2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CCR LANDFILL
IATAN GENERATING STATION
PLATTE COUNTY, MISSOURI

Presented To:
Evergy Metro, Inc.

SCS ENGINEERS

27213167.20 | January 2021
Revision 1, April 2021
Revision 2, December 16, 2022

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 2020 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 2020 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 29, 2021	N A	Original
1	April 7, 2021	Table of Contents Appendix A	Addition of Potentiometric Surface Maps to Appendix A.
2	December 16, 2022	Addendum 1	Added Addendum 1

Table of Contents

Appendices

1 INTRODUCTION

This 2020 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 2020 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, 2020), 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, 2020), 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 2019	MW-1	Fluoride	Successful
Spring 2020	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 2020.

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 (2020). Samples collected in 2020 were collected and analyzed for Appendix III detection monitoring constituents. Additionally, Appendix IV constituents were analyzed with the spring event for potential future updating of background data in conformance with EPA Unified Guidance and industry standards. Results of the sampling events are provided in **Appendix B**, **Table 1** (Appendix III with Supplemental Appendix IV Detection Monitoring Results), and **Table 2** (Detection Monitoring Field Measurements). These tables include Fall 2019 semiannual detection monitoring event verification sample data collected and analyzed in 2020; Spring 2020 semiannual detection monitoring data, verification sample data, and supplementary

Appendix IV sample data; and, the initial Fall 2020 semiannual detection monitoring data. The dates of sample collection and the monitoring program requiring the sample 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 2020. Only detection monitoring was conducted in 2020.

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 Fall 2019 verification sampling and analyses per the certified statistical method,

b. completion of the statistical evaluation of the Fall 2019 semiannual detection monitoring sampling and analysis event per the certified statistical method,

c. completion of the 2019 Annual Groundwater Monitoring and Corrective Action Report,

d. completion of a successful alternative source demonstration for the Fall 2019 semiannual detection monitoring sampling and analysis event,

e. completion of the Spring 2020 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method, and supplemental Appendix IV sample analysis,

f. completion of the statistical evaluation of the Spring 2020 semiannual detection monitoring sampling and analysis event per the certified statistical method,

g. completion of a successful alternative source demonstration for the Spring 2020 semiannual detection monitoring sampling and analysis event, and

h. initiation of the Fall 2020 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 (2021).

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2020 detection monitoring sampling and analysis event. Semiannual Spring and Fall 2021 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2021 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**:

C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2019 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2020).

C.2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2020 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (December 2020).

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 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

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (May 2020)

Figure 3: Potentiometric Surface Map (November 2020)

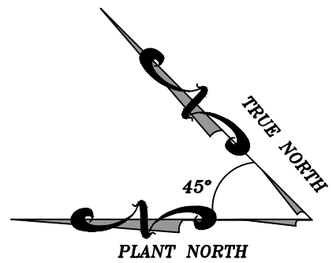
LEGEND:

MW–1 — *CCR GROUNDWATER MONITORING WELL SYSTEM*

CCR LANDFILL UNIT BOUNDARY

NOTES:

1. *HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)*
2. *VERTICAL DATUM: NAVD 88*
3. *GOOGLE EARTH IMAGE DATED APRIL 2018. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE*
4. *BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY BURNS & MCDONNELL*
5. *CCR LANDFILL UNIT BOUNDARY SHOWN IS APPROXIMATE.*



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SHEET TITLE: *SITE MAP CCR LANDFILL CCR GROUNDWATER MONITORING SYSTEM*

PROJECT TITLE: *2020 GROUNDWATER MONITORING AND CORRECTION ACTION REPORT*

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

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8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
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PROJ. NO. 27213167.20 | DSN. BY: ALR | CHK. BY: JRR | Q/A RVW BY: JRR | PROJ. MGR: JRR

CADD FILE: IATAN LF CCR BASE FIGURE NOV20.DWG

DATE: 1/14/21

FIGURE NO. 1

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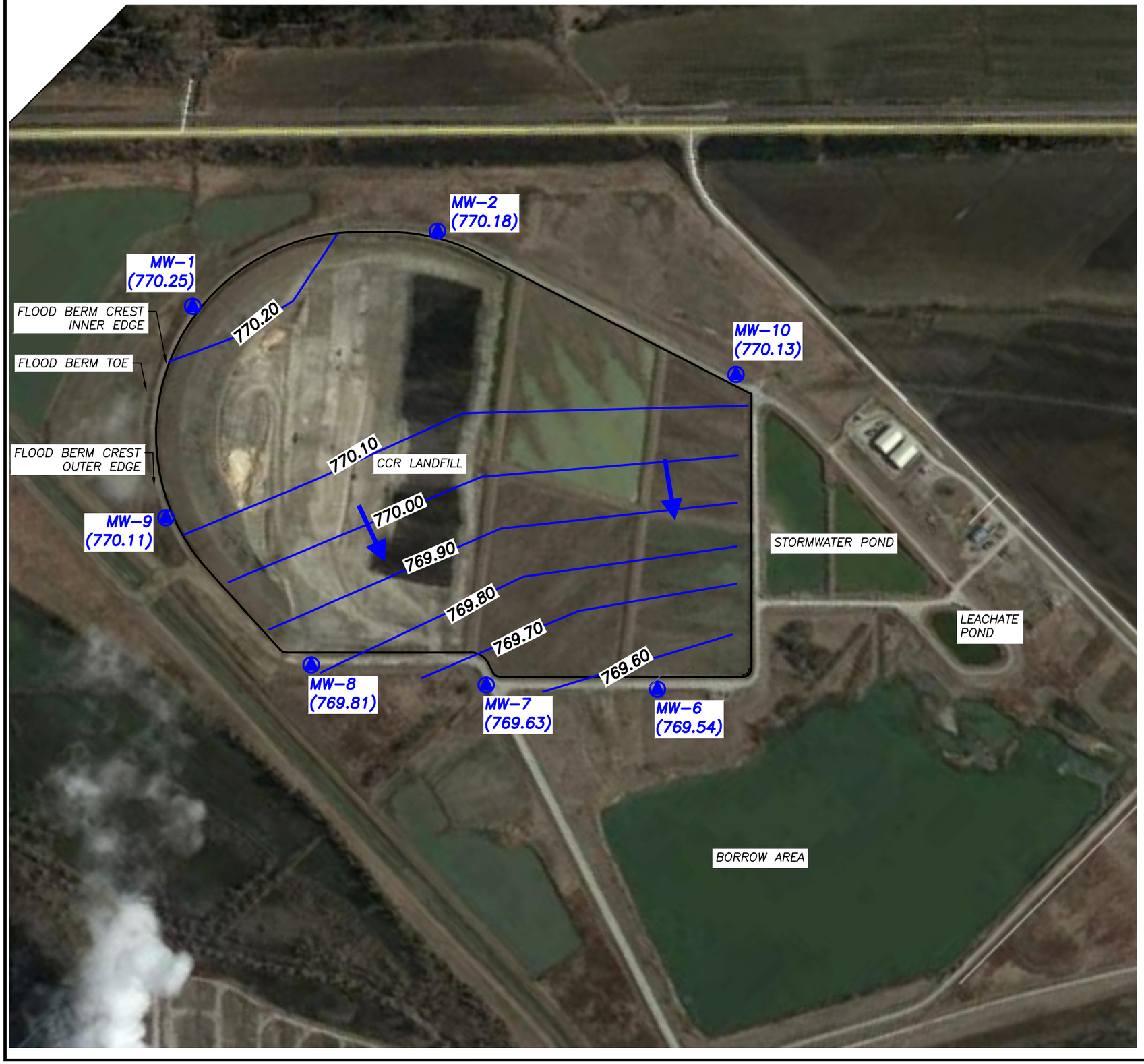


LEGEND:

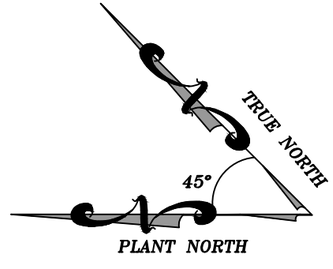
—773.0— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS

MW–1 773.09 CCR GROUNDWATER MONITORING WELL SYSTEM

CCR LANDFILL UNIT BOUNDARY

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. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY BURNS & MCDONNELL
5. CCR LANDFILL UNIT BOUNDARY SHOWN IS APPROXIMATE.



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SHEET TITLE: POTENTIOMETRIC SURFACE MAP (MAY 2020)

PROJECT TITLE: IATAN GROUNDWATER 2020

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

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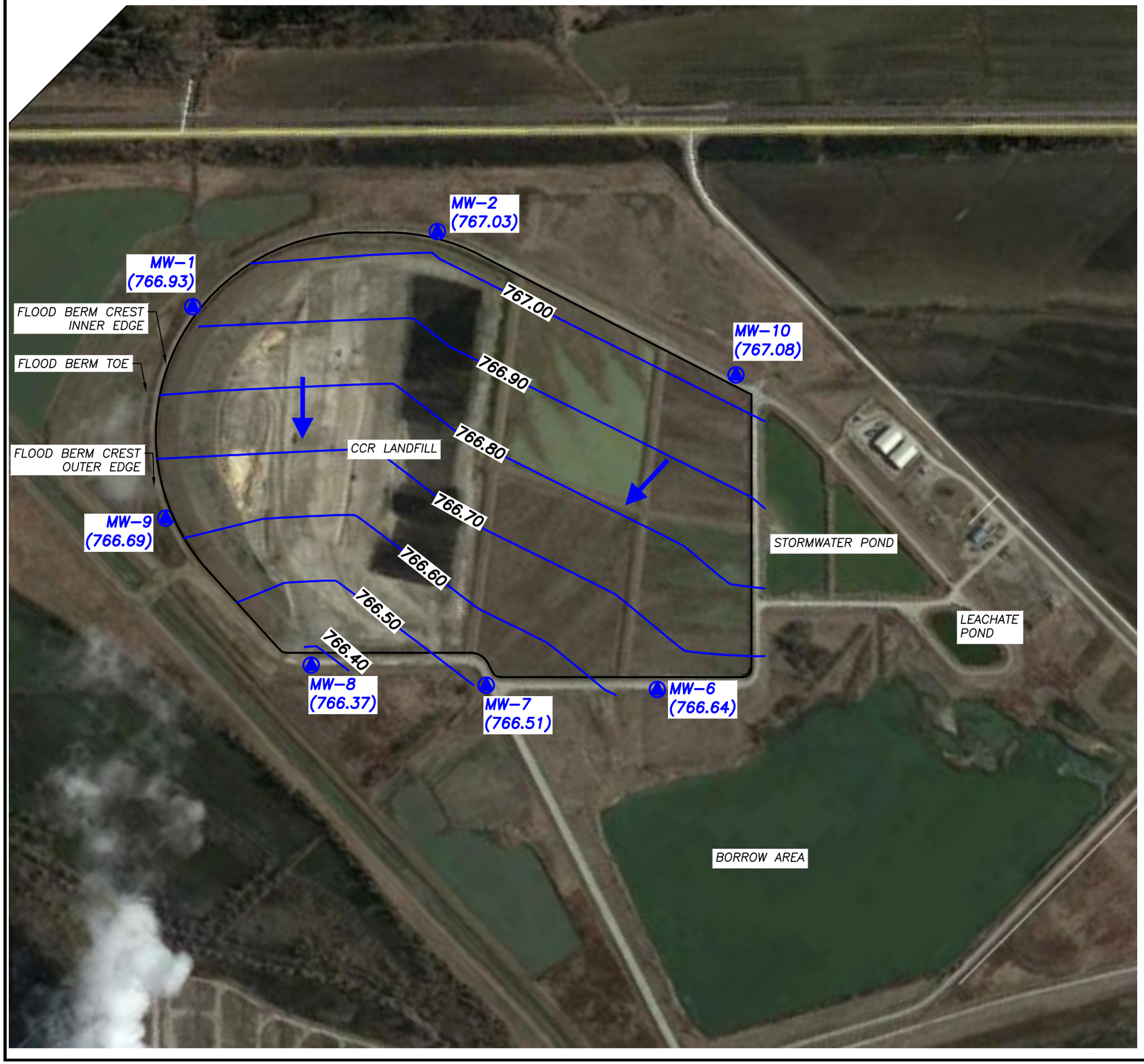
PROJ. NO.	DWN. BY:	CHK. BY:	DSN. BY:
27213167.20	MBJ	JRR	TGW

Q/A REVIEW BY:	PROJ. MGR
JRR	JRR

CADD FILE: IATAN LF CCR MDNR FIG 2 MAY20.DWG

DATE: 7/1/20

FIGURE NO. 2



LEGEND:

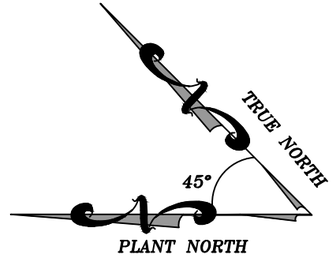
—767.0— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS

MW–1 773.09 CCR GROUNDWATER MONITORING WELL SYSTEM

UTILITY WASTE LANDFILL UNIT BOUNDARY

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. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY BURNS & MCDONNELL
5. CCR LANDFILL UNIT BOUNDARY SHOWN IS APPROXIMATE.



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5	-	-

SHEET TITLE: POTENTIOMETRIC SURFACE MAP (NOVEMBER 2020)

PROJECT TITLE: IATAN GROUNDWATER 2020

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

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PROJ. NO. 27213167.20 | DSN. BY: ALR | Q/A RVW BY: JRR
DSN. BY: TGW | CHK. BY: JRR | PROJ. MGR JRR

CADD FILE: IATAN LF CCR MDNR FIG 2 NOV20 V3.DWG

DATE: 1/15/21

FIGURE NO. 3

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APPENDIX B

TABLES

Table 1: Appendix III with Supplemental Appendix IV Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

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

		Appendix III Constituents							Appendix IV Constituents														
Well Number	Sample Date	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Radium Combined (pCi/L)
MW-1	01/15/20	---	---	---	*0.326	**7.04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	02/04/20	---	---	---	*0.329	**6.91	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	05/20/20	<0.200	131	5.60	0.240	6.81	27.6	507	<0.00400	0.0136	0.239	<0.00200	<0.00100	<0.0100	<0.0100	0.240	<0.00500	0.0515	<0.000200	<0.00500	<0.00200	<0.00200	1.88
MW-1	11/09/20	<0.200	134	5.24	0.271	7.34	30.9	520	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	01/15/20	---	---	---	*0.374	**7.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	05/20/20	<0.200	164	7.28	0.286	6.81	126	659	<0.00400	0.0219	0.216	<0.00200	<0.00100	<0.0100	<0.0100	0.286	<0.00500	0.0528	<0.000200	<0.00500	<0.00200	<0.00200	1.91
MW-2	11/09/20	<0.200	167	7.03	0.313	7.26	129	640	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	01/15/20	---	---	---	---	*7.26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	05/20/20	<0.200	138	1.55	0.264	6.83	20.4	491	<0.00400	0.0215	0.281	<0.00200	<0.00100	<0.0100	<0.0100	0.264	<0.00500	0.0342	<0.000200	<0.00500	<0.00200	<0.00200	0.737
MW-6	07/13/20	---	---	---	---	*6.84	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	08/25/20	---	---	---	---	*7.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	11/09/20	<0.200	160	1.60	0.308	7.09	24.8	548	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	01/15/20	---	---	---	---	*7.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	05/20/20	<0.200	140	8.49	0.291	6.82	54.4	525	<0.00400	0.00768	0.223	<0.00200	<0.00100	<0.0100	<0.0100	0.291	<0.00500	0.0394	<0.000200	<0.00500	<0.00200	<0.00200	1.81
MW-7	07/13/20	---	---	---	---	*6.87	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	11/09/20	<0.200	132	3.18	0.288	7.45	34.0	453	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	01/15/20	---	---	---	---	*7.31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	05/20/20	<0.200	144	4.89	0.336	6.98	45.0	516	<0.00400	0.0115	0.217	<0.00200	<0.00100	<0.0100	<0.0100	0.336	<0.00500	0.0401	<0.000200	<0.00500	<0.00200	<0.00200	1.23
MW-8	08/25/20	---	---	---	---	*7.23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	11/09/20	<0.200	158	9.92	0.357	7.52	58.5	571	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-9	01/15/20	---	---	*<1.00	*0.445	**7.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-9	05/20/20	<0.200	105	<1.00	0.389	7.02	20.7	385	<0.00400	0.0196	0.109	<0.00200	<0.00100	<0.0100	<0.0100	0.389	<0.00500	0.0320	<0.000200	0.0117	<0.00200	<0.00200	1.30
MW-9	11/09/20	<0.200	123	1.30	0.324	7.00	17.4	475	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-10	01/15/20	---	---	---	*0.637	**7.18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-10	05/20/20	<0.200	150	16.4	0.517	6.92	43.1	585	<0.00400	0.0153	0.187	<0.00200	<0.00100	<0.0100	<0.0100	0.517	<0.00500	0.0230	<0.000200	0.0253	<0.00200	<0.00200	0.857
MW-10	07/13/20	---	---	---	---	**6.96	*47.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-10	08/25/20	---	---	---	---	**7.00	*47.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-10	11/09/20	<0.200	158	16.7	0.476	7.02	42.3	645	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

* 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	01/15/20	**7.04	899	13.12	1.2	-100	0.00	17.42	771.27
MW-1	02/04/20	**6.91	895	12.77	7.0	-99	0.00	17.70	770.99
MW-1	05/20/20	6.81	892	14.71	12.9	-123	0.00	18.44	770.25
MW-1	11/09/20	7.34	792	15.75	0.6	-116	0.73	21.76	766.93
MW-2	01/15/20	**7.02	1110	13.71	0.9	-100	0.00	18.30	771.31
MW-2	05/20/20	6.81	1090	15.15	11.2	-112	0.00	19.43	770.18
MW-2	11/09/20	7.26	941	15.94	10.7	-111	0.69	22.58	767.03
MW-6	01/15/20	*7.26	915	13.12	10.5	-100	0.00	18.80	770.85
MW-6	05/20/20	6.83	890	15.27	15.7	-74	0.00	20.11	769.54
MW-6	07/13/20	*6.84	857	15.44	28.1	-65	0.00	20.81	768.84
MW-6	08/25/20	*7.15	821	18.68	17.5	-117	2.55	20.69	768.96
MW-6	11/09/20	7.09	1010	16.16	9.9	-103	0.19	23.01	766.64
MW-7	01/15/20	*7.15	1120	14.21	6.5	-71	0.00	18.83	770.82
MW-7	05/20/20	6.82	897	14.69	5.0	5	0.00	20.02	769.63
MW-7	07/13/20	*6.87	814	14.58	13.8	-35	0.00	20.84	768.81
MW-7	11/09/20	7.45	719	16	5.8	-60	0.60	23.14	766.51
MW-8	01/15/20	*7.31	915	12.25	8.7	-71	0.00	18.81	770.90
MW-8	05/20/20	6.98	904	15.19	0.0	-62	0.00	19.90	769.81
MW-8	08/25/20	*7.23	915	18.86	0.0	-75	1.69	20.45	769.26
MW-8	11/09/20	7.52	879	15.8	0.0	-91	1.43	23.34	766.37
MW-9	01/15/20	**7.24	768	12.29	15.2	-100	0.00	18.75	771.15
MW-9	05/20/20	7.02	726	17.05	24.0	-17	0.00	19.79	770.11
MW-9	11/09/20	7.00	850	15.69	23.5	-112	0.16	23.21	766.69
MW-10	01/15/20	**7.18	1080	12.74	4.2	-49	0.00	18.23	771.23
MW-10	05/20/20	6.92	1040	15.51	0.0	-83	0.61	19.33	770.13
MW-10	07/13/20	**6.96	1070	15.36	15.3	-49	0.00	20.20	769.26
MW-10	08/25/20	**7.00	1120	19.34	0.0	-64	8.83	20.03	769.43
MW-10	11/09/20	7.02	1110	15.75	0.0	-59	1.34	22.38	767.08

* 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 DEMONSTRATION

C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2019 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2020)

C.2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2020 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (December 2020)

C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2019 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (June 2020)

CCR GROUNDWATER MONITORING
ALTERNATIVE SOURCE DEMONSTRATION REPORT
NOVEMBER 2019 GROUNDWATER MONITORING EVENT

CCR LANDFILL
IATAN GENERATING STATION
PLATTE COUNTY, MISSOURI

Presented To:

Evergy Metro, Inc.

