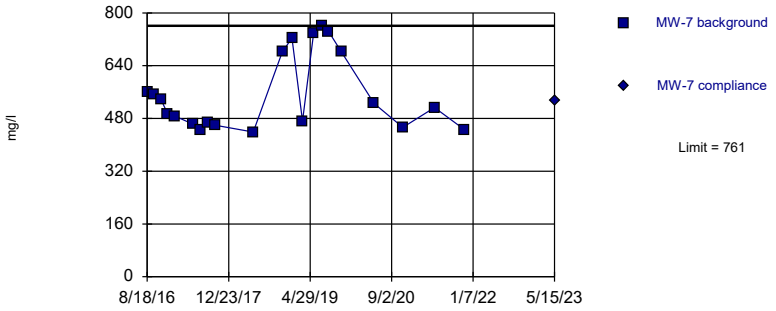
Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 21 background values. Well-constituent pair annual alpha = 0.001022. Individual comparison alpha = 0.000511 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

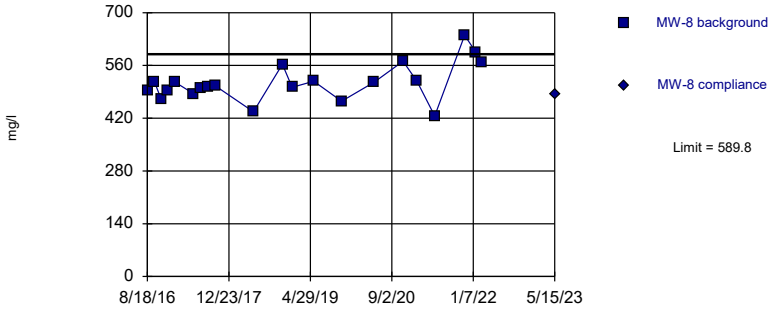
Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=514.4, Std. Dev.=50.56, n=21. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

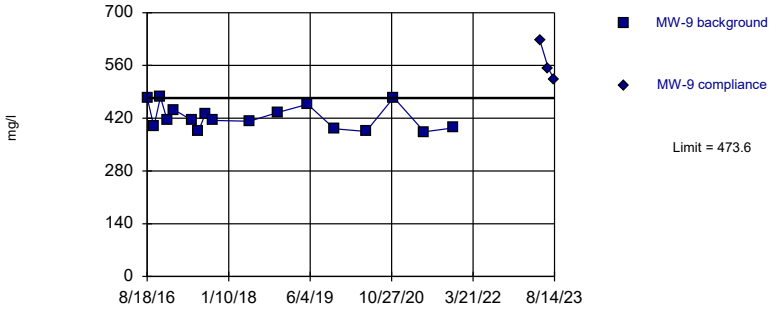
Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=422.7, Std. Dev.=32.63, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8959, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/6/2023 11:28 AM View: CCR LF III

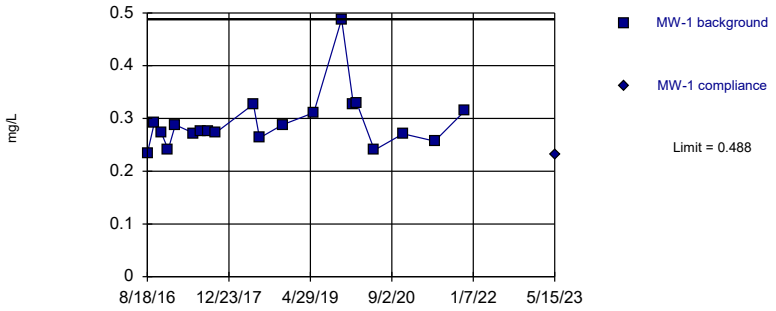
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	
8/18/2016	522		560		494		475		
9/29/2016	498		554		517		398		
11/9/2016	506		538		471		476		
12/21/2016	519		492		493		415		
2/3/2017	527		487		515		442		
5/24/2017	544		462		485		415		
7/5/2017	508		445		500		386		
8/17/2017	542		466		504		431		
10/5/2017	528		459		505		414		
5/21/2018	540		439		437		412		
11/12/2018	484		681		563		435		
1/10/2019			724		502				
3/14/2019			472						
5/20/2019	468		737		518		457		
7/11/2019			761						
8/20/2019			743						
11/4/2019	437		682		465		392		
5/20/2020	491		525		516		385		
11/9/2020	548		453		571		475		
2/2/2021					518				
5/20/2021	619		513		426		384		
7/20/2021	542								
8/4/2021	550								
11/17/2021	508		446		640		394		
1/25/2022					594				
3/1/2022					569				
5/15/2023		554		535		484		626	
7/6/2023								553	1st verification
8/14/2023								521	2nd verification