Presented By:

SCS ENGINEERS

8575 West 110th Street, Suite 100

Overland Park, Kansas 66210

June 2020

File No. 27213167.20

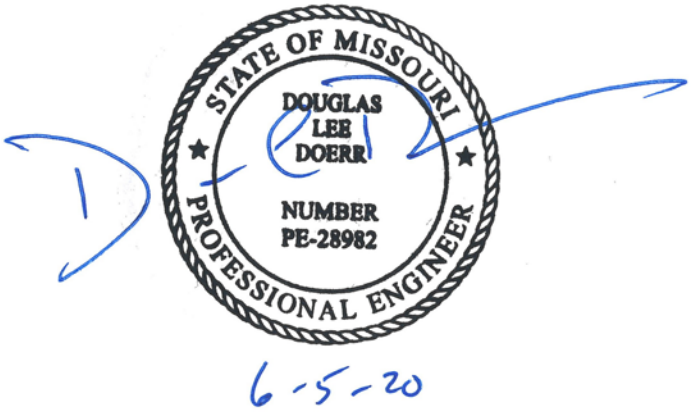
CERTIFICATIONS

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 a 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 4, 2019. Review and validation of the results from the November 2019 Detection Monitoring Event was completed on December 12, 2019, which constitutes completion and finalization of detection monitoring laboratory analyses. A 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 15, 2020 and February 4, 2020.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-1.

Constituent/Monitoring Well	*UPL	Observation November 4, 2019	1st Verification January 15, 2020	2nd Verification February 4, 2020
Fluoride				
MW-1	0.3201	0.488	0.326	0.329

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for fluoride in monitoring well MW-1.

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 SSI was 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 fluoride concentrations between MW-1 and the other monitoring wells both upgradient and downgradient. The fluoride box and whiskers plot for MW-1 indicates the fluoride concentrations in MW-1 are generally below the concentrations in the other wells although there can be some overlap as indicated by the whiskers. This demonstrates that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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 and leachate is provided in **Appendix B** along with analytical results. The piper diagram indicates the groundwater from monitoring well MW-1 does not plot near where the leachate plots. Therefore, the groundwater from MW-1 does not exhibit the same geochemical characteristics as the leachate. The groundwater and the leachate plot in totally 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 caused the SSI over background levels or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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 times series plot for fluoride in monitoring well MW-1 was compared to the time series plot for fluoride in the other monitoring wells both upgradient and downgradient. The fluoride time series plot for MW-1 indicates the fluoride concentrations in MW-1 are generally below the concentrations in the other wells both upgradient and downgradient. This demonstrates that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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 caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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.

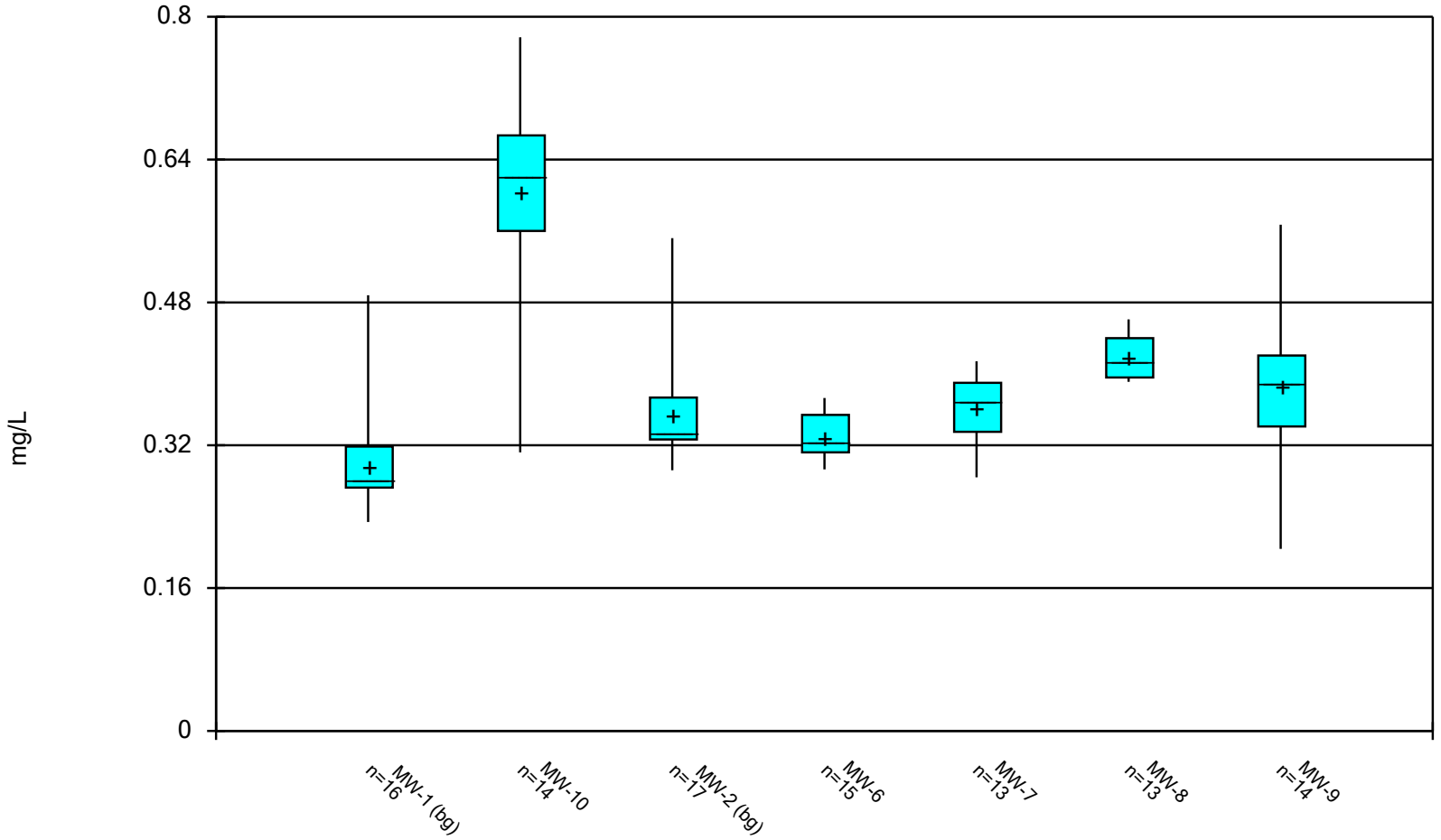
The signatures of the certifying registered geologist and professional engineer on this document represents that to the best of their knowledge, information, and belief in the exercise of their professional

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: Fluoride Analysis Run 3/17/2020 12:15 PM View: CCR LF III

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

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 3/17/2020, 12:18 PM

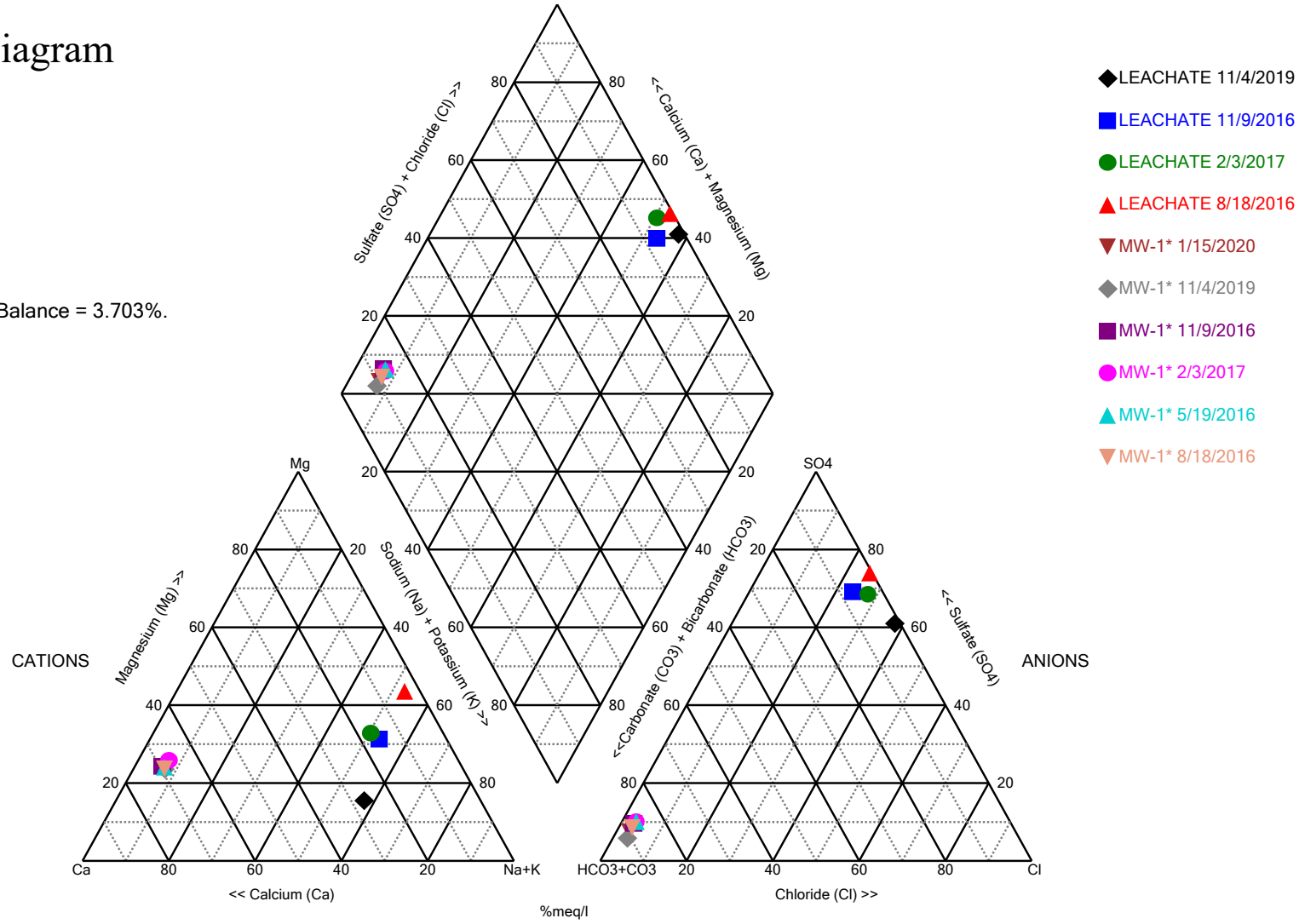
Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Fluoride (mg/L)	MW-1 (bg)	16	0.2973	0.05805	0.01451	0.282	0.234	0.488	0
Fluoride (mg/L)	MW-10	14	0.6032	0.1056	0.02823	0.6225	0.312	0.777	0
Fluoride (mg/L)	MW-2 (bg)	17	0.3526	0.05801	0.01407	0.333	0.292	0.552	0
Fluoride (mg/L)	MW-6	15	0.33	0.02589	0.006685	0.325	0.293	0.373	0
Fluoride (mg/L)	MW-7	13	0.3618	0.03574	0.009914	0.369	0.284	0.414	0
Fluoride (mg/L)	MW-8	13	0.4198	0.02385	0.006616	0.415	0.391	0.461	0
Fluoride (mg/L)	MW-9	14	0.3854	0.0788	0.02106	0.3885	0.204	0.567	0

Appendix B

Piper Diagram Plots and Analytical Results

Piper Diagram

Cation-Anion Balance = 3.703%.



Analysis Run 3/17/2020 12:53 PM View: CCR LF III

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

Piper Diagram

Analysis Run 3/17/2020 12:53 PM View: CCR LF III

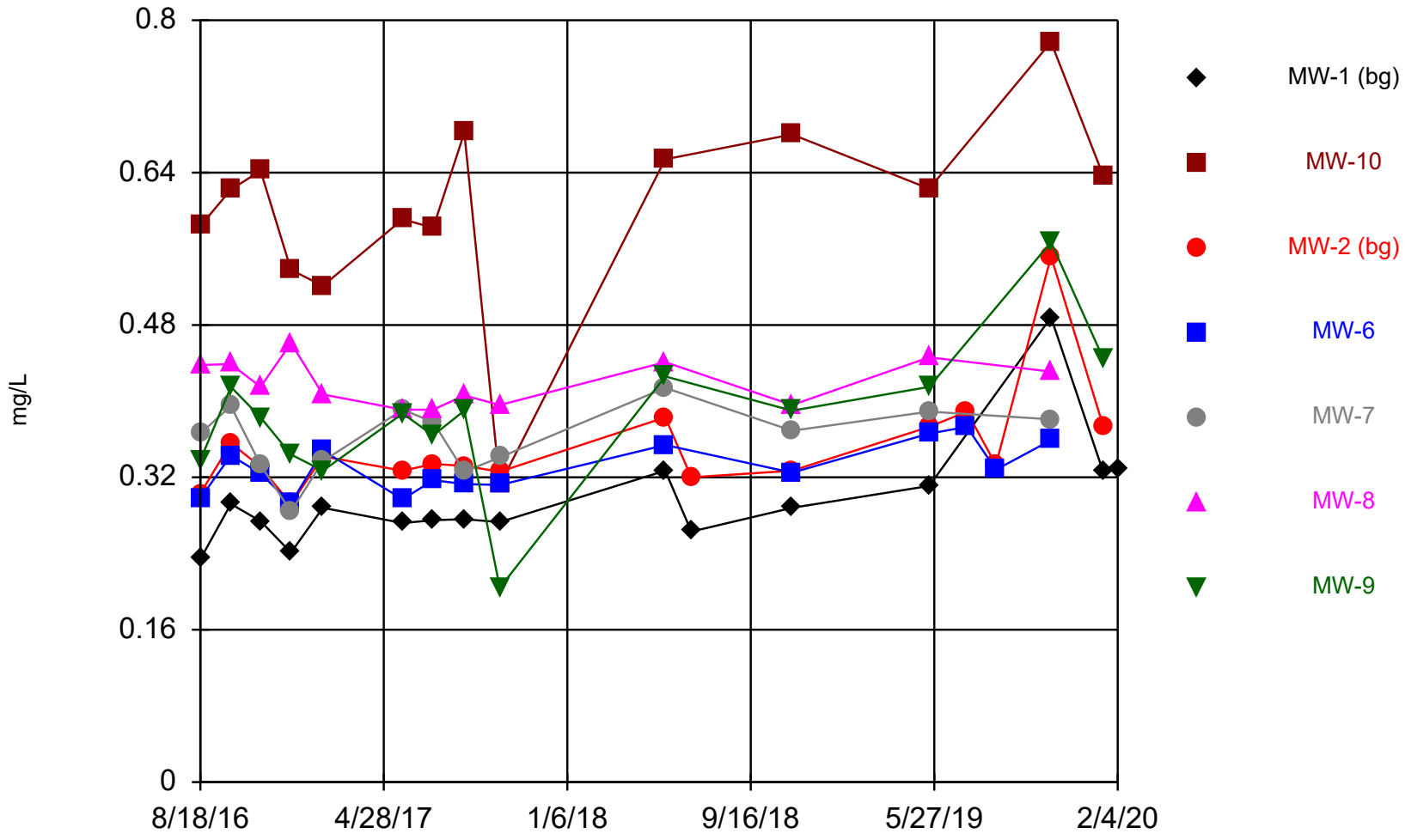
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-1* 5/19/2016	11.3	6.56	130	27.3	6.02	34.4	374	10
MW-1* 8/18/2016	11.7	6.56	134	27.4	5.93	32.4	436	10
MW-1* 11/9/2016	11.1	6	136	28.4	5.95	33.2	383	10
MW-1* 2/3/2017	11	5.93	116	26.8	6	36.9	394	10
MW-1* 11/4/2019	11.8	6.49	132	27	6.61	22.3	420	10
MW-1* 1/15/2020	11.6	6.17	129	26.7	5.32	27.3	406	10
LEACHATE 8/18/2016	9250	689	573	4240	6990	28000	644	10
LEACHATE 11/9/2016	1230	90.7	334	398	876	3460	480	10
LEACHATE 2/3/2017	1880	121	560	671	1760	6070	505	10
LEACHATE 11/4/2019	1110	51.7	460	163	2340	5230	206	10

Appendix C

Time Series Plots

Time Series



Constituent: Fluoride Analysis Run 3/17/2020 12:19 PM View: CCR LF III

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

C.2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2020 Groundwater Monitoring Event, CCR Landfill, Iatan Generating Station (December 2020)

CCR GROUNDWATER MONITORING
ALTERNATIVE SOURCE DEMONSTRATION REPORT
MAY 2020 GROUNDWATER MONITORING EVENT

CCR LANDFILL
IATAN GENERATING STATION
PLATTE COUNTY, MISSOURI

Presented To:

Evergy Metro, Inc.

Presented By:

SCS ENGINEERS

8575 West 110th Street, Suite 100

Overland Park, Kansas 66210

December 2020

File No. 27213167.20

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 a 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 20, 2020. Review and validation of the results from the May 2020 Detection Monitoring Event was completed on June 29, 2020, which constitutes completion and finalization of detection monitoring laboratory analyses. A 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 13, 2020 and August 25, 2020.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-10.

Constituent/Monitoring Well	*UPL	Observation May 20, 2020	1st Verification July 13, 2020	2nd Verification August 25, 2020
Sulfate				
MW-10	39.5	43.1	47.7	47.9

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for sulfate in 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 SSI was 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 sulfate concentrations between MW-10 and the other monitoring wells both upgradient and downgradient. The sulfate box and whiskers plot for MW-10 indicates the sulfate concentrations in MW-10 are within or below the concentration ranges for the other wells. This demonstrates that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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-10 and leachate is provided in **Appendix B** along with analytical results. The piper diagram indicates the groundwater from monitoring well MW-10 does not plot near

where the leachate plots. Therefore, the groundwater from MW-10 does not exhibit the same geochemical characteristics as the leachate. The groundwater and the leachate plot in totally 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 caused the SSI over background levels or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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 plot for sulfate in monitoring well MW-10 was compared to the time series plot for sulfate in the other monitoring wells both upgradient and downgradient. The sulfate time series plot for MW-10 indicates the sulfate concentrations in MW-10 are generally below the concentrations in the other wells both upgradient and downgradient. This demonstrates that a source other than the CCR Landfill caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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 caused the SSI over background levels, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or 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.