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.001125. Individual comparison alpha = 0.0005627 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

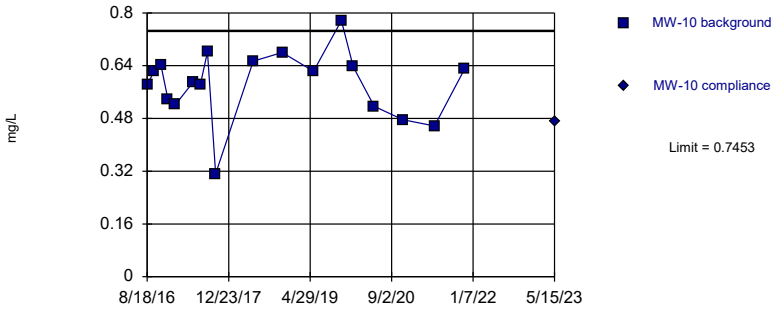
Constituent: Fluoride Analysis Run 9/6/2023 11:20 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5847, Std. Dev.=0.1042, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

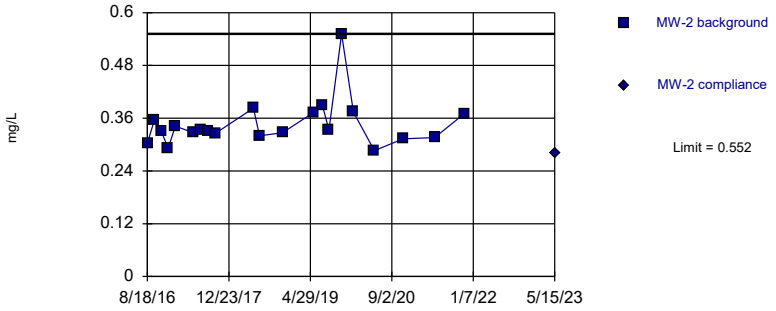
Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 21 background values. Well-constituent pair annual alpha = 0.001022. Individual comparison alpha = 0.000511 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

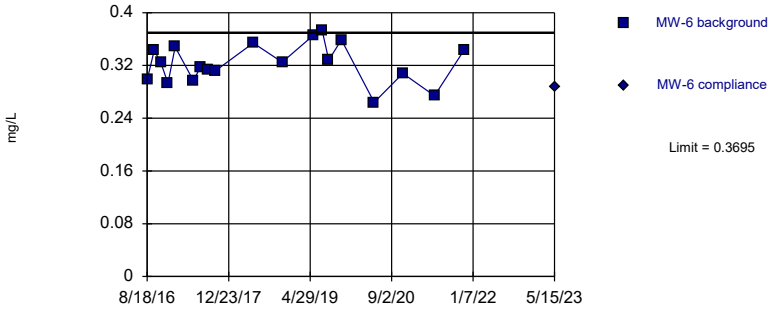
Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3232, Std. Dev.=0.03043, n=19. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9771, critical = 0.863. Kappa = 1.522 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Fluoride Analysis Run 9/6/2023 11:28 AM View: CCR LF III

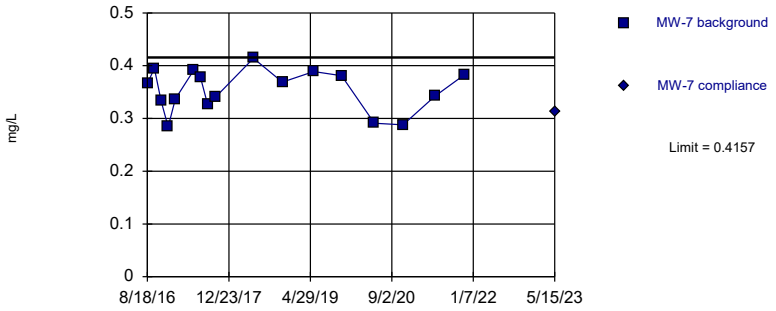
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	0.234		0.584		0.303		0.298	
9/29/2016	0.292		0.622		0.356		0.343	
11/9/2016	0.274		0.642		0.331		0.324	
12/21/2016	0.241		0.538		0.292		0.293	
2/3/2017	0.288		0.521		0.342		0.348	
5/24/2017	0.272		0.591		0.327		0.297	
7/5/2017	0.275		0.582		0.334		0.317	
8/17/2017	0.276		0.682		0.332		0.313	
10/5/2017	0.273		0.312		0.326		0.312	
5/21/2018	0.327		0.654		0.383		0.354	
6/26/2018	0.263				0.32			
11/12/2018	0.288		0.68		0.327		0.325	
5/20/2019	0.311		0.623		0.373		0.366	
7/11/2019					0.389		0.373	
8/20/2019					0.333		0.328	
11/4/2019	0.488		0.777		0.552		0.359	
1/15/2020	0.326		0.637		0.374			
2/4/2020	0.329							
5/20/2020	0.24		0.517		0.286		0.264	
11/9/2020	0.271		0.476		0.313		0.308	
5/20/2021	0.257		0.457		0.316		0.274	
11/17/2021	0.314		0.629		0.371		0.344	
5/15/2023		0.232		0.472		0.28		0.287

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3534, Std. Dev.=0.03987, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9285, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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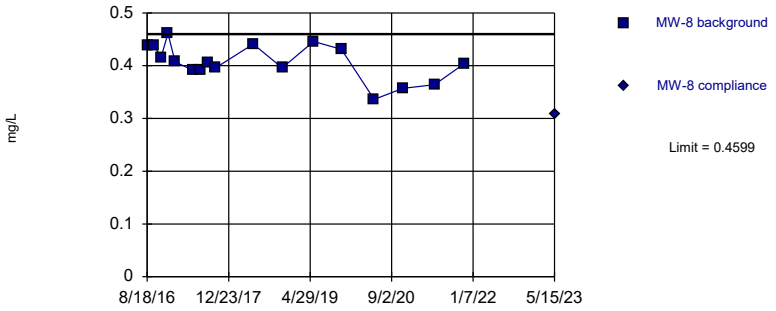
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.407, Std. Dev.=0.03389, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9608, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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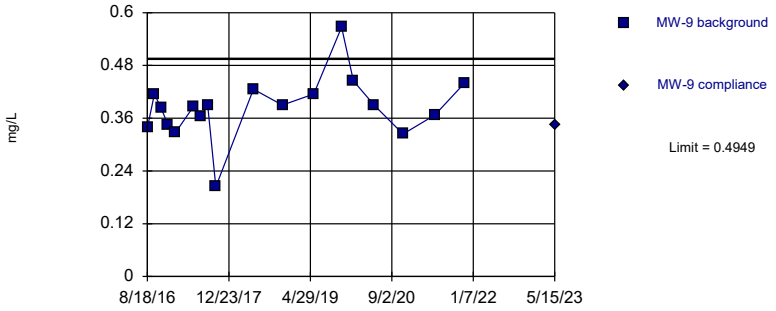
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3842, Std. Dev.=0.07186, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9128, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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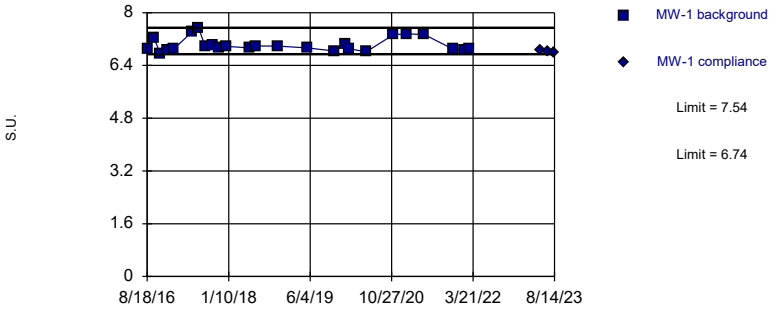
Within Limits

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 25 background values. Well-constituent pair annual alpha = 0.001218. Individual comparison alpha = 0.0006092 (1 of 3). Seasonality was not detected with 95% confidence.

Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Fluoride, pH Analysis Run 9/6/2023 11:28 AM View: CCR LF III

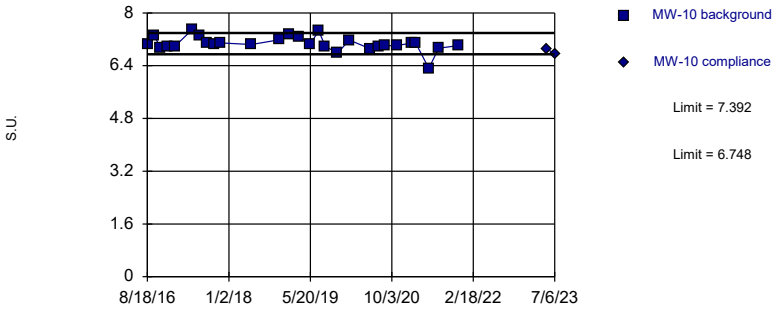
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	MW-1	MW-1	
8/18/2016	0.366		0.438		0.338		6.89		
9/29/2016	0.395		0.439		0.415		7.24		
11/9/2016	0.333		0.415		0.383		6.74		
12/21/2016	0.284		0.461		0.344		6.86		
2/3/2017	0.337		0.407		0.327		6.91		
5/24/2017	0.391		0.391		0.387		7.41		
7/5/2017	0.378		0.391		0.364		7.54		
8/17/2017	0.326		0.406		0.39		6.98		
10/5/2017	0.341		0.396		0.204		7.03		
11/14/2017							6.93		
12/29/2017							6.98		
5/21/2018	0.414		0.441		0.426		6.93		
6/26/2018							6.99		
11/12/2018	0.369		0.396		0.39		6.99		
5/20/2019	0.389		0.446		0.415		6.93		
11/4/2019	0.381		0.431		0.567		6.84		
1/15/2020					0.445		7.04		
2/4/2020							6.91		
5/20/2020	0.291		0.336		0.389		6.81		
11/9/2020	0.288		0.357		0.324		7.34		
2/2/2021							7.36		
5/20/2021	0.342		0.364		0.367		7.34		
11/17/2021	0.383		0.404		0.44		6.89		
1/25/2022							6.86		
3/1/2022							6.89		
5/15/2023		0.313		0.308		0.346		6.85	
7/6/2023								6.84	extra
8/14/2023								6.79	extra