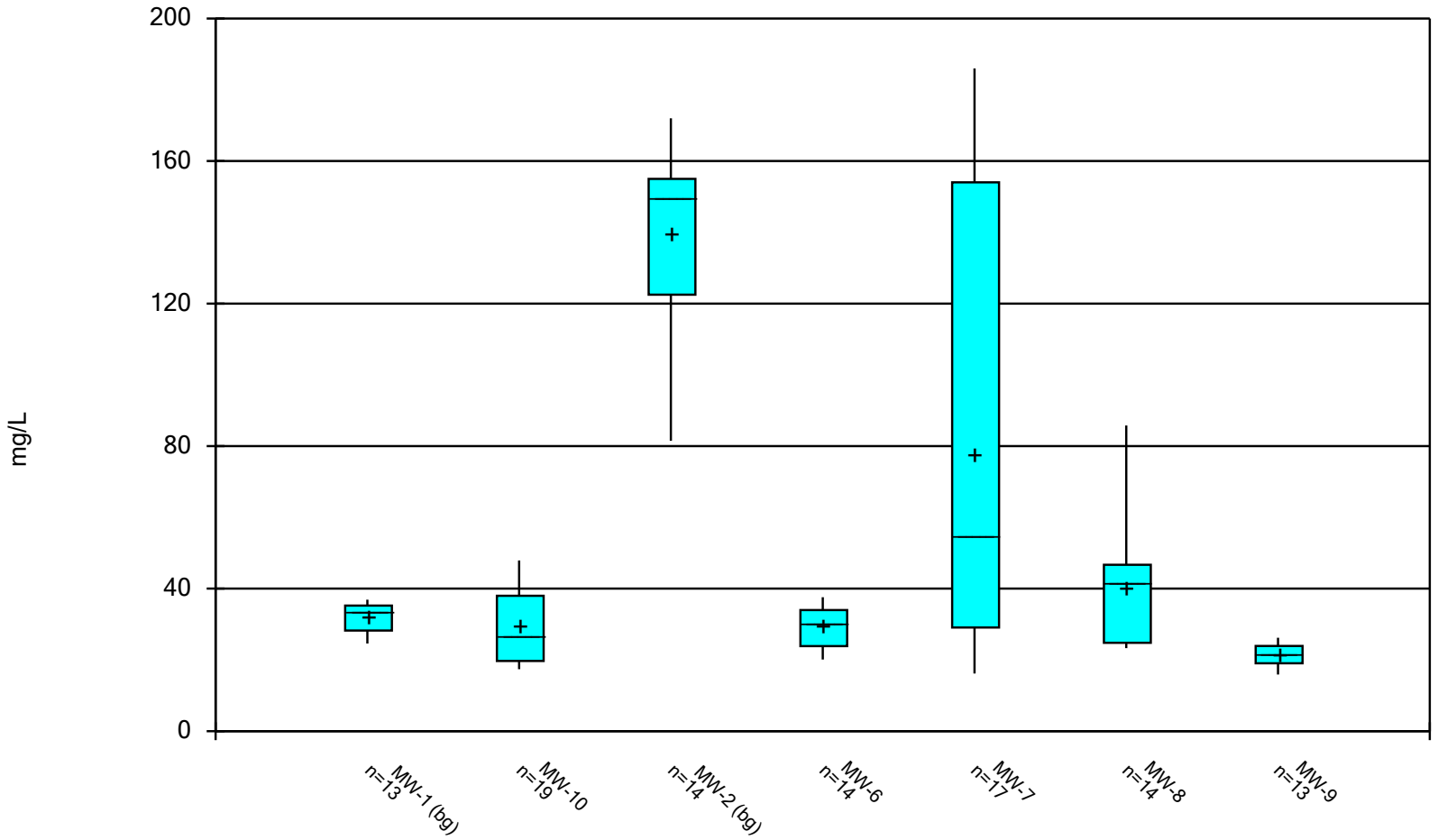
The signatures of the certifying registered geologist and professional engineer on this document represents that to the best of their knowledge, information, and belief in the exercise of their professional judgement in accordance with the standard of practice, it is their professional opinions that 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: Sulfate Analysis Run 10/6/2020 9:06 AM View: CCR LF III

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

Box & Whiskers Plot

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 10/6/2020, 9:07 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Sulfate (mg/L)	MW-1 (bg)	13	32.23	3.873	1.074	33.2	24.6	36.9	0
Sulfate (mg/L)	MW-10	19	29.99	10.27	2.356	26.5	17.4	47.9	0
Sulfate (mg/L)	MW-2 (bg)	14	139.9	23.33	6.236	149.5	81.5	172	0
Sulfate (mg/L)	MW-6	14	29.51	5.861	1.566	30.55	20.1	37.6	0
Sulfate (mg/L)	MW-7	17	78.09	60.56	14.69	54.4	16.2	186	0
Sulfate (mg/L)	MW-8	14	40.42	16.76	4.48	41.85	23.3	85.8	0
Sulfate (mg/L)	MW-9	13	21.45	3.217	0.8922	21.5	15.9	26.2	0

Appendix B

Piper Diagram Plots and Analytical Results

Piper Diagram

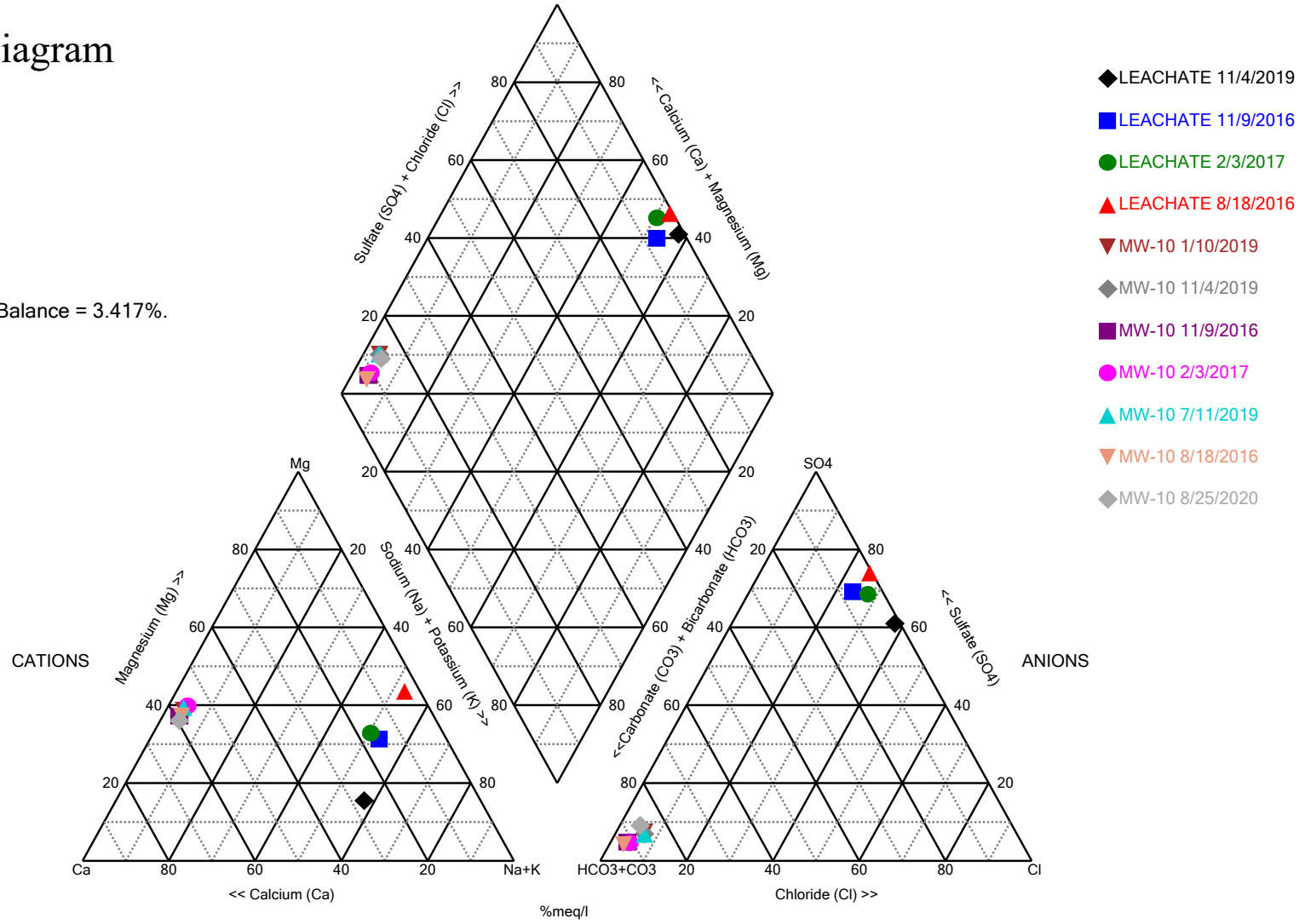
Analysis Run 10/6/2020 9:24 AM View: CCR LF III

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

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
MW-10 8/18/2016	7.77	4.45	123	47.3	7.47	17.8	480	10
MW-10 11/9/2016	7.11	4.02	124	47.3	9.15	17.4	428	10
MW-10 2/3/2017	7.2	3.93	109	46.7	10.3	19.1	442	10
MW-10 1/10/2019	8.51	5.08	157	64.3	21	38	555	10
MW-10 7/11/2019	8.12	5.11	153	63.8	22.5	33	537	10
MW-10 11/4/2019	7.41	4.57	142	54.2	21.6	33.6	526	10
MW-10 8/25/2020	11.9	4.51	163	59.1	16.4	47.9	589	10
LEACHATE 8/18/2016	9250	689	573	4240	6990	28000	644	10
LEACHATE 11/9/2016	1230	90.7	334	398	876	3460	480	10
LEACHATE 2/3/2017	1880	121	560	671	1760	6070	505	10
LEACHATE 11/4/2019	1110	51.7	460	163	2340	5230	206	10

Piper Diagram

Cation-Anion Balance = 3.417%.



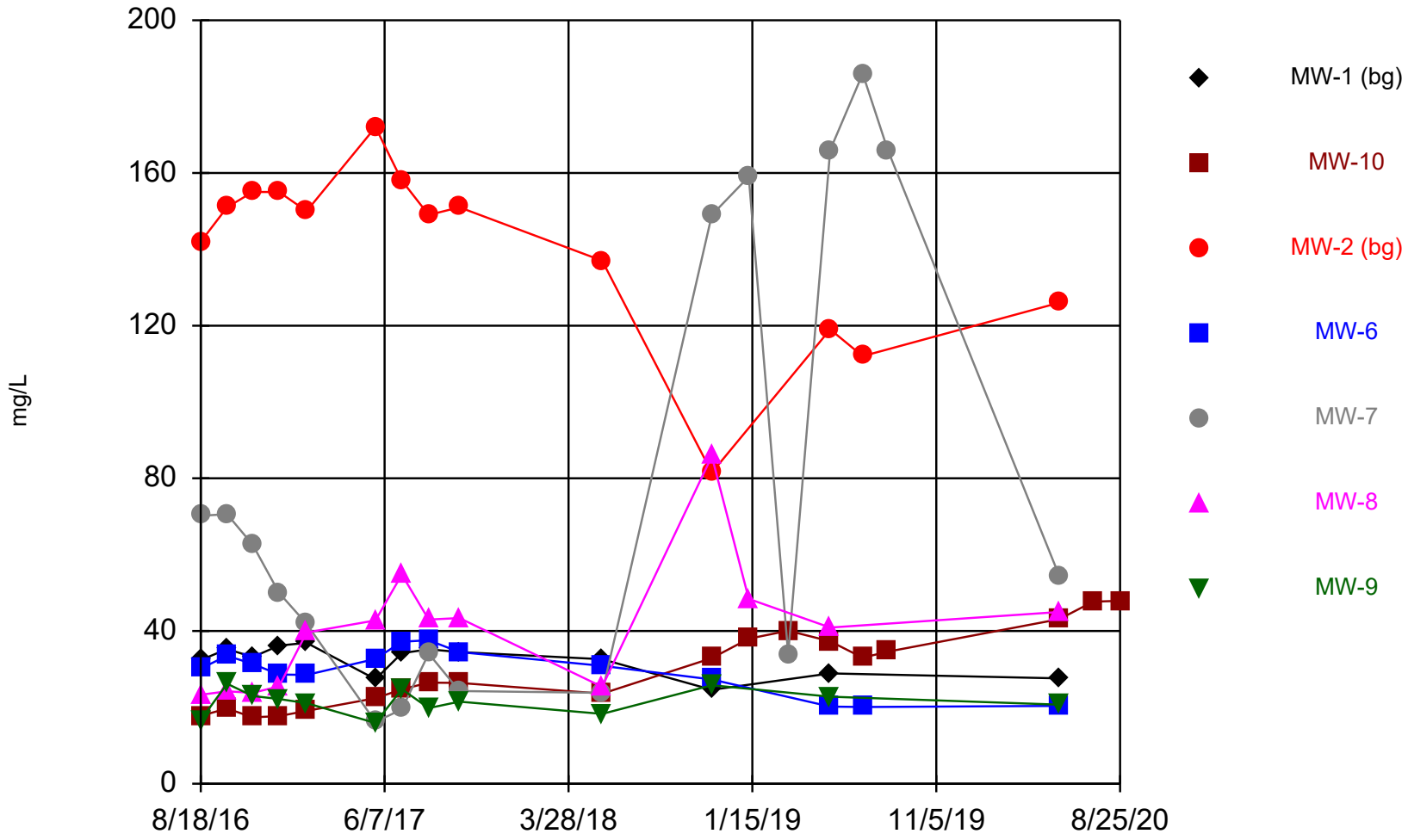
Analysis Run 10/6/2020 9:22 AM View: CCR LF III

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

Appendix C

Time Series Plots

Time Series



Constituent: Sulfate Analysis Run 10/6/2020 9:12 AM View: CCR LF III

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

ADDENDUM 1

2020 Annual Groundwater Monitoring and Corrective Action Report Addendum 1

December 16, 2022
File No. 27213167.20

To: Evergy Metro, Inc.
Jared Morrison – Director, Water and Waste Programs

From: SCS Engineers
Douglas L. Doerr, P.E.
John R. Rockhold, P.G.

Subject: 2020 Annual Groundwater Monitoring and Corrective Action Report Addendum 1
Evergy Metro, Inc.
CCR Landfill
Iatan Generating Station – Platte County, Missouri

The CCR Landfill at the Iatan Generating Station is subject to the groundwater monitoring and corrective action requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule); as described in CFR 40 257.90 through CFR 40 257.98. An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting activities completed in 2020 for the CCR Landfill was completed and placed in the facility's operating record on January 29, 2021, as required by the Rule. The report was subsequently revised and placed in the operating record April 7, 2021. The Annual GWMCA report was to fulfill the requirements specified in 40 CFR 257.90(e).

This Addendum has been prepared to supplement the operating record in recognition of comments received by Evergy from the U.S. Environmental Protection Agency (USEPA) on January 11, 2022. In addition to the information listed in 40 CFR 257.90(e), 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 in the attachments to this addendum.

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:

  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 2020 – First verification sampling for the Fall 2019 detection monitoring event.
- February 2020 – Second verification sampling for the Fall 2019 detection monitoring event.
- May 2020 – Spring 2020 semiannual detection monitoring sampling event and Appendix IV.
- July 2020 – First verification sampling for the Spring 2020detection monitoring sampling event.
- August 2020 – Second verification sampling for the Spring 2020 detection monitoring sampling event.
- November 2020 - Fall 2020 semiannual detection monitoring sampling event.

- Attachment 2 - Statistical Analyses:

  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 2020 included the following:

  - Fall 2019 semiannual detection monitoring statistical analyses.
  - Spring 2020 semiannual detection monitoring statistical analyses.

- Attachment 3 - Groundwater Potentiometric Surface Maps:

  Includes 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:

  - May 2020 - Spring 2020 semiannual detection monitoring sampling event.
  - November 2020 - Fall 2020 semiannual detection monitoring sampling event.

Jared Morrison
December 16, 2022

ATTACHMENT 1

Laboratory Analytical Reports

Jared Morrison
December 16, 2022

ATTACHMENT 1-1

January 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 24, 2020

SCS Engineers - KS

Sample Delivery Group:	L1180954
Samples Received:	01/18/2020
Project Number:	27213167.19
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-1 L1180954-01 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 14:05 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/22/20 21:27	01/22/20 21:27	ELN	Mt. Juliet, TN

MW-2 L1180954-02 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 13:30 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/22/20 21:43	01/22/20 21:43	ELN	Mt. Juliet, TN

MW-9 L1180954-03 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 14:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/22/20 21:59	01/22/20 21:59	ELN	Mt. Juliet, TN

DUPLICATE 1 L1180954-04 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 14:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/22/20 23:38	01/22/20 23:38	ELN	Mt. Juliet, TN

MW-10 L1180954-05 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 12:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/22/20 23:54	01/22/20 23:54	ELN	Mt. Juliet, TN

MW-101 L1180954-06 GW

Collected by: Jason R Franks | Collected date/time: 01/16/20 11:00 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/23/20 00:11	01/23/20 00:11	ELN	Mt. Juliet, TN

MW-104 L1180954-07 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 11:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 14:47	EL	Mt. Juliet, TN

DUPLICATE 2 L1180954-08 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 11:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:55	EL	Mt. Juliet, TN

MW-105 L1180954-09 GW

Collected by: Jason R Franks
Collected date/time: 01/16/20 12:50
Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/23/20 00:27	01/23/20 00:27	ELN	Mt. Juliet, TN

MW-107 L1180954-10 GW

Collected by: Jason R Franks
Collected date/time: 01/16/20 13:45
Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1414370	1	01/23/20 00:44	01/23/20 00:44	ELN	Mt. Juliet, TN

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	326		100	1	01/22/2020 21:27	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	374		100	1	01/22/2020 21:43	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	01/22/2020 21:59	WG1414370
Fluoride	445		100	1	01/22/2020 21:59	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	01/22/2020 23:38	WG1414370
Fluoride	438		100	1	01/22/2020 23:38	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	637		100	1	01/22/2020 23:54	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6380		1000	1	01/23/2020 00:11	WG1414370
Fluoride	380		100	1	01/23/2020 00:11	WG1414370

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	55400		1000	1	01/23/2020 14:47	WG1414408

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	55900		1000	1	01/23/2020 15:55	WG1414408

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20400		1000	1	01/23/2020 00:27	WG1414370

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	34300		1000	1	01/23/2020 00:44	WG1414370

Method Blank (MB)

(MB) R3493292-1 01/22/20 10:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100

L1180954-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1180954-03 01/22/20 21:59 • (DUP) R3493292-5 01/22/20 22:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	ND	821	1	2.33	J	15
Fluoride	445	437	1	1.79		15

Laboratory Control Sample (LCS)

(LCS) R3493292-2 01/22/20 10:31

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39100	97.7	80.0-120	
Fluoride	8000	7950	99.4	80.0-120	

L1180954-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180954-03 01/22/20 21:59 • (MS) R3493292-6 01/22/20 22:32 • (MSD) R3493292-7 01/22/20 22:49

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	%	%		%			%	%
Chloride	50000	ND	46900	47200	92.2	92.7	1	80.0-120			0.588	15
Fluoride	5000	445	5030	5080	91.7	92.7	1	80.0-120			0.989	15

Method Blank (MB)

(MB) R3493571-1 01/23/20 14:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3493571-2 01/23/20 14:41 • (LCSD) R3493571-3 01/23/20 14:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium	10000	9550	9860	95.5	98.6	80.0-120			3.16	20

L1180954-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180954-07 01/23/20 14:47 • (MS) R3493571-5 01/23/20 14:52 • (MSD) R3493571-6 01/23/20 14:54

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	55400	64000	64000	85.4	86.3	1	75.0-125			0.145	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.
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
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