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.07, Std. Dev.=0.2253, n=28. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8976, critical = 0.896. Kappa = 1.428 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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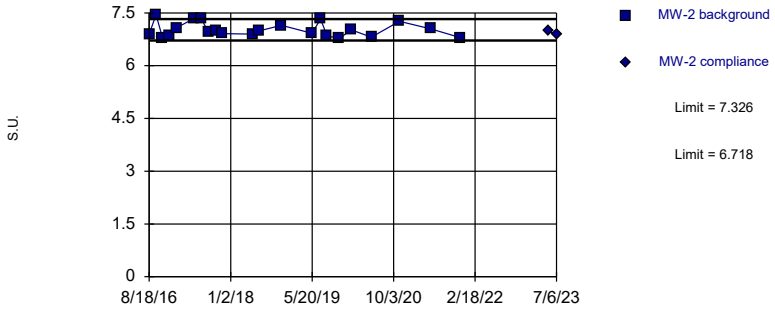
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.022, Std. Dev.=0.2053, n=22. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9056, critical = 0.878. Kappa = 1.48 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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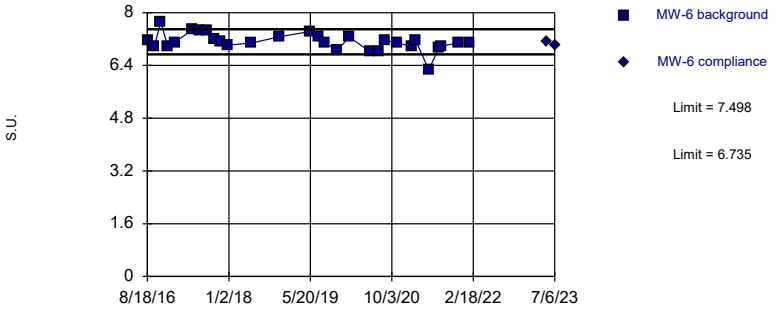
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.117, Std. Dev.=0.2681, n=29. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9337, critical = 0.898. Kappa = 1.422 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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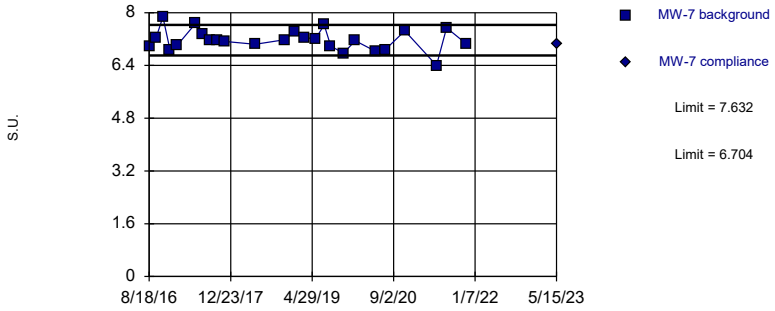
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.168, Std. Dev.=0.3202, n=25. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9819, critical = 0.888. Kappa = 1.448 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: pH Analysis Run 9/6/2023 11:28 AM View: CCR LF III

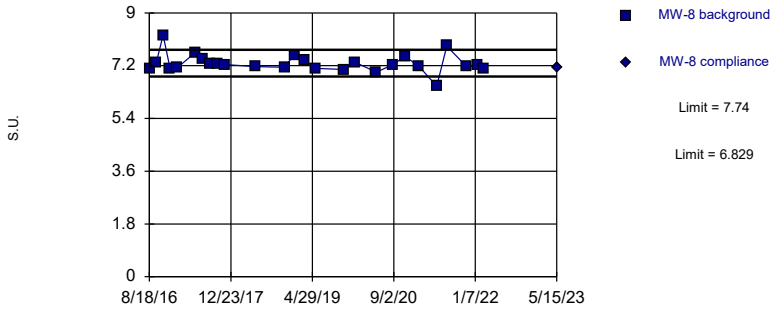
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7
8/18/2016	7.06		6.9		7.18		6.97	
9/29/2016	7.31		7.45		6.97		7.25	
11/9/2016	6.93		6.79		7.72		7.87	
12/21/2016	6.96		6.85		6.99		6.88	
2/3/2017	6.99		7.08		7.1		7.01	
5/24/2017	7.51		7.35		7.49		7.67	
7/5/2017	7.31		7.33		7.46		7.36	
8/17/2017	7.1		6.97		7.47		7.15	
10/5/2017	7.05		7		7.2		7.15	
11/14/2017	7.09		6.91		7.14		7.13	
12/29/2017					7.02			
5/21/2018	7.04		6.9		7.08		7.04	
6/26/2018			6.99					
11/12/2018	7.19		7.15		7.27		7.18	
1/10/2019	7.36						7.42	
3/14/2019	7.27						7.24	
5/20/2019	7.05		6.92		7.43		7.21	
7/11/2019	7.46		7.33		7.29		7.63	
8/20/2019	6.99		6.85		7.07		6.99	
11/4/2019	6.78		6.77		6.87		6.77	
1/15/2020	7.18		7.02		7.26		7.15	
5/20/2020	6.92		6.81		6.83		6.82	
7/13/2020	6.96				6.84		6.87	
8/25/2020	7				7.15			
11/9/2020	7.02		7.26		7.09		7.45	
2/2/2021	7.08				6.97			
3/1/2021	7.08				7.15			
5/20/2021	6.32		7.05		6.26		6.4	
7/20/2021	6.93				6.93		7.54	
8/4/2021					6.99			
11/17/2021	7.01		6.8		7.08		7.05	
1/25/2022					7.08			
5/15/2023		6.92		6.98		7.12		7.05
7/6/2023		6.76 extra		6.89 extra		7.03 extra		

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.938, Std. Dev.=0.02805, n=26. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.891, critical = 0.891. Kappa = 1.441 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

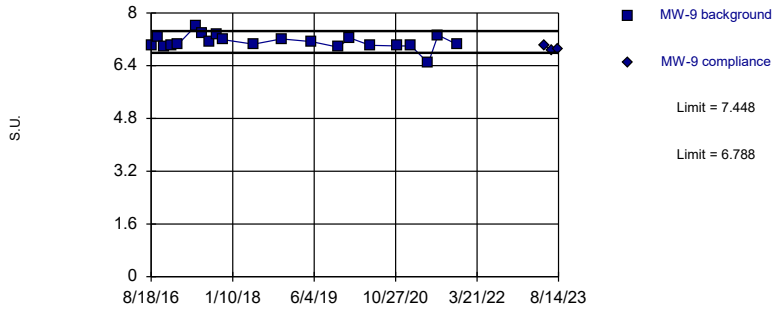
Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.118, Std. Dev.=0.2213, n=21. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8993, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

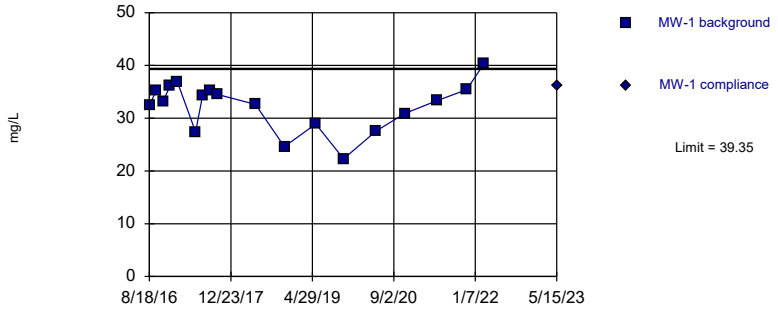
Constituent: pH Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.29, Std. Dev.=4.58, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9504, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

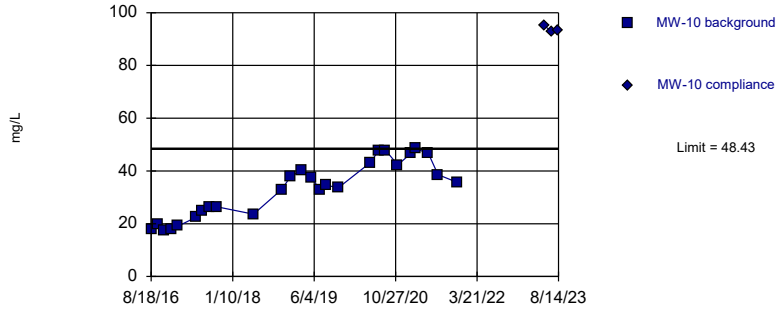
Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.15, Std. Dev.=10.6, n=26. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9201, critical = 0.891. Kappa = 1.441 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: pH, Sulfate Analysis Run 9/6/2023 11:28 AM View: CCR LF III