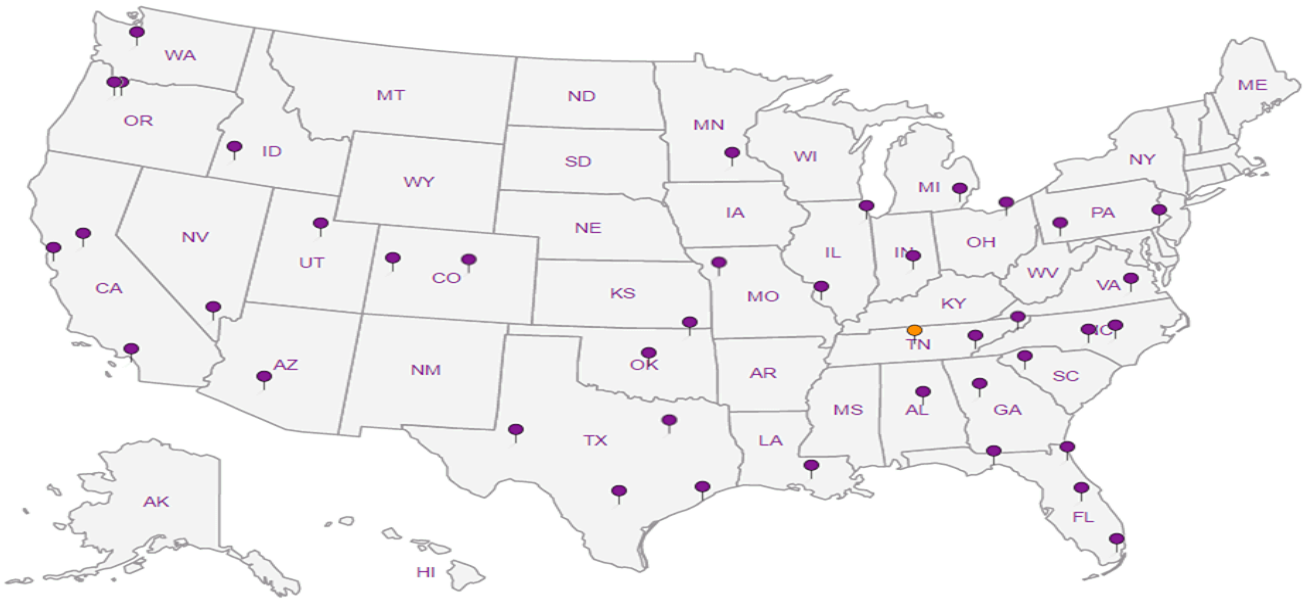
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 2

SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

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

Report to: Jason Franks

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: Evergy Iatan Generating Statio

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

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

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1	GRAB	GW	—	1/15/2020	1405	1				X		-01
MW-2		GW	—		1330	1				X		02
MW-9		GW	—		1450	1			X			03
DUPLICATE 1		GW	—		1450	1			X			04
MW-9 MS/MSD		GW	—		1450	1			X			-05
MW-10		GW	—		1250	1				X	-05	-06
MW-101		GW	—	1/10/2020	1100	1			X		-06	-07
MW-104		GW	—		1150	1	X				-07	-08
DUPLICATE 2		GW	—		1150	1	X				-08	-09
MW-104 MS/MSD		GW	—		1150	1	X					-10

* 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 SWA

Tracking #

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1180954

M165

Template: T136056
Prelogin: P750295
PM: 206 - Jeff Carr
PB:
Shipped Via:

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)
	1/16/20	1521	
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: 1.9+0.2=2.1 °C Bottles Received: 12

Date: 1-18-20 Time: 800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Report to: Jason Franks

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: Evergy Iatan Generating Statio

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON K. FRANKS

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Site/Facility ID #

P.O. #

Quote #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-105	GRAB	GW	-	1/16/2020	1250	1		X			-09	-11
MW-107	"	GW	-	↓	1345	1		X			-10	-12

Analysis / Container / Preservative

Pres Chk

Chain of Custody Page 2 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1180954

Table #

Acctnum: AQUAOPKS

Template: T136056

Prelogin: P750295

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 SHA

Tracking #

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
	1/16/20	1521			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.9+0.2=2.1 °C Bottles Received: 2	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1-18-20 Time: 800	Hold: / Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 24, 2020

SCS Engineers - KS

Sample Delivery Group:	L1180951
Samples Received:	01/18/2020
Project Number:	27213167.19
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-1 L1180951-01 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 14:05 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 14:49	01/21/20 14:49	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	1	01/22/20 22:33	01/22/20 22:33	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:28	EL	Mt. Juliet, TN

MW-2 L1180951-02 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 13:30 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 14:58	01/21/20 14:58	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	1	01/22/20 23:26	01/22/20 23:26	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	5	01/23/20 05:41	01/23/20 05:41	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:31	EL	Mt. Juliet, TN

MW-9 L1180951-03 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 14:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 15:16	01/21/20 15:16	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	1	01/22/20 23:39	01/22/20 23:39	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:34	EL	Mt. Juliet, TN

MW-10 L1180951-04 GW

Collected by: Jason R Franks | Collected date/time: 01/15/20 12:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 15:24	01/21/20 15:24	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	1	01/22/20 23:52	01/22/20 23:52	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:36	EL	Mt. Juliet, TN

MW-101 L1180951-05 GW

Collected by: Jason R Franks | Collected date/time: 01/16/20 11:00 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 15:32	01/21/20 15:32	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	1	01/23/20 00:05	01/23/20 00:05	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:44	EL	Mt. Juliet, TN

MW-104 L1180951-06 GW

Collected by: Jason R Franks | Collected date/time: 01/16/20 11:50 | Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 15:49	01/21/20 15:49	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	5	01/23/20 05:54	01/23/20 05:54	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:47	EL	Mt. Juliet, TN

MW-105 L1180951-07 GW

Collected by: Jason R Franks
Collected date/time: 01/16/20 12:50
Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 15:57	01/21/20 15:57	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	5	01/23/20 06:08	01/23/20 06:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:50	EL	Mt. Juliet, TN

MW-107 L1180951-08 GW

Collected by: Jason R Franks
Collected date/time: 01/16/20 13:45
Received date/time: 01/18/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1414276	1	01/21/20 16:05	01/21/20 16:05	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1415117	5	01/23/20 06:21	01/23/20 06:21	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1414408	1	01/22/20 09:57	01/23/20 15:52	EL	Mt. Juliet, TN

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

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	406000		20000	1	01/21/2020 14:49	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 14:49	WG1414276

Sample Narrative:

L1180951-01 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5320		1000	1	01/22/2020 22:33	WG1415117
Sulfate	27300		5000	1	01/22/2020 22:33	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	129000		1000	1	01/23/2020 15:28	WG1414408
Magnesium	26700		1000	1	01/23/2020 15:28	WG1414408
Potassium	6170		1000	1	01/23/2020 15:28	WG1414408
Sodium	11600		1000	1	01/23/2020 15:28	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	427000		20000	1	01/21/2020 14:58	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 14:58	WG1414276

Sample Narrative:

L1180951-02 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6840		1000	1	01/22/2020 23:26	WG1415117
Sulfate	125000		25000	5	01/23/2020 05:41	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	165000		1000	1	01/23/2020 15:31	WG1414408
Magnesium	33800		1000	1	01/23/2020 15:31	WG1414408
Potassium	5710		1000	1	01/23/2020 15:31	WG1414408
Sodium	12400		1000	1	01/23/2020 15:31	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	350000		20000	1	01/21/2020 15:16	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 15:16	WG1414276

Sample Narrative:

L1180951-03 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	23400		5000	1	01/22/2020 23:39	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	104000		1000	1	01/23/2020 15:34	WG1414408
Magnesium	28400		1000	1	01/23/2020 15:34	WG1414408
Potassium	4940		1000	1	01/23/2020 15:34	WG1414408
Sodium	6440		1000	1	01/23/2020 15:34	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	496000		20000	1	01/21/2020 15:24	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 15:24	WG1414276

Sample Narrative:

L1180951-04 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	18100		1000	1	01/22/2020 23:52	WG1415117
Sulfate	28500		5000	1	01/22/2020 23:52	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	134000		1000	1	01/23/2020 15:36	WG1414408
Magnesium	52800		1000	1	01/23/2020 15:36	WG1414408
Potassium	4390		1000	1	01/23/2020 15:36	WG1414408
Sodium	7650		1000	1	01/23/2020 15:36	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	513000		20000	1	01/21/2020 15:32	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 15:32	WG1414276

Sample Narrative:

L1180951-05 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	ND		5000	1	01/23/2020 00:05	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	131000		1000	1	01/23/2020 15:44	WG1414408
Magnesium	33900		1000	1	01/23/2020 15:44	WG1414408
Potassium	5540		1000	1	01/23/2020 15:44	WG1414408
Sodium	36600		1000	1	01/23/2020 15:44	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	178000		20000	1	01/21/2020 15:49	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 15:49	WG1414276

Sample Narrative:

L1180951-06 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	23500		5000	5	01/23/2020 05:54	WG1415117
Sulfate	145000		25000	5	01/23/2020 05:54	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Magnesium	11600		1000	1	01/23/2020 15:47	WG1414408
Potassium	3680		1000	1	01/23/2020 15:47	WG1414408
Sodium	78000		1000	1	01/23/2020 15:47	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	226000		20000	1	01/21/2020 15:57	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 15:57	WG1414276

Sample Narrative:

L1180951-07 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	308000		25000	5	01/23/2020 06:08	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	77900		1000	1	01/23/2020 15:50	WG1414408
Magnesium	18100		1000	1	01/23/2020 15:50	WG1414408
Potassium	4530		1000	1	01/23/2020 15:50	WG1414408
Sodium	130000		1000	1	01/23/2020 15:50	WG1414408

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	154000		20000	1	01/21/2020 16:05	WG1414276
Alkalinity,Carbonate	ND		20000	1	01/21/2020 16:05	WG1414276

Sample Narrative:

L1180951-08 WG1414276: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	206000		25000	5	01/23/2020 06:21	WG1415117

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	38300		1000	1	01/23/2020 15:52	WG1414408
Magnesium	7690		1000	1	01/23/2020 15:52	WG1414408
Potassium	5810		1000	1	01/23/2020 15:52	WG1414408
Sodium	122000		1000	1	01/23/2020 15:52	WG1414408

Method Blank (MB)

(MB) R3492737-1 01/21/20 13:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity,Bicarbonate	3930	J	2710	20000
Alkalinity,Carbonate	U		2710	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1180372-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1180372-01 01/21/20 13:52 • (DUP) R3492737-2 01/21/20 14:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	108000	108000	1	0.0384		20
Alkalinity,Carbonate	ND	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L1180951-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1180951-05 01/21/20 15:32 • (DUP) R3492737-4 01/21/20 15:40

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	513000	514000	1	0.209		20
Alkalinity,Carbonate	ND	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3493466-1 01/22/20 19:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	418	J	51.9	1000
Sulfate	564	J	77.4	5000

L1180951-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1180951-01 01/22/20 22:33 • (DUP) R3493466-3 01/22/20 22:47

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5320	5210	1	2.19		15
Sulfate	27300	27000	1	1.21		15

L1181246-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1181246-01 01/23/20 04:36 • (DUP) R3493466-6 01/23/20 04:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	68300	69900	1	2.38		15
Sulfate	23200	23900	1	3.34		15

Laboratory Control Sample (LCS)

(LCS) R3493466-2 01/22/20 20:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39700	99.3	80.0-120	
Sulfate	40000	40100	100	80.0-120	

L1180951-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180951-01 01/22/20 22:33 • (MS) R3493466-4 01/22/20 23:00 • (MSD) R3493466-5 01/22/20 23:13

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	5320	58300	58100	106	105	1	80.0-120			0.346	15
Sulfate	50000	27300	80300	80100	106	106	1	80.0-120			0.244	15

L1181246-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1181246-01 01/23/20 04:36 • (MS) R3493466-7 01/23/20 05:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	68300	116000	96.3	1	80.0-120	E
Sulfate	50000	23200	75400	105	1	80.0-120	

Method Blank (MB)

(MB) R3493571-1 01/23/20 14:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		46.3	1000
Magnesium	45.8	J	11.1	1000
Potassium	U		102	1000
Sodium	U		98.5	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3493571-2 01/23/20 14:41 • (LCSD) R3493571-3 01/23/20 14:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium	10000	9550	9860	95.5	98.6	80.0-120			3.16	20
Magnesium	10000	9390	9690	93.9	96.9	80.0-120			3.12	20
Potassium	10000	9100	9340	91.0	93.4	80.0-120			2.67	20
Sodium	10000	9610	9930	96.1	99.3	80.0-120			3.24	20

L1180954-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180954-07 01/23/20 14:47 • (MS) R3493571-5 01/23/20 14:52 • (MSD) R3493571-6 01/23/20 14:54

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	55400	64000	64000	85.4	86.3	1	75.0-125			0.145	20
Magnesium	10000	11500	20800	20800	92.4	92.7	1	75.0-125			0.141	20
Potassium	10000	3680	13100	13000	94.0	93.0	1	75.0-125			0.821	20
Sodium	10000	78000	85800	85800	77.9	78.3	1	75.0-125			0.0424	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.
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).
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

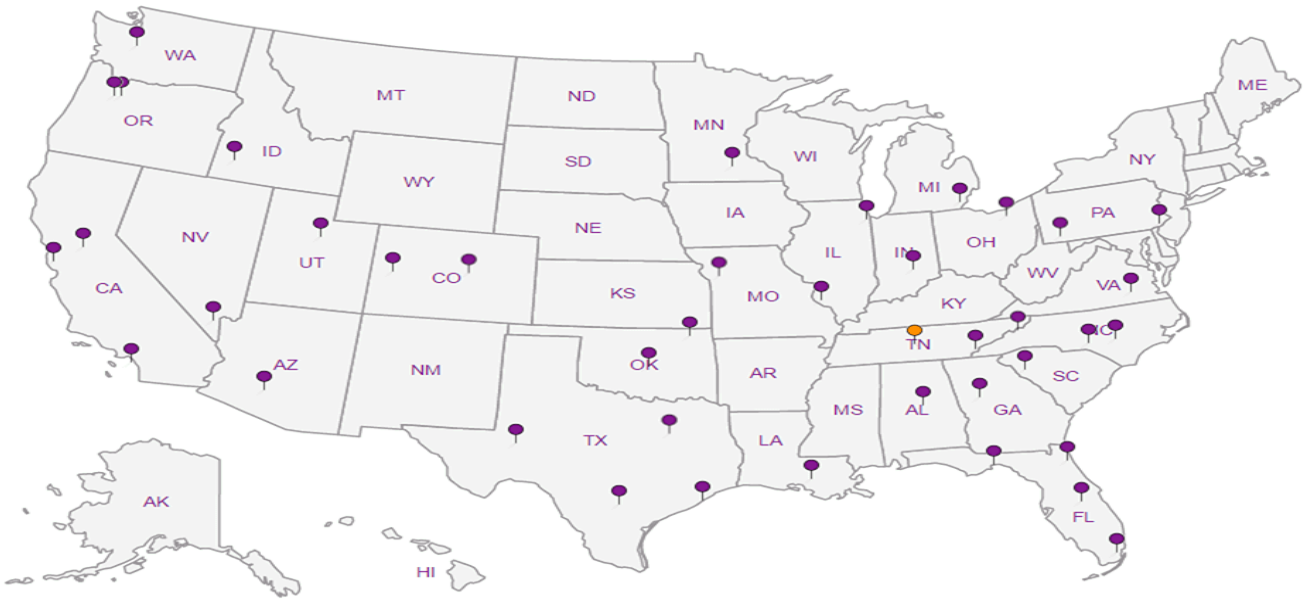
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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@kcpl.com;

Project Description: Evergy Iatan Generating Statio

City/State Collected: WESTON/MO

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON B. FRANKS

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

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	K, Mg, Na - 6010 250mlHDPE-HNO3	SO4 - 9056 125mlHDPE-NoPres	SO4, Chloride - 9056 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1	GRAB	GW	—	1/15/2020	1405	3	X	X			X		-01
MW-2		GW	—		1330	3	X	X			X		02
MW-9		GW	—		1450	3	X	X		X			03
MW-10		GW	—		1250	3	X	X			X		04
MW-101		GW	—	1/16/2020	1100	3	X	X		X			05
MW-104		GW	—		1150	3	X		X		X		06
MW-105		GW	—		1250	3	X	X		X			07
MW-107		GW	—		1345	3	X	X		X			08

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1180951

Ta M164

Acc AQUAOPKS

Template: T152879

Prelogin: P750293

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 SWA

Tracking #

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
	1/16/2020	1521			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 1.9 1.0.2 2.1 24	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1-18-20 Time: 800	Hold: Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-2

February 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 10, 2020

SCS Engineers - KS

Sample Delivery Group:	L1186248
Samples Received:	02/05/2020
Project Number:	27213167.19
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-1 L1186248-01 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 10:00 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 05:48	02/06/20 05:48	ELN	Mt. Juliet, TN

DUPLICATE 1 L1186248-02 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 10:00 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 06:31	02/06/20 06:31	ELN	Mt. Juliet, TN

MW-104 L1186248-03 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 10:05 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1423537	1	02/06/20 17:16	02/07/20 11:39	TRB	Mt. Juliet, TN

DUPLICATE 2 L1186248-04 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 10:05 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1423537	1	02/06/20 17:16	02/07/20 11:54	TRB	Mt. Juliet, TN

MW-105 L1186248-05 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 10:40 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 06:46	02/06/20 06:46	ELN	Mt. Juliet, TN

MW-107 L1186248-06 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 11:05 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 07:00	02/06/20 07:00	ELN	Mt. Juliet, TN

DUPLICATE 3 L1186248-07 GW

Collected by: Jason R. Franks | Collected date/time: 02/04/20 11:05 | Received date/time: 02/05/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 08:12	02/06/20 08:12	ELN	Mt. Juliet, TN

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	329		100	1	02/06/2020 05:48	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	331		100	1	02/06/2020 06:31	WG1423103

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	51300	V	1000	1	02/07/2020 11:39	WG1423537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	50800		1000	1	02/07/2020 11:54	WG1423537

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20900		1000	1	02/06/2020 06:46	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	27500		1000	1	02/06/2020 07:00	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	27400		1000	1	02/06/2020 08:12	WG1423103

Method Blank (MB)

(MB) R3497541-1 02/05/20 22:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100

L1186180-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1186180-01 02/05/20 23:34 • (DUP) R3497541-3 02/05/20 23:48

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11400	11300	1	0.369		15
Fluoride	744	745	1	0.188		15

L1186330-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1186330-01 02/06/20 09:24 • (DUP) R3497541-18 02/06/20 09:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11400	11400	1	0.176		15
Fluoride	845	852	1	0.837		15

Laboratory Control Sample (LCS)

(LCS) R3497541-2 02/05/20 23:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39700	99.3	80.0-120	
Fluoride	8000	8070	101	80.0-120	

L1186188-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186188-01 02/06/20 00:02 • (MS) R3497541-4 02/06/20 00:17 • (MSD) R3497541-5 02/06/20 00:31

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	6360	51200	51300	89.6	89.9	1	80.0-120			0.334	15
Fluoride	5000	323	4730	4780	88.1	89.1	1	80.0-120			0.981	15

L1186188-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186188-03 02/06/20 01:00 • (MS) R3497541-6 02/06/20 01:14 • (MSD) R3497541-7 02/06/20 01:58

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	20300	65700	66100	90.7	91.5	1	80.0-120			0.595	15
Fluoride	5000	337	4800	4890	89.2	91.0	1	80.0-120			1.82	15

L1186193-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186193-01 02/06/20 02:26 • (MS) R3497541-8 02/06/20 02:41 • (MSD) R3497541-9 02/06/20 02:55

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	59800	103000	104000	86.4	88.5	1	80.0-120	E	E	1.02	15
Fluoride	5000	209	4350	4470	82.8	85.3	1	80.0-120			2.83	15

L1186202-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186202-01 02/06/20 03:24 • (MS) R3497541-10 02/06/20 03:38 • (MSD) R3497541-11 02/06/20 03:53

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	227000	261000	261000	68.4	68.6	1	80.0-120	E V	E V	0.0293	15
Fluoride	5000	1050	5500	5530	89.0	89.6	1	80.0-120			0.493	15

L1186202-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186202-03 02/06/20 04:51 • (MS) R3497541-12 02/06/20 05:05 • (MSD) R3497541-13 02/06/20 05:19

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	25300	71900	72400	93.3	94.2	1	80.0-120			0.642	15
Fluoride	5000	130	4630	4690	90.1	91.2	1	80.0-120			1.17	15

L1186248-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186248-01 02/06/20 05:48 • (MS) R3497541-14 02/06/20 06:03 • (MSD) R3497541-15 02/06/20 06:17

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	5610	51800	52200	92.4	93.3	1	80.0-120			0.805	15
Fluoride	5000	329	4880	4940	90.9	92.1	1	80.0-120			1.24	15

L1186248-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186248-06 02/06/20 07:00 • (MS) R3497541-16 02/06/20 07:43 • (MSD) R3497541-17 02/06/20 07:58

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	27500	72500	72700	89.9	90.5	1	80.0-120			0.373	15
Fluoride	5000	792	5410	5420	92.3	92.6	1	80.0-120			0.272	15

Method Blank (MB)

(MB) R3497928-1 02/07/20 11:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		46.3	1000

Laboratory Control Sample (LCS)

(LCS) R3497928-2 02/07/20 11:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	9810	98.1	80.0-120	

L1186248-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1186248-03 02/07/20 11:39 • (MS) R3497928-4 02/07/20 11:44 • (MSD) R3497928-5 02/07/20 11:46

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	51300	57900	57800	65.5	64.5	1	75.0-125	V	V	0.171	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.
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).
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

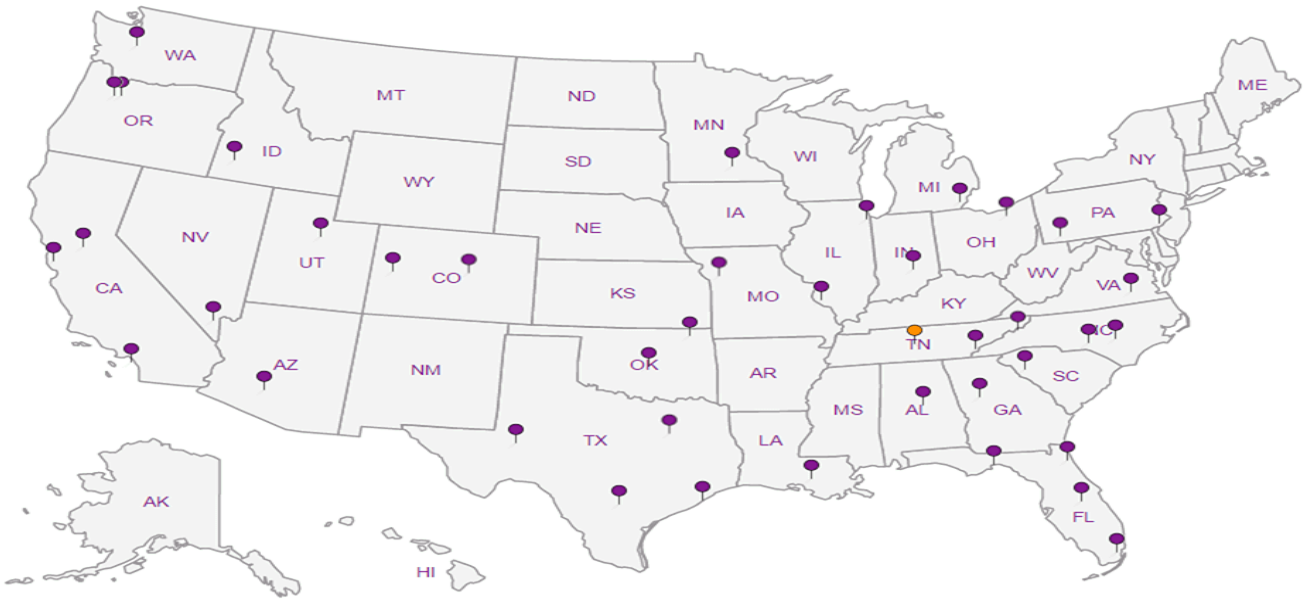
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Report to: Jason Franks

Email To: jfranks@scsengineers.com; jay.martin@kcpl.com;

Project Description: Evergy Iatan Generating Statio

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030
Fax: 913-681-0012

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

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

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1186248

Table #

Acctnum: AQUAOPKS

Template: T136056

Prelogin: P753038

PM: 206 - Jeff Carr

PB:

Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Calcium 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1	GRAB	GW		02/4/20	1000	1				X		-01
MW-1 MS/MSD		GW			1000	1				X		01
DUPLICATE 1		GW			1005	1				X		02
MW-104		GW			1005	1		X				03
MW-104 MS/MSD		GW			1005	1		X				03
DUPLICATE 2		GW			1005	1		X				04
MW-105		GW			1040	1			X			05
MW-107		GW			1105	1			X			06
MW-107 MS/MSD		GW			1105	1			X			06
DUPLICATE 3		GW			1105	1			X			07

* 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 SWA

Tracking #

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

	Date:	Time:		
Relinquished by : (Signature)	02/4/20	1235	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	2/4/20	1850	Received by: (Signature) FedEx	Temp: 4.3 °C Bottles Received: 10
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2-5-20 Time: 800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-3

May 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 31, 2020

SCS Engineers - KS

Sample Delivery Group:	L1221447
Samples Received:	05/22/2020
Project Number:	27213167.19
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-1 L1221447-01 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 09:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/29/20 11:57	05/29/20 11:57	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:11	TRB	Mt. Juliet, TN

MW-2 L1221447-02 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/28/20 22:30	05/28/20 22:30	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	5	05/28/20 22:41	05/28/20 22:41	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:13	TRB	Mt. Juliet, TN

MW-6 L1221447-03 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 09:40 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/28/20 22:52	05/28/20 22:52	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:16	TRB	Mt. Juliet, TN

MW-7 L1221447-04 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:30 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/28/20 23:03	05/28/20 23:03	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 11:21	TRB	Mt. Juliet, TN

MW-8 L1221447-05 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 12:00 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/28/20 23:46	05/28/20 23:46	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:19	TRB	Mt. Juliet, TN

DUPLICATE L1221447-06 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:35 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1482636	1	05/27/20 18:24	05/27/20 23:25	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/29/20 00:19	05/29/20 00:19	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:21	TRB	Mt. Juliet, TN

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	507000		10000	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5600		1000	1	05/29/2020 11:57	WG1482574
Fluoride	240		150	1	05/29/2020 11:57	WG1482574
Sulfate	27600		5000	1	05/29/2020 11:57	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 12:11	WG1481517
Calcium	131000		1000	1	05/29/2020 12:11	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	659000		13300	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7280		1000	1	05/28/2020 22:30	WG1482574
Fluoride	286		150	1	05/28/2020 22:30	WG1482574
Sulfate	126000		25000	5	05/28/2020 22:41	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 12:13	WG1481517
Calcium	164000		1000	1	05/29/2020 12:13	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	491000		10000	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1550		1000	1	05/28/2020 22:52	WG1482574
Fluoride	264		150	1	05/28/2020 22:52	WG1482574
Sulfate	20400		5000	1	05/28/2020 22:52	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 12:16	WG1481517
Calcium	138000		1000	1	05/29/2020 12:16	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	525000		10000	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8490		1000	1	05/28/2020 23:03	WG1482574
Fluoride	291		150	1	05/28/2020 23:03	WG1482574
Sulfate	54400		5000	1	05/28/2020 23:03	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 11:21	WG1481517
Calcium	140000		1000	1	05/29/2020 11:21	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	516000		10000	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4890		1000	1	05/28/2020 23:46	WG1482574
Fluoride	336		150	1	05/28/2020 23:46	WG1482574
Sulfate	45000		5000	1	05/28/2020 23:46	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 12:19	WG1481517
Calcium	144000		1000	1	05/29/2020 12:19	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	524000		10000	1	05/27/2020 23:25	WG1482636

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8590		1000	1	05/29/2020 00:19	WG1482574
Fluoride	291		150	1	05/29/2020 00:19	WG1482574
Sulfate	54500		5000	1	05/29/2020 00:19	WG1482574

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/29/2020 12:21	WG1481517
Calcium	142000		1000	1	05/29/2020 12:21	WG1481517

Method Blank (MB)

(MB) R3533284-1 05/27/20 23:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1221447-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1221447-06 05/27/20 23:25 • (DUP) R3533284-3 05/27/20 23:25

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	524000	522000	1	0.382		5

Laboratory Control Sample (LCS)

(LCS) R3533284-2 05/27/20 23:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8620000	98.0	85.0-115	

Method Blank (MB)

(MB) R3533055-1 05/28/20 19:37

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

L1221751-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221751-01 05/29/20 01:46 • (DUP) R3533055-7 05/29/20 01:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	85900	84800	1	1.31		15
Fluoride	ND	ND	1	0.696		15
Sulfate	10100	10000	1	1.15		15

L1221447-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221447-03 05/28/20 22:52 • (DUP) R3533055-9 05/29/20 11:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1550	1500	1	2.85		15
Fluoride	264	278	1	5.35		15
Sulfate	20400	20300	1	0.228		15

Laboratory Control Sample (LCS)

(LCS) R3533055-2 05/28/20 19:47

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	8350	104	80.0-120	
Sulfate	40000	38900	97.1	80.0-120	

L1221288-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1221288-01 05/28/20 20:42 • (MS) R3533055-4 05/28/20 20:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	1360	52300	102	1	80.0-120	
Fluoride	5000	185	5470	106	1	80.0-120	
Sulfate	50000	16100	65400	98.7	1	80.0-120	

L1221447-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221447-04 05/28/20 23:03 • (MS) R3533055-5 05/28/20 23:14 • (MSD) R3533055-6 05/28/20 23:25

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	8490	58600	59000	100	101	1	80.0-120			0.714	15
Fluoride	5000	291	5310	5340	100	101	1	80.0-120			0.421	15
Sulfate	50000	54400	99300	101000	89.7	92.9	1	80.0-120		E	1.56	15

Method Blank (MB)

(MB) R3533271-1 05/29/20 11:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200
Calcium	U		389	1000

Laboratory Control Sample (LCS)

(LCS) R3533271-2 05/29/20 11:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	956	95.6	80.0-120	
Calcium	10000	9590	95.9	80.0-120	

L1221445-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221445-09 05/29/20 11:11 • (MS) R3533271-4 05/29/20 11:16 • (MSD) R3533271-5 05/29/20 11:19

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	3960	4820	4860	86.4	90.4	1	75.0-125			0.829	20
Calcium	10000	43300	51300	51600	79.8	83.4	1	75.0-125			0.688	20

L1221447-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221447-04 05/29/20 11:21 • (MS) R3533271-6 05/29/20 11:24 • (MSD) R3533271-7 05/29/20 11:26

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 %
Boron	1000	ND	1050	1070	95.2	97.0	1	75.0-125			1.71	20
Calcium	10000	140000	148000	149000	83.1	89.5	1	75.0-125			0.430	20

Guide to Reading and Understanding Your Laboratory Report

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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.
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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).

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
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* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

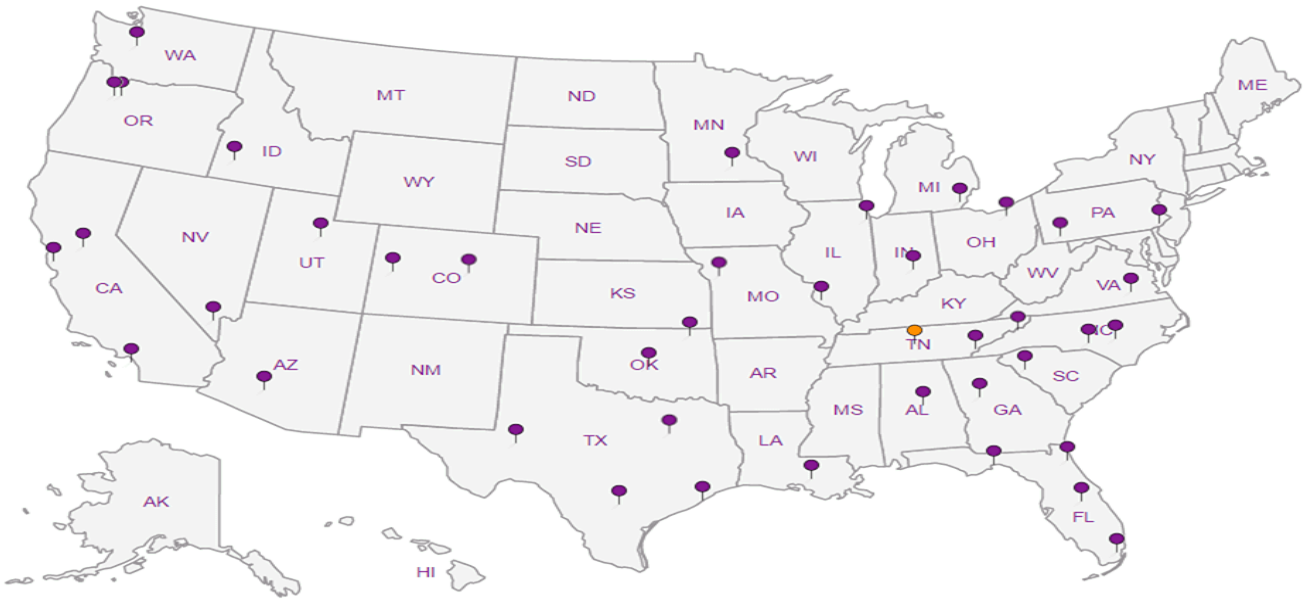
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Chain of Custody

Page 1 of 1

SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

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

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Jason Franks
Email To: jfranks@scsengineers.com;jay.martin@evergy.c

Project Description: Evergy - Iatan Generating Station
City/State Collected: Weston MO
Please Circle: PT MT CT ET

Phone: 913-681-0030
Client Project # 27213167.19
Lab Project # AQUAOPKS-IATAN
SDG # 122147
G010

Collected by (print): Jason R. Franks
Site/Facility ID #
P.O. #
Acctnum: AQUAOPKS

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
Template: T136059
Prelogin: P769374
PM: 206 - Jeff Carr
PB:
Shipped Via:

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)
MW-1	GRAB	GW	—	5/20/20	0955	3	X	X	X		-01
MW-2		GW	—		1055	3	X	X	X		02
MW-6		GW	—		0940	3	X	X	X		03
MW-7		GW	—		1030	3	X	X	X		04
MW-8		GW	—		1200	3	X	X	X		05
DUPLICATE		GW	—		1035	3	X	X	X		06
MW-7 MS / MSD		GW	—		1040	3	X	X	X		07

* 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 #

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
Jason R. Franks	5/21/20	1300		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				4.1=0=4.6 21
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Carol Kemp	5/22/20 9:10

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 31, 2020

SCS Engineers - KS

Sample Delivery Group:	L1221408
Samples Received:	05/22/2020
Project Number:	27213167.19
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 L1221408-01 GW

Collected by: Jason R. Franks
Collected date/time: 05/20/20 12:30
Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1481644	1	05/24/20 11:02	05/24/20 13:06	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482430	1	05/27/20 03:35	05/27/20 03:35	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:21	EL	Mt. Juliet, TN

MW-10 L1221408-02 GW

Collected by: Jason R. Franks
Collected date/time: 05/20/20 13:50
Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1481935	1	05/26/20 11:00	05/26/20 12:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482430	1	05/27/20 03:50	05/27/20 03:50	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:23	EL	Mt. Juliet, TN

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	385000		10000	1	05/24/2020 13:06	WG1481644

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	05/27/2020 03:35	WG1482430
Fluoride	389		150	1	05/27/2020 03:35	WG1482430
Sulfate	20700		5000	1	05/27/2020 03:35	WG1482430

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/28/2020 20:21	WG1481516
Calcium	105000		1000	1	05/28/2020 20:21	WG1481516

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	585000		13300	1	05/26/2020 12:23	WG1481935

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	16400		1000	1	05/27/2020 03:50	WG1482430
Fluoride	517		150	1	05/27/2020 03:50	WG1482430
Sulfate	43100		5000	1	05/27/2020 03:50	WG1482430

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	05/28/2020 20:23	WG1481516
Calcium	150000		1000	1	05/28/2020 20:23	WG1481516

Method Blank (MB)

(MB) R3531804-1 05/24/20 13:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

Laboratory Control Sample (LCS)

(LCS) R3531804-2 05/24/20 13:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	7740000	88.0	85.0-115	

Method Blank (MB)

(MB) R3532683-1 05/26/20 12:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

Laboratory Control Sample (LCS)

(LCS) R3532683-2 05/26/20 12:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8340000	94.8	85.0-115	

Method Blank (MB)

(MB) R3532165-1 05/26/20 22:11

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

L1221322-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221322-01 05/27/20 02:51 • (DUP) R3532165-3 05/27/20 03:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	19800	19700	1	0.150		15
Fluoride	506	508	1	0.335		15
Sulfate	10300	10300	1	0.116		15

L1221445-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221445-04 05/27/20 06:50 • (DUP) R3532165-5 05/27/20 07:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	24100	24100	1	0.0328		15
Fluoride	539	548	1	1.53		15

L1221445-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221445-04 05/27/20 11:33 • (DUP) R3532165-8 05/27/20 11:48

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	139000	139000	5	0.299		15

Laboratory Control Sample (LCS)

(LCS) R3532165-2 05/26/20 22:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39600	98.9	80.0-120	
Fluoride	8000	8260	103	80.0-120	
Sulfate	40000	38700	96.7	80.0-120	

L1221322-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1221322-01 05/27/20 02:51 • (MS) R3532165-4 05/27/20 03:20

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	19800	72600	106	1	80.0-120	
Fluoride	5000	506	5580	102	1	80.0-120	
Sulfate	50000	10300	62000	103	1	80.0-120	

L1221445-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221445-09 05/27/20 09:19 • (MS) R3532165-6 05/27/20 09:34 • (MSD) R3532165-7 05/27/20 09:49

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	29400	76900	77400	94.9	96.0	1	80.0-120			0.676	15
Fluoride	5000	583	5250	5320	93.4	94.8	1	80.0-120			1.33	15

Method Blank (MB)

(MB) R3532814-1 05/28/20 19:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200
Calcium	U		389	1000

Laboratory Control Sample (LCS)

(LCS) R3532814-2 05/28/20 19:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	926	92.6	80.0-120	
Calcium	10000	9550	95.5	80.0-120	

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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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
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State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