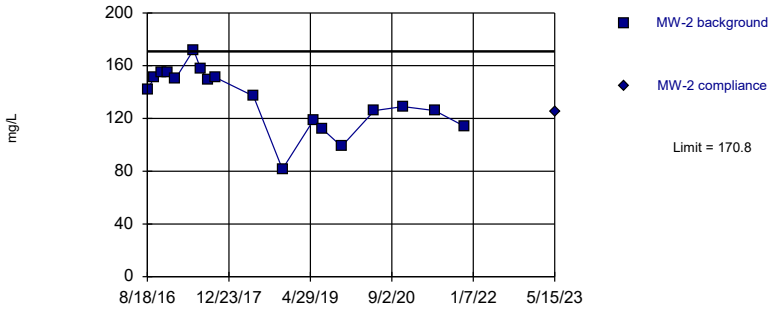
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-8	MW-8	MW-9	MW-9		MW-1	MW-1	MW-10	MW-10	
8/18/2016	7.1		7.02			32.4		17.8		
9/29/2016	7.32		7.28			35.3		19.7		
11/9/2016	8.24		6.99			33.2		17.4		
12/21/2016	7.1		7.02			36.2		17.7		
2/3/2017	7.13		7.05			36.9		19.1		
5/24/2017	7.66		7.61			27.4		22.4		
7/5/2017	7.44		7.37			34.2		24.7		
8/17/2017	7.27		7.13			35.2		26.5		
10/5/2017	7.25		7.35			34.5		26.4		
11/14/2017	7.24		7.19							
5/21/2018	7.17		7.05			32.6		23.6		
11/12/2018	7.15		7.21			24.6		32.9		
1/10/2019	7.57							38		
3/14/2019	7.38							40.1		
5/20/2019	7.11		7.13			28.9		37.3		
7/11/2019								33		
8/20/2019								34.6		
11/4/2019	7.07		6.96			22.3		33.6		
1/15/2020	7.31		7.24							
5/20/2020	6.98		7.02			27.6		43.1		
7/13/2020								47.7		
8/25/2020	7.23							47.9		
11/9/2020	7.52		7			30.9		42.3		
2/2/2021	7.18		7					46.7		
3/1/2021								48.4		
5/20/2021	6.5		6.48			33.3		46.7		
7/20/2021	7.87		7.33					38.6		
11/17/2021	7.17		7.04			35.4		35.7		
1/25/2022	7.21									
3/1/2022	7.1					40.3				
5/15/2023		7.13		7.03			36.2		95.2	
7/6/2023				6.85	extra				92.7	1st verification
8/14/2023				6.9	extra				93.1	2nd verificatoin

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.8, Std. Dev.=23.36, n=18. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9505, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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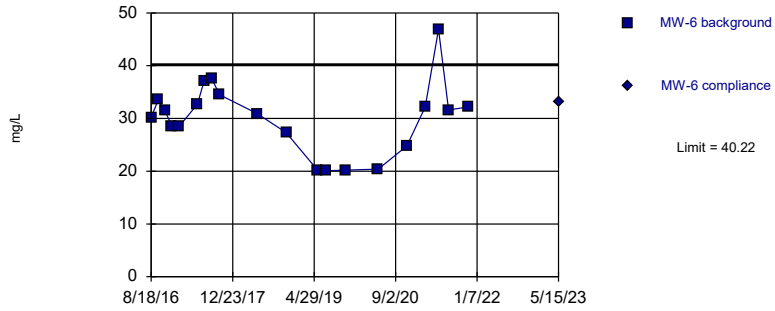
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.05, Std. Dev.=6.77, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9301, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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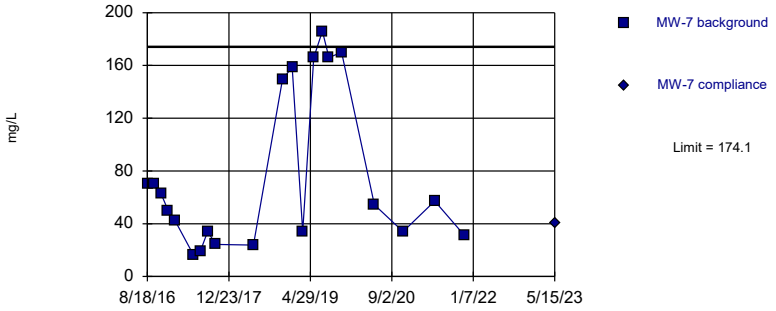
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.992, Std. Dev.=1.067, n=21. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8863, critical = 0.873. Kappa = 1.491 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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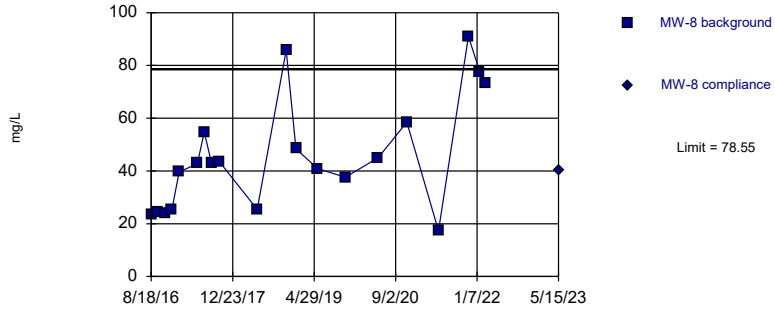
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=46.05, Std. Dev.=21.64, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9109, critical = 0.868. Kappa = 1.502 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Sulfate Analysis Run 9/6/2023 11:28 AM View: CCR LF III

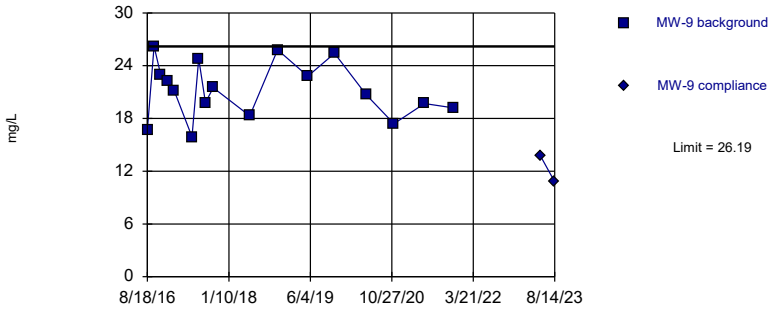
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	142		30.2		70.2		23.3	
9/29/2016	151		33.5		70.6		24.2	
11/9/2016	155		31.4		62.6		23.8	
12/21/2016	155		28.6		50		25.5	
2/3/2017	150		28.5		41.9		39.6	
5/24/2017	172		32.7		16.2		42.8	
7/5/2017	158		37.2		19.5		54.8	
8/17/2017	149		37.6		34.1		43	
10/5/2017	151		34.5		24.3		43.4	
5/21/2018	137		30.9		23.8		25.4	
11/12/2018	81.5		27.3		149		85.8	
1/10/2019					159		48.4	
3/14/2019					33.9			
5/20/2019	119		20.2		166		40.9	
7/11/2019	112		20.1		186			
8/20/2019					166			
11/4/2019	98.8		20.2		170		37.6	
5/20/2020	126		20.4		54.4		45	
11/9/2020	129		24.8		34		58.5	
3/1/2021			32.2					
5/20/2021	126		46.9		57.2		17.3	
7/20/2021			31.6					
11/17/2021	114		32.2		31		91	
1/25/2022							77.4	
3/1/2022							73.3	
5/15/2023		125		33.1		40.6		40.1

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.21, Std. Dev.=3.195, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9637, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/6/2023 11:21 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Sulfate Analysis Run 9/6/2023 11:28 AM View: CCR LF III

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-9	MW-9	
8/18/2016	16.7		
9/29/2016	26.2		
11/9/2016	23		
12/21/2016	22.2		
2/3/2017	21.1		
5/24/2017	15.9		
7/5/2017	24.8		
8/17/2017	19.8		
10/5/2017	21.5		
5/21/2018	18.3		
11/12/2018	25.8		
5/20/2019	22.8		
11/4/2019	25.4		
5/20/2020	20.7		
11/9/2020	17.4		
5/20/2021	19.7		
11/17/2021	19.2		
5/15/2023		13.8	
8/14/2023		10.8	extra

Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 9/6/2023, 11:28 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-1	0.2	n/a	7/6/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-10	0.2	n/a	5/15/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-2	0.2	n/a	7/6/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-6	0.2	n/a	7/6/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-7	0.2	n/a	5/15/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-8	0.2	n/a	5/15/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-9	0.2	n/a	5/15/2023	0.1ND	No	17	100	n/a	0.000...	NP Intra (NDs) 1 of 3
Calcium (mg/L)	**MW-1**	**145.6**	**n/a**	**8/14/2023**	**161**	**Yes**	**21**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Calcium (mg/L)	MW-10	160.1	n/a	5/15/2023	152	No	24	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-2	174.4	n/a	5/15/2023	144	No	19	0	x^5	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-6	165.9	n/a	5/15/2023	151	No	22	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-7	188.2	n/a	5/15/2023	141	No	22	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-8	166.7	n/a	5/15/2023	131	No	22	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	**MW-9**	**121.5**	**n/a**	**8/14/2023**	**133**	**Yes**	**19**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Chloride (mg/L)	MW-1	6.645	n/a	5/15/2023	6.44	No	20	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-10	22.57	n/a	8/14/2023	15	No	22	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-2	9.675	n/a	5/15/2023	6.36	No	19	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-6	2.14	n/a	5/15/2023	1.9	No	23	0	x^(1/3)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-7	29.5	n/a	5/15/2023	1.62	No	22	0	x^(1/3)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-8	10.45	n/a	5/15/2023	4.23	No	23	0	No	0.001075	Param Intra 1 of 3 De...
Chloride (mg/L)	MW-9	3.88	n/a	8/14/2023	1.22	No	19	42.11	n/a	0.000...	NP Intra (normality) ...
Dissolved Solids (mg/l)	**MW-1**	**523.2**	**n/a**	**8/14/2023**	**636**	**Yes**	**19**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Dissolved Solids (mg/l)	MW-10	1760	n/a	5/15/2023	860	No	17	0	n/a	0.000...	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-2	709.7	n/a	5/15/2023	619	No	17	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-6	578.2	n/a	5/15/2023	554	No	19	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-7	761	n/a	5/15/2023	535	No	21	0	n/a	0.000511	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-8	589.8	n/a	5/15/2023	484	No	21	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	**MW-9**	**473.6**	**n/a**	**8/14/2023**	**521**	**Yes**	**17**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Fluoride (mg/L)	MW-1	0.488	n/a	5/15/2023	0.232	No	20	0	n/a	0.000...	NP Intra (normality) ...
Fluoride (mg/L)	MW-10	0.7453	n/a	5/15/2023	0.472	No	18	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-2	0.552	n/a	5/15/2023	0.28	No	21	0	n/a	0.000511	NP Intra (normality) ...
Fluoride (mg/L)	MW-6	0.3695	n/a	5/15/2023	0.287	No	19	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-7	0.4157	n/a	5/15/2023	0.313	No	17	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-8	0.4599	n/a	5/15/2023	0.308	No	17	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-9	0.4949	n/a	5/15/2023	0.346	No	18	0	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-1	7.54	6.74	8/14/2023	6.79	No	25	0	n/a	0.000...	NP Intra (normality) ...
pH (S.U.)	MW-10	7.392	6.748	7/6/2023	6.76	No	28	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-2	7.326	6.718	7/6/2023	6.89	No	22	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.498	6.735	7/6/2023	7.03	No	29	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	7.632	6.704	5/15/2023	7.05	No	25	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-8	7.74	6.829	5/15/2023	7.13	No	26	0	x^(1/3)	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-9	7.448	6.788	8/14/2023	6.9	No	21	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-1	39.35	n/a	5/15/2023	36.2	No	18	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	**MW-10**	**48.43**	**n/a**	**8/14/2023**	**93.1**	**Yes**	**26**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Sulfate (mg/L)	MW-2	170.8	n/a	5/15/2023	125	No	18	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-6	40.22	n/a	5/15/2023	33.1	No	20	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-7	174.1	n/a	5/15/2023	40.6	No	21	0	x^(1/3)	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-8	78.55	n/a	5/15/2023	40.1	No	20	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-9	26.19	n/a	8/14/2023	10.8	No	17	0	No	0.001075	Param Intra 1 of 3

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
- [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [ ] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha... 0.02

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia at Alpha = 0.01

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation:

☐ Use Best W Statistic

☐ Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent > 75

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

☐ Optional Further Refinement: Use _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation: Natural Log

☐ Use Best W Statistic

☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)

- ◉ If Seasonality Is Detected
- ○ If Seasonality Is Detected Or Insufficient to Test
- ○ Always (When Sufficient Data)
- ○ Never

☐ Always Use Non-Parametric

Facility α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 7

Sampling Plan

Comparing Individual Observations

○ 1 of 1 ○ 1 of 2 ◉ 1 of 3 ○ 1 of 4

○ 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation: _____

Override DF: _____ Override Kappa: _____

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☑ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

- ○ Highest/Second Highest Background Value
- ◉ Most Recent PQL if available, or MDL
- ○ Most Recent Background Value (subst. method)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- [ ] Use Modified Alpha...
- [ ] 2-Tailed Test Mode...
- [ ] Combine Background Wells on Mann-Whitney...

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)