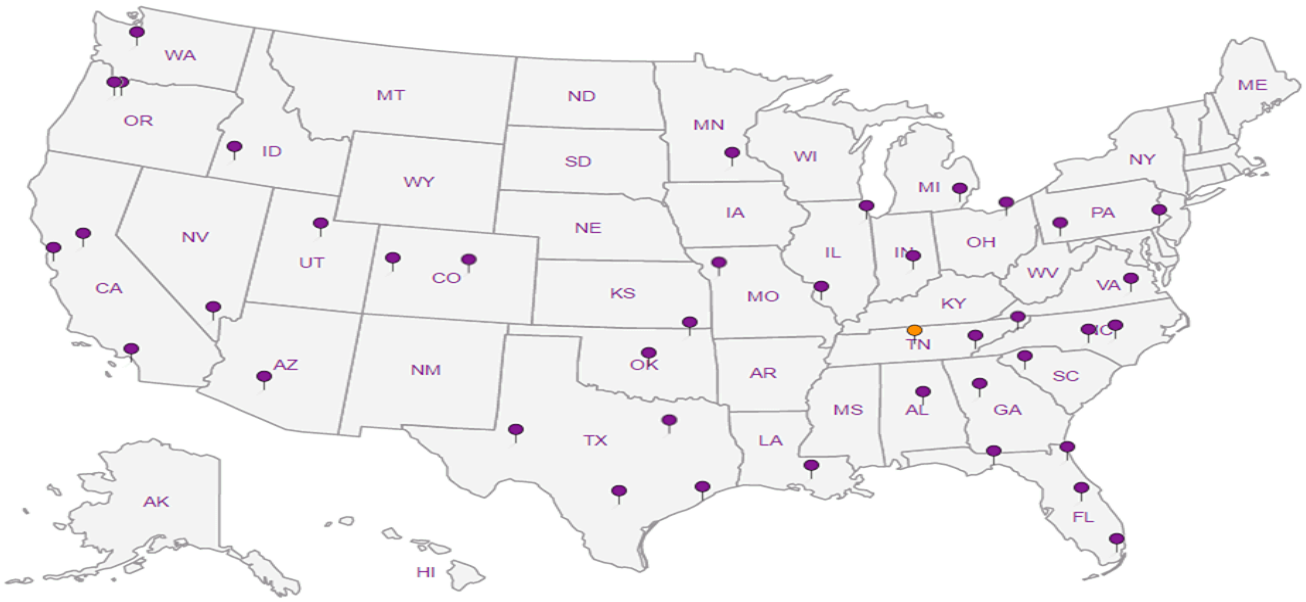
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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 Generating Station

City/State Collected: WESTON MO

Please Circle: PT MT (CT) ET

Phone: 913-681-0030

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature): Jason R. Franks

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

No. of Cntrs

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)
MW-9	GRAB	GW	-	5/20/20	1230	3	X	X	X		-01
MW-10	↓	GW	-	↓	1350	3	X	X	X		02

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1221408

G005

Acctnum: AQUAOPKS
Template: T166691
Prelogin: P769391
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 #

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
Jason R. Franks	5/21/20	1300	5/21/20 1300	
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) Carol Kemp	Date: 5/22/20 Time: 9:00

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 10, 2020

Revised Report

SCS Engineers - KS

Sample Delivery Group:	L1221510
Samples Received:	05/22/2020
Project Number:	27213167.19
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-3 L1221510-01 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 11:35 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481517	1	05/29/20 12:24	05/29/20 12:24	TRB	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1481381	1	05/23/20 14:05	05/23/20 14:57	TH	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:44	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 14:47	05/27/20 14:47	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/29/20 00:41	05/29/20 00:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 02:13	05/28/20 02:13	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:52	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 12:24	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:19	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 09:36	JPD	Mt. Juliet, TN

MW-4 L1221510-02 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 12:35 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:12	05/29/20 00:12	TRB	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1481381	1	05/23/20 14:05	05/23/20 14:57	TH	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:44	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 15:29	05/27/20 15:29	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/29/20 00:52	05/29/20 00:52	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 02:34	05/28/20 02:34	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:54	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:12	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:22	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 09:39	JPD	Mt. Juliet, TN

MW-5 L1221510-03 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:20 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:15	05/29/20 00:15	TRB	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1481381	1	05/23/20 14:05	05/23/20 14:57	TH	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:45	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 15:48	05/27/20 15:48	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	1	05/29/20 01:02	05/29/20 01:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1482574	10	05/29/20 01:13	05/29/20 01:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 03:34	05/28/20 03:34	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:56	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:15	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:25	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 09:56	JPD	Mt. Juliet, TN

MW-1 L1221510-04 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 09:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:18	05/29/20 00:18	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:45	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 16:09	05/27/20 16:09	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 03:48	05/28/20 03:48	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:57	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:18	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:29	JPD	Mt. Juliet, TN

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

MW-1 L1221510-04 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 09:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 10:00	JPD	Mt. Juliet, TN

MW-2 L1221510-05 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:20	05/29/20 00:20	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:46	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 16:29	05/27/20 16:29	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 05:33	05/28/20 05:33	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:59	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:20	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:39	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 10:03	JPD	Mt. Juliet, TN

MW-6 L1221510-06 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 09:40 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:28	05/29/20 00:28	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:46	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 16:50	05/27/20 16:50	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 05:49	05/28/20 05:49	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 15:01	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:28	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:42	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 10:06	JPD	Mt. Juliet, TN

MW-7 L1221510-07 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 10:30 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:02	05/29/20 00:02	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:47	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482710	1	05/27/20 18:23	05/27/20 18:23	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 06:09	05/28/20 06:09	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 12:29	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:02	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 16:32	LD	Mt. Juliet, TN

MW-8 L1221510-08 GW

Collected by: Jason R. Franks | Collected date/time: 05/20/20 12:00 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:31	05/29/20 00:31	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:49	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 17:44	05/27/20 17:44	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 07:06	05/28/20 07:06	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 15:03	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:31	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481529	1	05/28/20 08:10	05/28/20 11:04	LD	Mt. Juliet, TN

DUPLICATE L1221510-09 GW

Collected by: Jason R. Franks
Collected date/time: 05/20/20 10:35
Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1481518	1	05/29/20 00:34	05/29/20 00:34	JDG	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1483083	1	05/27/20 23:32	05/28/20 03:49	AKA	Mt. Juliet, TN
Wet Chemistry by Method 9020B	WG1482110	1	05/27/20 18:03	05/27/20 18:03	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9060A	WG1482704	1	05/28/20 07:19	05/28/20 07:19	VRP	Mt. Juliet, TN
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 15:05	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481518	1	05/28/20 17:24	05/29/20 00:34	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481529	1	05/28/20 08:10	05/28/20 11:07	LD	Mt. Juliet, TN

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

Report Revision History

Level II Report - Version 1: 06/01/20 09:55

Project Narrative

This report has been revised. Collection dates have been changed to 5/20 and T8 qualifiers have been removed from samples -01,-02 and -03.

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	619000		2500	1	05/29/2020 12:24	WG1481517

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	591000		13300	1	05/23/2020 14:57	WG1481381

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	21500		20000	1	05/28/2020 03:44	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 14:47	WG1482110

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	11700		1000	1	05/29/2020 00:41	WG1482574
Fluoride	299		150	1	05/29/2020 00:41	WG1482574
Sulfate	75600		5000	1	05/29/2020 00:41	WG1482574

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1800	B	1000	1	05/28/2020 02:13	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 14:52	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 12:24	WG1481517
Barium	297		5.00	1	05/29/2020 12:24	WG1481517
Boron	ND		200	1	05/29/2020 12:24	WG1481517
Calcium	182000		1000	1	05/29/2020 12:24	WG1481517
Chromium	ND		10.0	1	05/29/2020 12:24	WG1481517
Cobalt	ND		10.0	1	05/29/2020 12:24	WG1481517
Iron	2950		100	1	05/29/2020 12:24	WG1481517
Magnesium	40100		1000	1	05/29/2020 12:24	WG1481517
Manganese	587		10.0	1	05/29/2020 12:24	WG1481517
Nickel	ND		10.0	1	05/29/2020 12:24	WG1481517
Silver	ND		5.00	1	05/29/2020 12:24	WG1481517
Sodium	6550		3000	1	05/29/2020 12:24	WG1481517

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 20:19	WG1481528
Arsenic	9.22		2.00	1	05/28/2020 20:19	WG1481528
Beryllium	ND		2.00	1	05/29/2020 09:36	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:19	WG1481528
Copper	ND		5.00	1	05/28/2020 20:19	WG1481528
Lead	ND		5.00	1	05/28/2020 20:19	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:19	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:19	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:19	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	566000		2500	1	05/29/2020 00:12	WG1481518

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	533000		10000	1	05/23/2020 14:57	WG1481381

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	ND		20000	1	05/28/2020 03:44	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 15:29	WG1482110

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6420		1000	1	05/29/2020 00:52	WG1482574
Fluoride	463		150	1	05/29/2020 00:52	WG1482574
Sulfate	23300		5000	1	05/29/2020 00:52	WG1482574

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	3250		1000	1	05/28/2020 02:34	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 14:54	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:12	WG1481518
Barium	434		5.00	1	05/29/2020 00:12	WG1481518
Boron	ND		200	1	05/29/2020 00:12	WG1481518
Calcium	149000		1000	1	05/29/2020 00:12	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:12	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:12	WG1481518
Iron	6650		100	1	05/29/2020 00:12	WG1481518
Magnesium	47300		1000	1	05/29/2020 00:12	WG1481518
Manganese	1210		10.0	1	05/29/2020 00:12	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:12	WG1481518
Silver	ND		5.00	1	05/29/2020 00:12	WG1481518
Sodium	7280		3000	1	05/29/2020 00:12	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 20:22	WG1481528
Arsenic	58.1		2.00	1	05/28/2020 20:22	WG1481528
Beryllium	ND		2.00	1	05/29/2020 09:39	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:22	WG1481528
Copper	ND		5.00	1	05/28/2020 20:22	WG1481528
Lead	ND		5.00	1	05/28/2020 20:22	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:22	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:22	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:22	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	893000		2500	1	05/29/2020 00:15	WG1481518

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1440000	J3	25000	1	05/23/2020 14:57	WG1481381

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	28400		20000	1	05/28/2020 03:45	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 15:48	WG1482110

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	160000		10000	10	05/29/2020 01:13	WG1482574
Fluoride	318		150	1	05/29/2020 01:02	WG1482574
Sulfate	836000		50000	10	05/29/2020 01:13	WG1482574

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	3100		1000	1	05/28/2020 03:34	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 14:56	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:15	WG1481518
Barium	192		5.00	1	05/29/2020 00:15	WG1481518
Boron	1390		200	1	05/29/2020 00:15	WG1481518
Calcium	265000		1000	1	05/29/2020 00:15	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:15	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:15	WG1481518
Iron	11800		100	1	05/29/2020 00:15	WG1481518
Magnesium	55900		1000	1	05/29/2020 00:15	WG1481518
Manganese	1270		10.0	1	05/29/2020 00:15	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:15	WG1481518
Silver	ND		5.00	1	05/29/2020 00:15	WG1481518
Sodium	159000		3000	1	05/29/2020 00:15	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 20:25	WG1481528
Arsenic	11.5		2.00	1	05/28/2020 20:25	WG1481528
Beryllium	ND		2.00	1	05/29/2020 09:56	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:25	WG1481528
Copper	ND		5.00	1	05/28/2020 20:25	WG1481528
Lead	ND		5.00	1	05/28/2020 20:25	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:25	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:25	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:25	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	448000		2500	1	05/29/2020 00:18	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	ND		20000	1	05/28/2020 03:45	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 16:09	WG1482110

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1790	B	1000	1	05/28/2020 03:48	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 14:57	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:18	WG1481518
Barium	239		5.00	1	05/29/2020 00:18	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:18	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:18	WG1481518
Iron	11000		100	1	05/29/2020 00:18	WG1481518
Magnesium	28500		1000	1	05/29/2020 00:18	WG1481518
Manganese	638		10.0	1	05/29/2020 00:18	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:18	WG1481518
Silver	ND		5.00	1	05/29/2020 00:18	WG1481518
Sodium	11500		3000	1	05/29/2020 00:18	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/28/2020 20:29	WG1481528
Arsenic	13.6		2.00	1	05/28/2020 20:29	WG1481528
Beryllium	ND		2.00	1	05/29/2020 10:00	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:29	WG1481528
Copper	ND		5.00	1	05/28/2020 20:29	WG1481528
Lead	ND		5.00	1	05/28/2020 20:29	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:29	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:29	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:29	WG1481528

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Hardness (calculated) as CaCO3	558000		2500	1	05/29/2020 00:20	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
COD	ND		20000	1	05/28/2020 03:46	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TOX	ND		100	1	05/27/2020 16:29	WG1482110

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TOC (Total Organic Carbon)	1780	B	1000	1	05/28/2020 05:33	WG1482704

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/26/2020 14:59	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Aluminum	ND		200	1	05/29/2020 00:20	WG1481518
Barium	216		5.00	1	05/29/2020 00:20	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:20	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:20	WG1481518
Iron	13000		100	1	05/29/2020 00:20	WG1481518
Magnesium	35300		1000	1	05/29/2020 00:20	WG1481518
Manganese	750		10.0	1	05/29/2020 00:20	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:20	WG1481518
Silver	ND		5.00	1	05/29/2020 00:20	WG1481518
Sodium	12100		3000	1	05/29/2020 00:20	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 20:39	WG1481528
Arsenic	21.9		2.00	1	05/28/2020 20:39	WG1481528
Beryllium	ND		2.00	1	05/29/2020 10:03	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:39	WG1481528
Copper	ND		5.00	1	05/28/2020 20:39	WG1481528
Lead	ND		5.00	1	05/28/2020 20:39	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:39	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:39	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:39	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	473000		2500	1	05/29/2020 00:28	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	25300		20000	1	05/28/2020 03:46	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 16:50	WG1482110

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1920	B	1000	1	05/28/2020 05:49	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 15:01	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:28	WG1481518
Barium	281		5.00	1	05/29/2020 00:28	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:28	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:28	WG1481518
Iron	7500		100	1	05/29/2020 00:28	WG1481518
Magnesium	31000		1000	1	05/29/2020 00:28	WG1481518
Manganese	595		10.0	1	05/29/2020 00:28	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:28	WG1481518
Silver	ND		5.00	1	05/29/2020 00:28	WG1481518
Sodium	6180		3000	1	05/29/2020 00:28	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/28/2020 20:42	WG1481528
Arsenic	21.5		2.00	1	05/28/2020 20:42	WG1481528
Beryllium	ND		2.00	1	05/29/2020 10:06	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:42	WG1481528
Copper	ND		5.00	1	05/28/2020 20:42	WG1481528
Lead	ND		5.00	1	05/28/2020 20:42	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:42	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:42	WG1481528
Zinc	ND		25.0	1	05/28/2020 20:42	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	480000		2500	1	05/29/2020 00:02	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	ND		20000	1	05/28/2020 03:47	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND	J3 J5	100	1	05/27/2020 18:23	WG1482710

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1820	B	1000	1	05/28/2020 06:09	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 12:29	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:02	WG1481518
Barium	223	O1	5.00	1	05/29/2020 00:02	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:02	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:02	WG1481518
Iron	1240		100	1	05/29/2020 00:02	WG1481518
Magnesium	29800	O1	1000	1	05/29/2020 00:02	WG1481518
Manganese	574	O1	10.0	1	05/29/2020 00:02	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:02	WG1481518
Silver	ND		5.00	1	05/29/2020 00:02	WG1481518
Sodium	8090		3000	1	05/29/2020 00:02	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/28/2020 16:32	WG1481528
Arsenic	7.68		2.00	1	05/28/2020 16:32	WG1481528
Beryllium	ND		2.00	1	05/28/2020 16:32	WG1481528
Cadmium	ND		1.00	1	05/28/2020 16:32	WG1481528
Copper	ND		5.00	1	05/28/2020 16:32	WG1481528
Lead	ND		5.00	1	05/28/2020 16:32	WG1481528
Selenium	ND		2.00	1	05/28/2020 16:32	WG1481528
Thallium	ND		2.00	1	05/28/2020 16:32	WG1481528
Zinc	ND		25.0	1	05/28/2020 16:32	WG1481528

Calculated Results

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	480000		2500	1	05/29/2020 00:31	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
COD	ND		20000	1	05/28/2020 03:49	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOX	ND		100	1	05/27/2020 17:44	WG1482110

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1710	B	1000	1	05/28/2020 07:06	WG1482704

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 15:03	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/29/2020 00:31	WG1481518
Barium	217		5.00	1	05/29/2020 00:31	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:31	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:31	WG1481518
Iron	3340		100	1	05/29/2020 00:31	WG1481518
Magnesium	28000		1000	1	05/29/2020 00:31	WG1481518
Manganese	645		10.0	1	05/29/2020 00:31	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:31	WG1481518
Silver	ND		5.00	1	05/29/2020 00:31	WG1481518
Sodium	6510		3000	1	05/29/2020 00:31	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/28/2020 11:04	WG1481529
Arsenic	11.5		2.00	1	05/28/2020 11:04	WG1481529
Beryllium	ND		2.00	1	05/28/2020 11:04	WG1481529
Cadmium	ND		1.00	1	05/28/2020 11:04	WG1481529
Copper	ND		5.00	1	05/28/2020 11:04	WG1481529
Lead	ND		5.00	1	05/28/2020 11:04	WG1481529
Selenium	ND		2.00	1	05/28/2020 11:04	WG1481529
Thallium	ND		2.00	1	05/28/2020 11:04	WG1481529
Zinc	ND		25.0	1	05/28/2020 11:04	WG1481529

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Hardness (calculated) as CaCO3	482000		2500	1	05/29/2020 00:34	WG1481518

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
COD	ND		20000	1	05/28/2020 03:49	WG1483083

Wet Chemistry by Method 9020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TOX	ND		100	1	05/27/2020 18:03	WG1482110

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TOC (Total Organic Carbon)	1800	B	1000	1	05/28/2020 07:19	WG1482704

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/26/2020 15:05	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Aluminum	ND		200	1	05/29/2020 00:34	WG1481518
Barium	223		5.00	1	05/29/2020 00:34	WG1481518
Chromium	ND		10.0	1	05/29/2020 00:34	WG1481518
Cobalt	ND		10.0	1	05/29/2020 00:34	WG1481518
Iron	1250		100	1	05/29/2020 00:34	WG1481518
Magnesium	30000		1000	1	05/29/2020 00:34	WG1481518
Manganese	566		10.0	1	05/29/2020 00:34	WG1481518
Nickel	ND		10.0	1	05/29/2020 00:34	WG1481518
Silver	ND		5.00	1	05/29/2020 00:34	WG1481518
Sodium	8240		3000	1	05/29/2020 00:34	WG1481518

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 11:07	WG1481529
Arsenic	7.34		2.00	1	05/28/2020 11:07	WG1481529
Beryllium	ND		2.00	1	05/28/2020 11:07	WG1481529
Cadmium	ND		1.00	1	05/28/2020 11:07	WG1481529
Copper	ND		5.00	1	05/28/2020 11:07	WG1481529
Lead	ND		5.00	1	05/28/2020 11:07	WG1481529
Selenium	ND		2.00	1	05/28/2020 11:07	WG1481529
Thallium	ND		2.00	1	05/28/2020 11:07	WG1481529
Zinc	ND		25.0	1	05/28/2020 11:07	WG1481529

Method Blank (MB)

(MB) R3531269-1 05/23/20 14:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1221510-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-03 05/23/20 14:57 • (DUP) R3531269-3 05/23/20 14:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1440000	1600000	1	10.7	J3	5

Laboratory Control Sample (LCS)

(LCS) R3531269-2 05/23/20 14:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8390000	95.3	85.0-115	

Method Blank (MB)

(MB) R3532385-1 05/28/20 03:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
COD	U		11700	20000

L1220720-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1220720-03 05/28/20 03:43 • (DUP) R3532385-3 05/28/20 03:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	21500	21100	1	1.67		20

L1221510-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-02 05/28/20 03:44 • (DUP) R3532385-4 05/28/20 03:45

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	ND	22100	1	11.2		20

Laboratory Control Sample (LCS)

(LCS) R3532385-2 05/28/20 03:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	222000	230000	104	90.0-110	

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/28/20 03:47 • (MS) R3532385-5 05/28/20 03:47 • (MSD) R3532385-6 05/28/20 03:47

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 %
COD	400000	ND	424000	423000	102	102	1	80.0-120			0.151	20

Method Blank (MB)

(MB) R3532062-2 05/26/20 13:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOX	U		27.7	100

Method Blank (MB)

(MB) R3532486-2 05/27/20 13:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOX	U		27.7	100

L1221167-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221167-01 05/26/20 16:01 • (DUP) R3532062-3 05/26/20 16:32

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221355-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221355-01 05/26/20 17:02 • (DUP) R3532062-6 05/26/20 17:12

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221355-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1221355-02 05/26/20 17:21 • (DUP) R3532062-7 05/26/20 17:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221355-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221355-03 05/26/20 19:00 • (DUP) R3532062-8 05/26/20 19:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221355-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221355-04 05/26/20 19:24 • (DUP) R3532062-9 05/26/20 19:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221433-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-01 05/26/20 19:44 • (DUP) R3532062-10 05/26/20 19:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221433-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-02 05/26/20 20:03 • (DUP) R3532062-11 05/26/20 20:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	200	P1	20

L1221433-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-03 05/26/20 20:22 • (DUP) R3532062-12 05/26/20 20:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	200	P1	20

L1221433-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-04 05/27/20 13:25 • (DUP) R3532486-3 05/27/20 13:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221433-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-05 05/27/20 13:45 • (DUP) R3532486-4 05/27/20 13:55

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221433-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-06 05/27/20 14:05 • (DUP) R3532486-5 05/27/20 14:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	200	P1	20

L1221433-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1221433-07 05/27/20 14:27 • (DUP) R3532486-6 05/27/20 14:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221510-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-01 05/27/20 14:47 • (DUP) R3532486-7 05/27/20 14:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221510-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-02 05/27/20 15:29 • (DUP) R3532486-8 05/27/20 15:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-03 05/27/20 15:48 • (DUP) R3532486-9 05/27/20 15:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-04 05/27/20 16:09 • (DUP) R3532486-10 05/27/20 16:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-05 05/27/20 16:29 • (DUP) R3532486-11 05/27/20 16:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-06 05/27/20 16:50 • (DUP) R3532486-12 05/27/20 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-08 05/27/20 17:44 • (DUP) R3532486-13 05/27/20 17:54

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

L1221510-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-09 05/27/20 18:03 • (DUP) R3532486-14 05/27/20 18:13

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
TOX	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3532062-1 05/26/20 12:06

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
TOX	200	212	106	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R3532486-1 05/27/20 12:37

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
TOX	200	212	106	85.0-115	

L1221167-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221167-01 05/26/20 16:01 • (MS) R3532062-4 05/26/20 16:42 • (MSD) R3532062-5 05/26/20 16:52

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
TOX	200	ND	212	206	106	103	1	80.0-120			2.78	20

Method Blank (MB)

(MB) R3532485-2 05/27/20 13:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOX	U		27.7	100

L1221510-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-07 05/27/20 18:23 • (DUP) R3532485-3 05/27/20 18:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1219683-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1219683-05 05/27/20 19:58 • (DUP) R3532485-7 05/27/20 20:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

L1221617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221617-01 05/28/20 15:56 • (DUP) R3533100-3 05/28/20 16:07

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOX	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3532485-1 05/27/20 12:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOX	200	212	106	85.0-115	

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/27/20 18:23 • (MS) R3532485-4 05/27/20 18:45 • (MSD) R3532485-5 05/27/20 18:56

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 %
TOX	200	ND	255	193	127	96.5	1	80.0-120	J5	J3	27.6	20

Method Blank (MB)

(MB) R3533055-1 05/28/20 19:37

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

L1221751-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221751-01 05/29/20 01:46 • (DUP) R3533055-7 05/29/20 01:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	85900	84800	1	1.31		15
Fluoride	ND	ND	1	0.696		15
Sulfate	10100	10000	1	1.15		15

L1221447-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1221447-03 05/28/20 22:52 • (DUP) R3533055-9 05/29/20 11:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1550	1500	1	2.85		15
Fluoride	264	278	1	5.35		15
Sulfate	20400	20300	1	0.228		15

Laboratory Control Sample (LCS)

(LCS) R3533055-2 05/28/20 19:47

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	8350	104	80.0-120	
Sulfate	40000	38900	97.1	80.0-120	

L1221288-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1221288-01 05/28/20 20:42 • (MS) R3533055-4 05/28/20 20:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	1360	52300	102	1	80.0-120	
Fluoride	5000	185	5470	106	1	80.0-120	
Sulfate	50000	16100	65400	98.7	1	80.0-120	

L1221447-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221447-04 05/28/20 23:03 • (MS) R3533055-5 05/28/20 23:14 • (MSD) R3533055-6 05/28/20 23:25

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	8490	58600	59000	100	101	1	80.0-120			0.714	15
Fluoride	5000	291	5310	5340	100	101	1	80.0-120			0.421	15
Sulfate	50000	54400	99300	101000	89.7	92.9	1	80.0-120		E	1.56	15

Method Blank (MB)

(MB) R3532634-1 05/27/20 20:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOC (Total Organic Carbon)	242	J	102	1000

L1221488-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1221488-22 05/27/20 23:38 • (DUP) R3532634-3 05/28/20 00:03

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	817000	819000	10	0.245		20

L1221510-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221510-04 05/28/20 03:48 • (DUP) R3532634-6 05/28/20 04:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1790	1870	1	4.43		20

Laboratory Control Sample (LCS)

(LCS) R3532634-2 05/27/20 21:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	75000	73500	98.0	85.0-115	

L1221510-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-02 05/28/20 02:34 • (MS) R3532634-4 05/28/20 02:57 • (MSD) R3532634-5 05/28/20 03:19

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 %
TOC (Total Organic Carbon)	50000	3250	52000	52700	97.5	98.8	1	80.0-120			1.30	20

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/28/20 06:09 • (MS) R3532634-7 05/28/20 06:31 • (MSD) R3532634-8 05/28/20 06:53

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 %
TOC (Total Organic Carbon)	50000	1820	50800	51600	98.0	99.6	1	80.0-120			1.58	20

Method Blank (MB)

(MB) R3531871-1 05/26/20 12:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3531871-5 05/26/20 12:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.73	91.0	80.0-120	

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/26/20 12:29 • (MS) R3531871-6 05/26/20 12:31 • (MSD) R3531871-7 05/26/20 12:33

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 %
Mercury	3.00	ND	2.75	2.73	91.8	90.9	1	75.0-125			1.00	20

Method Blank (MB)

(MB) R3533271-1 05/29/20 11:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Aluminum	U		70.4	200
Barium	U		0.895	5.00
Boron	U		25.4	200
Calcium	U		389	1000
Chromium	U		5.00	10.0
Cobalt	U		0.807	10.0
Iron	U		45.8	100
Magnesium	U		111	1000
Manganese	U		3.27	10.0
Nickel	U		2.98	10.0
Silver	U		1.91	5.00
Sodium	U		1400	3000

Laboratory Control Sample (LCS)

(LCS) R3533271-2 05/29/20 11:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10000	10100	101	80.0-120	
Barium	1000	957	95.7	80.0-120	
Boron	1000	956	95.6	80.0-120	
Calcium	10000	9590	95.9	80.0-120	
Chromium	1000	951	95.1	80.0-120	
Cobalt	1000	965	96.5	80.0-120	
Iron	10000	9460	94.6	80.0-120	
Magnesium	10000	9910	99.1	80.0-120	
Manganese	1000	941	94.1	80.0-120	
Nickel	1000	962	96.2	80.0-120	
Silver	200	174	86.9	80.0-120	
Sodium	10000	9500	95.0	80.0-120	

L1221445-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221445-09 05/29/20 11:11 • (MS) R3533271-4 05/29/20 11:16 • (MSD) R3533271-5 05/29/20 11:19

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 %
Aluminum	10000	703	10000	10000	93.1	93.2	1	75.0-125			0.104	20
Barium	1000	92.6	1050	1040	95.5	94.3	1	75.0-125			1.14	20
Boron	1000	3960	4820	4860	86.4	90.4	1	75.0-125			0.829	20

L1221445-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221445-09 05/29/20 11:11 • (MS) R3533271-4 05/29/20 11:16 • (MSD) R3533271-5 05/29/20 11:19

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	43300	51300	51600	79.8	83.4	1	75.0-125			0.688	20
Chromium	1000	ND	966	961	96.6	96.1	1	75.0-125			0.498	20
Cobalt	1000	ND	1010	1000	101	100	1	75.0-125			1.01	20
Iron	10000	2640	11700	11700	90.5	91.0	1	75.0-125			0.402	20
Magnesium	10000	8870	18300	18300	94.3	93.9	1	75.0-125			0.212	20
Manganese	1000	206	1140	1140	93.3	93.1	1	75.0-125			0.164	20
Nickel	1000	ND	1010	1000	101	99.7	1	75.0-125			1.03	20
Silver	200	ND	176	177	88.1	88.6	1	75.0-125			0.599	20
Sodium	10000	183000	186000	189000	32.6	63.2	1	75.0-125	V	V	1.63	20

L1221447-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221447-04 05/29/20 11:21 • (MS) R3533271-6 05/29/20 11:24 • (MSD) R3533271-7 05/29/20 11:26

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 %
Aluminum	10000	ND	9960	10200	99.6	102	1	75.0-125			2.08	20
Barium	1000	220	1170	1180	94.9	96.3	1	75.0-125			1.19	20
Boron	1000	ND	1050	1070	95.2	97.0	1	75.0-125			1.71	20
Calcium	10000	140000	148000	149000	83.1	89.5	1	75.0-125			0.430	20
Chromium	1000	ND	965	964	96.5	96.4	1	75.0-125			0.0506	20
Cobalt	1000	ND	979	993	97.8	99.2	1	75.0-125			1.40	20
Iron	10000	1300	10800	10900	95.1	96.4	1	75.0-125			1.20	20
Magnesium	10000	29300	38100	38300	87.5	90.0	1	75.0-125			0.646	20
Manganese	1000	597	1540	1530	94.1	93.3	1	75.0-125			0.501	20
Nickel	1000	ND	978	991	97.8	99.1	1	75.0-125			1.32	20
Silver	200	ND	181	180	90.5	90.0	1	75.0-125			0.485	20
Sodium	10000	7980	17400	17600	94.1	95.9	1	75.0-125			1.01	20

Method Blank (MB)

(MB) R3532881-1 05/28/20 23:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Aluminum	U		70.4	200
Barium	U		0.895	5.00
Boron	U		25.4	200
Calcium	U		389	1000
Chromium	U		5.00	10.0
Cobalt	U		0.807	10.0
Iron	U		45.8	100
Magnesium	U		111	1000
Manganese	U		3.27	10.0
Nickel	U		2.98	10.0
Silver	U		1.91	5.00
Sodium	U		1400	3000

Laboratory Control Sample (LCS)

(LCS) R3532881-2 05/28/20 23:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10000	10100	101	80.0-120	
Barium	1000	961	96.1	80.0-120	
Boron	1000	964	96.4	80.0-120	
Calcium	10000	9870	98.7	80.0-120	
Chromium	1000	947	94.7	80.0-120	
Cobalt	1000	964	96.4	80.0-120	
Iron	10000	9740	97.4	80.0-120	
Magnesium	10000	10100	101	80.0-120	
Manganese	1000	940	94.0	80.0-120	
Nickel	1000	957	95.7	80.0-120	
Silver	200	178	89.2	80.0-120	
Sodium	10000	9800	98.0	80.0-120	

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/29/20 00:02 • (MS) R3532881-4 05/29/20 00:07 • (MSD) R3532881-5 05/29/20 00:10

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 %
Aluminum	10000	ND	10100	10100	101	101	1	75.0-125			0.529	20
Barium	1000	223	1180	1180	95.9	95.9	1	75.0-125			0.00880	20
Boron	1000	ND	1070	1080	98.3	99.2	1	75.0-125			0.896	20

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/29/20 00:02 • (MS) R3532881-4 05/29/20 00:07 • (MSD) R3532881-5 05/29/20 00:10

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	143000	150000	150000	71.1	73.6	1	75.0-125	V	V	0.168	20
Chromium	1000	ND	957	956	95.7	95.6	1	75.0-125			0.133	20
Cobalt	1000	ND	979	980	97.9	98.0	1	75.0-125			0.136	20
Iron	10000	1240	11000	11000	97.1	97.4	1	75.0-125			0.265	20
Magnesium	10000	29800	38700	38700	89.3	89.6	1	75.0-125			0.0852	20
Manganese	1000	574	1500	1500	92.9	92.5	1	75.0-125			0.258	20
Nickel	1000	ND	975	968	97.5	96.8	1	75.0-125			0.715	20
Silver	200	ND	183	184	91.5	92.0	1	75.0-125			0.466	20
Sodium	10000	8090	17700	17900	96.4	97.7	1	75.0-125			0.720	20

Method Blank (MB)

(MB) R3532742-1 05/28/20 16:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.32	4.00
Arsenic	U		0.735	2.00
Beryllium	U		0.454	2.00
Cadmium	U		0.478	1.00
Copper	U		2.50	5.00
Lead	U		2.49	5.00
Selenium	U		0.657	2.00
Thallium	U		0.460	2.00
Zinc	U		9.96	25.0

Laboratory Control Sample (LCS)

(LCS) R3532742-2 05/28/20 16:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	46.9	93.7	80.0-120	
Arsenic	50.0	46.5	93.0	80.0-120	
Beryllium	50.0	46.3	92.7	80.0-120	
Cadmium	50.0	51.9	104	80.0-120	
Copper	50.0	42.9	85.8	80.0-120	
Lead	50.0	49.3	98.5	80.0-120	
Selenium	50.0	49.5	98.9	80.0-120	
Thallium	50.0	47.3	94.7	80.0-120	
Zinc	500	470	94.0	80.0-120	

L1221405-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221405-09 05/28/20 16:19 • (MS) R3532742-4 05/28/20 16:25 • (MSD) R3532742-5 05/28/20 16:28

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 %
Antimony	50.0	ND	48.4	49.5	96.7	99.0	1	75.0-125			2.33	20
Arsenic	50.0	ND	48.3	48.2	94.8	94.6	1	75.0-125			0.221	20
Beryllium	50.0	ND	46.2	46.8	92.3	93.5	1	75.0-125			1.31	20
Cadmium	50.0	ND	51.1	51.7	102	103	1	75.0-125			1.06	20
Copper	50.0	ND	42.4	42.7	84.8	85.3	1	75.0-125			0.682	20
Lead	50.0	ND	48.8	50.2	97.5	100	1	75.0-125			2.80	20
Selenium	50.0	ND	50.6	50.7	101	101	1	75.0-125			0.00162	20
Thallium	50.0	ND	46.6	47.8	93.1	95.6	1	75.0-125			2.66	20
Zinc	500	ND	480	474	95.9	94.9	1	75.0-125			1.13	20

L1221510-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221510-07 05/28/20 16:32 • (MS) R3532742-6 05/28/20 16:35 • (MSD) R3532742-7 05/28/20 16:38

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 %
Antimony	50.0	ND	47.0	47.9	94.0	95.9	1	75.0-125			2.01	20
Arsenic	50.0	7.68	54.3	54.5	93.3	93.7	1	75.0-125			0.401	20
Beryllium	50.0	ND	45.0	46.6	89.9	93.2	1	75.0-125			3.54	20
Cadmium	50.0	ND	49.5	49.7	99.1	99.4	1	75.0-125			0.348	20
Copper	50.0	ND	40.7	40.9	81.4	81.9	1	75.0-125			0.622	20
Lead	50.0	ND	48.5	49.5	97.0	99.1	1	75.0-125			2.07	20
Selenium	50.0	ND	49.4	49.6	98.9	99.3	1	75.0-125			0.444	20
Thallium	50.0	ND	46.9	48.2	93.9	96.5	1	75.0-125			2.76	20
Zinc	500	ND	464	468	92.8	93.5	1	75.0-125			0.770	20

Method Blank (MB)

(MB) R3532615-1 05/28/20 10:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.32	4.00
Arsenic	U		0.735	2.00
Beryllium	U		0.454	2.00
Cadmium	U		0.478	1.00
Copper	U		2.50	5.00
Lead	U		2.49	5.00
Selenium	U		0.657	2.00
Thallium	U		0.460	2.00
Zinc	U		9.96	25.0

Laboratory Control Sample (LCS)

(LCS) R3532615-2 05/28/20 10:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	52.0	104	80.0-120	
Arsenic	50.0	46.1	92.2	80.0-120	
Beryllium	50.0	47.4	94.7	80.0-120	
Cadmium	50.0	49.6	99.2	80.0-120	
Copper	50.0	50.8	102	80.0-120	
Lead	50.0	46.2	92.5	80.0-120	
Selenium	50.0	51.8	104	80.0-120	
Thallium	50.0	45.3	90.7	80.0-120	
Zinc	500	455	90.9	80.0-120	

L1221630-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221630-07 05/28/20 10:50 • (MS) R3532615-4 05/28/20 10:57 • (MSD) R3532615-5 05/28/20 11:00

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 %
Antimony	50.0	ND	53.1	56.9	106	114	1	75.0-125			6.88	20
Arsenic	50.0	80.7	130	128	97.7	94.1	1	75.0-125			1.39	20
Beryllium	50.0	ND	50.2	48.9	100	97.7	1	75.0-125			2.65	20
Cadmium	50.0	ND	53.4	52.3	107	105	1	75.0-125			2.23	20
Copper	50.0	7.63	57.9	55.5	101	95.6	1	75.0-125			4.36	20
Lead	50.0	ND	47.7	47.9	95.4	95.8	1	75.0-125			0.407	20
Selenium	50.0	6.53	64.5	64.7	116	116	1	75.0-125			0.333	20
Thallium	50.0	ND	48.9	48.0	97.7	95.9	1	75.0-125			1.86	20
Zinc	500	ND	476	457	95.2	91.5	1	75.0-125			3.98	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.
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.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
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.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

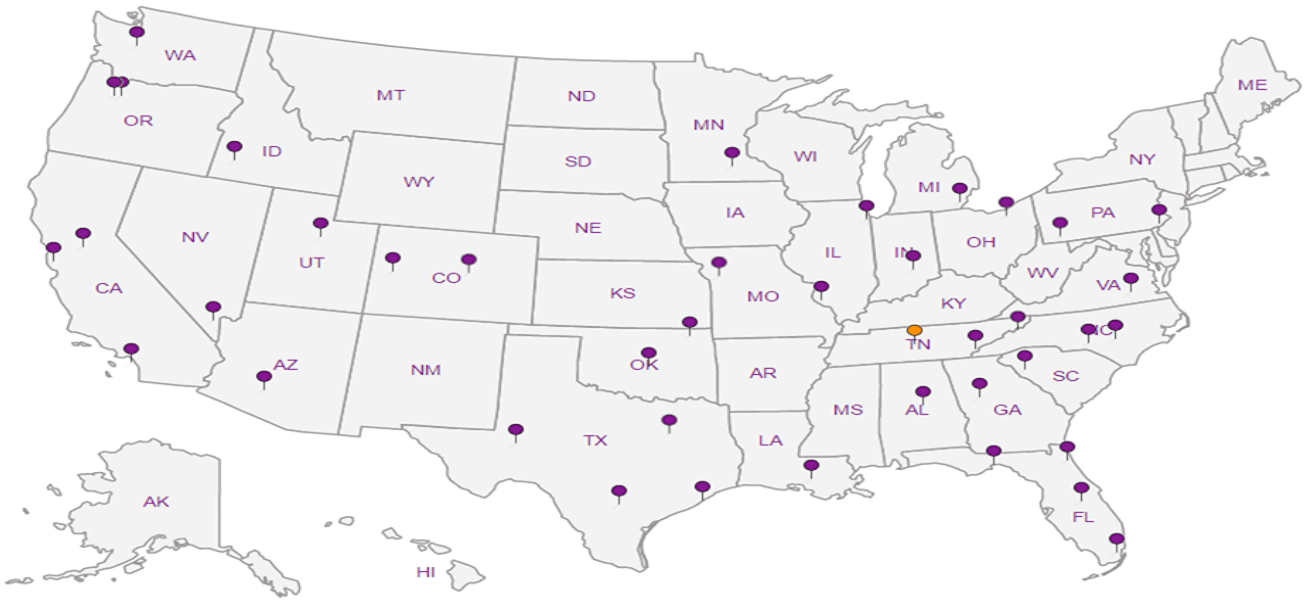
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

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

Report to: Jason Franks
Email To: jfranks@scsengineers.com;jay.martin@evergy.c

Project Description: Evergy - Iatan Generating Station
City/State Collected: WESTON, MO
Please Circle: PT MT CT ET

Phone: 913-681-0030
Client Project # 27213167.19
Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS
Site/Facility ID #
P.O. #

Collected by (signature): Jason R. Franks
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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	COD 250mlHDPE-H2SO4	Hardness, Metals * 250mlHDPE-HNO3	Hardness, Metals ** 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-HCl	TOX 1L-Amb-Add H2SO4				Remarks	Sample # (lab only)
							Pres Chk		✓	✓	✓		✓					
MW-3	GRAB	GW	—	5/20/20	1125	6	X	X	X		X	X	X					-01
MW-4		GW	—		1235	6	X	X	X		X	X	X					02
MW-5		GW	—		1020	6	X	X	X		X	X	X					03
MW-1		GW	—		0955	4		X		X		X	X					04
MW-2		GW	—		1055	4		X		X		X	X					05
MW-6		GW	—		0940	4		X		X		X	X					06
MW-7		GW	—		1030	4		X		X		X	X					07
MW-8		GW	—		1200	4		X		X		X	X					08
DUPLICATE		GW	—		1035	4		X		X		X	X					09
MS/MSD	↓	GW	↓	↓	1040	4		X		X		X	X					10

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

Remarks:* Hg,Ag,Al,Ba,B,Ca,Cr,Co,Fe,Mg,Mn,Na,Ni,Sb,As,Be,Cd,Cu,Pb,Se,Tl,Zn **
Hg,Ag,Al,Ba,Cr,Co,Fe,Mg,Mn,Na,Ni,Sb,As,Be,Cd,Cu,Pb,Se,Tl,Zn

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____
Tracking #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
Jason R. Franks	5/21/20	1300	[illegible] 5/21/20 1300	3
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 46
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/22/20 Time: 9:10

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

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Chain of Custody Page 1 of 1

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Mount Juliet, TN 37122
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SDG # L721510
G007

Acctnum: AQUAOPKS
Template: T136086
Prelogin: P769368
PM: 206 - Jeff Carr
PB:
Shipped Via:

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ANALYTICAL REPORT

May 31, 2020

SCS Engineers - KS

Sample Delivery Group:	L1221443
Samples Received:	05/22/2020
Project Number:	27213167.20
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-1 L1221443-01 GW

Collected by	Collected date/time	Received date/time
	05/20/20 09:55	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:51	EL	Mt. Juliet, TN

MW-2 L1221443-02 GW

Collected by	Collected date/time	Received date/time
	05/20/20 10:55	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:53	EL	Mt. Juliet, TN

MW-6 L1221443-03 GW

Collected by	Collected date/time	Received date/time
	05/20/20 09:40	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:56	EL	Mt. Juliet, TN

MW-7 L1221443-04 GW

Collected by	Collected date/time	Received date/time
	05/20/20 10:30	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 19:57	EL	Mt. Juliet, TN

MW-8 L1221443-05 GW

Collected by	Collected date/time	Received date/time
	05/20/20 12:00	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 20:59	EL	Mt. Juliet, TN

DUPLICATE L1221443-06 GW

Collected by	Collected date/time	Received date/time
	05/20/20 10:35	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1481516	1	05/27/20 23:07	05/28/20 21:01	EL	Mt. Juliet, TN

MW-9 L1221443-07 GW

Collected by	Collected date/time	Received date/time
	05/20/20 12:30	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:44	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 11:29	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:12	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 09:29	JPD	Mt. Juliet, TN

MW-10 L1221443-08 GW

Collected by	Collected date/time	Received date/time
	05/20/20 13:50	05/22/20 11:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1481265	1	05/23/20 21:56	05/26/20 14:46	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1481517	1	05/27/20 23:36	05/29/20 11:37	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/28/20 20:15	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1481528	1	05/28/20 07:49	05/29/20 09:32	JPD	Mt. Juliet, TN

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	51.5		15.0	1	05/28/2020 20:51	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 20:51	WG1481516

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	52.8		15.0	1	05/28/2020 20:53	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 20:53	WG1481516

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	34.2		15.0	1	05/28/2020 20:56	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 20:56	WG1481516

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	39.4		15.0	1	05/28/2020 19:57	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 19:57	WG1481516

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	40.1		15.0	1	05/28/2020 20:59	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 20:59	WG1481516

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	39.7		15.0	1	05/28/2020 21:01	WG1481516
Molybdenum	ND		5.00	1	05/28/2020 21:01	WG1481516

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/26/2020 14:44	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Barium	109		5.00	1	05/29/2020 11:29	WG1481517
Chromium	ND		10.0	1	05/29/2020 11:29	WG1481517
Cobalt	ND		10.0	1	05/29/2020 11:29	WG1481517
Lithium	32.0		15.0	1	05/29/2020 11:29	WG1481517
Molybdenum	11.7		5.00	1	05/29/2020 11:29	WG1481517

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/28/2020 20:12	WG1481528
Arsenic	19.6		2.00	1	05/28/2020 20:12	WG1481528
Beryllium	ND		2.00	1	05/29/2020 09:29	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:12	WG1481528
Lead	ND		5.00	1	05/28/2020 20:12	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:12	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:12	WG1481528

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/26/2020 14:46	WG1481265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	187		5.00	1	05/29/2020 11:37	WG1481517
Chromium	ND		10.0	1	05/29/2020 11:37	WG1481517
Cobalt	ND		10.0	1	05/29/2020 11:37	WG1481517
Lithium	23.0		15.0	1	05/29/2020 11:37	WG1481517
Molybdenum	25.3		5.00	1	05/29/2020 11:37	WG1481517

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	05/28/2020 20:15	WG1481528
Arsenic	15.3		2.00	1	05/28/2020 20:15	WG1481528
Beryllium	ND		2.00	1	05/29/2020 09:32	WG1481528
Cadmium	ND		1.00	1	05/28/2020 20:15	WG1481528
Lead	ND		5.00	1	05/28/2020 20:15	WG1481528
Selenium	ND		2.00	1	05/28/2020 20:15	WG1481528
Thallium	ND		2.00	1	05/28/2020 20:15	WG1481528

Method Blank (MB)

(MB) R3531871-1 05/26/20 12:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3531871-5 05/26/20 12:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.73	91.0	80.0-120	

Method Blank (MB)

(MB) R3532814-1 05/28/20 19:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lithium	U		5.74	15.0
Molybdenum	U		1.04	5.00

Laboratory Control Sample (LCS)

(LCS) R3532814-2 05/28/20 19:44

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Lithium	1000	924	92.4	80.0-120	
Molybdenum	1000	958	95.8	80.0-120	

L1221405-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221405-09 05/28/20 19:47 • (MS) R3532814-4 05/28/20 19:52 • (MSD) R3532814-5 05/28/20 19:55

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	%	%		%			%	%
Lithium	1000	ND	939	908	92.8	89.7	1	75.0-125			3.27	20
Molybdenum	1000	184	1160	1140	98.1	95.8	1	75.0-125			1.99	20

L1221443-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221443-04 05/28/20 19:57 • (MS) R3532814-6 05/28/20 20:00 • (MSD) R3532814-7 05/28/20 20:02

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	%	%		%			%	%
Lithium	1000	39.4	986	989	94.6	94.9	1	75.0-125			0.273	20
Molybdenum	1000	ND	974	984	97.2	98.2	1	75.0-125			0.973	20

Method Blank (MB)

(MB) R3533271-1 05/29/20 11:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Barium	U		0.895	5.00
Chromium	U		5.00	10.0
Cobalt	U		0.807	10.0
Lithium	U		5.74	15.0
Molybdenum	1.05	J	1.04	5.00

Laboratory Control Sample (LCS)

(LCS) R3533271-2 05/29/20 11:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1000	957	95.7	80.0-120	
Chromium	1000	951	95.1	80.0-120	
Cobalt	1000	965	96.5	80.0-120	
Lithium	1000	938	93.8	80.0-120	
Molybdenum	1000	969	96.9	80.0-120	

L1221447-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221447-04 05/29/20 11:21 • (MS) R3533271-6 05/29/20 11:24 • (MSD) R3533271-7 05/29/20 11:26

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 %
Barium	1000	220	1170	1180	94.9	96.3	1	75.0-125			1.19	20
Chromium	1000	ND	965	964	96.5	96.4	1	75.0-125			0.0506	20
Cobalt	1000	ND	979	993	97.8	99.2	1	75.0-125			1.40	20
Lithium	1000	44.0	981	994	93.7	95.0	1	75.0-125			1.27	20
Molybdenum	1000	ND	973	987	97.0	98.3	1	75.0-125			1.38	20

Method Blank (MB)

(MB) R3532742-1 05/28/20 16:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.32	4.00
Arsenic	U		0.735	2.00
Beryllium	U		0.454	2.00
Cadmium	U		0.478	1.00
Lead	U		2.49	5.00
Selenium	U		0.657	2.00
Thallium	U		0.460	2.00

Laboratory Control Sample (LCS)

(LCS) R3532742-2 05/28/20 16:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	46.9	93.7	80.0-120	
Arsenic	50.0	46.5	93.0	80.0-120	
Beryllium	50.0	46.3	92.7	80.0-120	
Cadmium	50.0	51.9	104	80.0-120	
Lead	50.0	49.3	98.5	80.0-120	
Selenium	50.0	49.5	98.9	80.0-120	
Thallium	50.0	47.3	94.7	80.0-120	

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
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

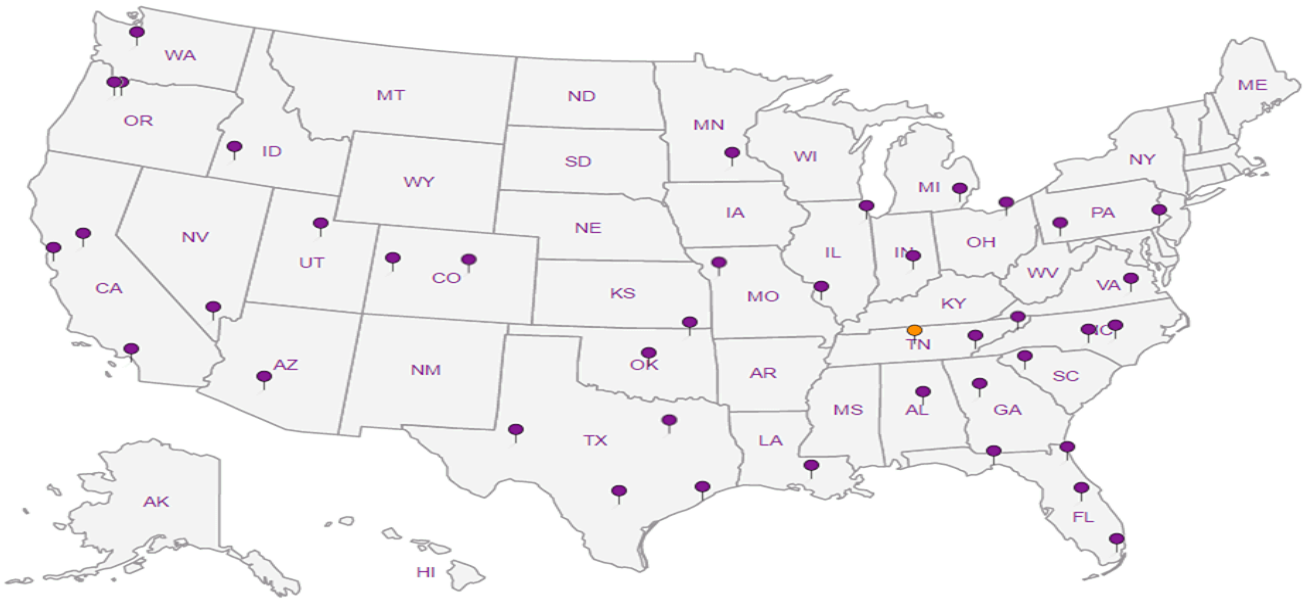
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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 Generating Station

City/State Collected: Weston MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.20

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature): Jason R. Franks

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HNO3	Li, Mo - 6010 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-1	GRAB	GW	–	5/20/20	0955	1		X		-01
MW-2		GW	–		1055	1		X		02
MW-6		GW	–		0940	1		X		03
MW-7		GW	–		1030	1		X		04
MW-8		GW	–		1000	1		X		05
DUPLICATE		GW	–		1035	1		X		06
MW-7 MS/MSD		GW	–		1040	1		X		09
MW-9		GW	–		1130	1	X			07
MW-10	✓	GW	–	✓	1350	1	X			08

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 122443
G008

Acctnum: AQUAOPKS
Template: T166953
Prelogin: P770300
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: CCR Metals - 6010 Metals-Ba,Cr,Co,Li,Mo 6020 metals-Sb,As,Be,Cd,Pb,Se,Tl 7470 metals - Hg

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

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
Jason R. Franks	5/21/20	1300			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.1 °C Bottles Received: 9	
				4.1 + 0 = 4.6	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/22/20 Time: 9:00	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 07, 2020

SCS Engineers - KS

Sample Delivery Group:	L1221466
Samples Received:	05/22/2020
Project Number:	27213167.20
Description:	Evergy - Iatan Gen Station

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

Entire Report Reviewed By:

Donna Eidson
Project Manager

TABLE OF CONTENTS

MW-1 L1221466-01 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 09:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 17:45	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 17:45	RGT	Mt. Juliet, TN

MW-2 L1221466-02 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 10:55 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 17:45	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 17:45	RGT	Mt. Juliet, TN

MW-6 L1221466-03 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 09:40 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

MW-7 L1221466-04 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 10:30 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

MW-8 L1221466-05 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 12:00 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

MW-9 L1221466-06 Non-Potable Water

Collected by: Jason R Franks | Collected date/time: 05/20/20 12:30 | Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

MW-10 L1221466-07 Non-Potable Water

Collected by: Jason R Franks
Collected date/time: 05/20/20 13:50
Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

DUPLICATE L1221466-08 Non-Potable Water

Collected by: Jason R Franks
Collected date/time: 05/20/20 10:35
Received date/time: 05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1488903	1	06/09/20 13:42	06/18/20 10:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1493951	1	06/17/20 14:23	06/18/20 23:43	RGT	Mt. Juliet, TN

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Donna Eidson
Project Manager

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.53		0.605	0.902	06/18/2020 10:35	WG1488903
(T) Barium	*95.6*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*97.2*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.88		0.850	1.14	06/18/2020 17:45	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.350		0.245	0.237	06/18/2020 17:45	WG1493951
(T) Barium-133	*96.8*			*30.0-143*	*06/18/2020 17:45*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.67		0.601	1.08	06/18/2020 10:35	WG1488903
(T) Barium	*83.9*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*112*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.91		0.824	1.35	06/18/2020 17:45	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.241		0.223	0.265	06/18/2020 17:45	WG1493951
(T) Barium-133	*81.0*			*30.0-143*	*06/18/2020 17:45*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.713		0.662	1.15	06/18/2020 10:35	WG1488903
(T) Barium	*90.3*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*101*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.737		0.843	1.49	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0238		0.181	0.34	06/18/2020 23:43	WG1493951
(T) Barium-133	*89.3*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.741		0.529	0.9	06/18/2020 10:35	WG1488903
(T) Barium	*96.4*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*110*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.81		0.923	1.11	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.07		0.394	0.21	06/18/2020 23:43	WG1493951
(T) Barium-133	*91.9*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.651		0.609	0.951	06/18/2020 10:35	WG1488903
(T) Barium	*91.4*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*101*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.23		0.921	1.18	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.580		0.312	0.233	06/18/2020 23:43	WG1493951
(T) Barium-133	*84.3*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.996		0.606	0.881	06/18/2020 10:35	WG1488903
(T) Barium	*96.2*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*104*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.30		0.855	1.15	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.309		0.249	0.267	06/18/2020 23:43	WG1493951
(T) Barium-133	*87.1*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.601		0.562	0.838	06/18/2020 10:35	WG1488903
(T) Barium	*95.1*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*99.9*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.857		0.769	1.04	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.256		0.207	0.205	06/18/2020 23:43	WG1493951
(T) Barium-133	*85.6*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.363		0.615	0.974	06/18/2020 10:35	WG1488903
(T) Barium	*94.5*			*62.0-143*	*06/18/2020 10:35*	WG1488903
(T) Yttrium	*95.9*			*79.0-136*	*06/18/2020 10:35*	WG1488903

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.544		0.860	1.32	06/18/2020 23:43	WG1493951

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.181		0.245	0.35	06/18/2020 23:43	WG1493951
(T) Barium-133	*90.4*			*30.0-143*	*06/18/2020 23:43*	WG1493951

Method Blank (MB)

(MB) R3541401-1 06/18/20 10:35

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.155		0.503
(T) Barium	*91.7*		
(T) Yttrium	*98.9*		

L1221466-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221466-04 06/18/20 10:35 • (DUP) R3541401-5 06/18/20 10:35

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.741	-0.289	1	200	1.20		20	3
(T) Barium	*96.4*	*92.0*						
(T) Yttrium	*110*	*97.6*						

Laboratory Control Sample (LCS)

(LCS) R3541401-2 06/18/20 10:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.39	108	80.0-120	
(T) Barium			*96.3*		
(T) Yttrium			*97.9*		

L1221466-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221466-04 06/18/20 10:35 • (MS) R3541401-3 06/18/20 10:35 • (MSD) R3541401-4 06/18/20 10:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.741	12.8	12.6	120	118	1	70.0-130			1.74		20
(T) Barium		*96.4*			*91.4*	*98.0*							
(T) Yttrium		*110*			*91.0*	*99.1*							

Method Blank (MB)

(MB) R3541403-1 06/18/20 17:45

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00599		0.0578
(T) Barium-133	*83.6*		

Laboratory Control Sample (LCS)

(LCS) R3541403-2 06/18/20 17:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.79	115	80.0-120	
(T) Barium-133			*94.6*		

L1221466-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221466-04 06/18/20 23:43 • (MS) R3541403-3 06/18/20 17:45 • (MSD) R3541403-4 06/18/20 17:45

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	1.07	21.1	22.4	99.4	106	1	75.0-125			5.99		20
(T) Barium-133		*91.9*			*82.2*	*90.6*							

L1221882-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221882-01 06/19/20 07:25 • (MS) R3541403-5 06/18/20 17:45 • (MSD) R3541403-6 06/18/20 17:45

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.306	17.3	17.4	84.7	85.2	1	75.0-125			0.575		20
(T) Barium-133		*102*			*92.1*	*94.4*							

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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

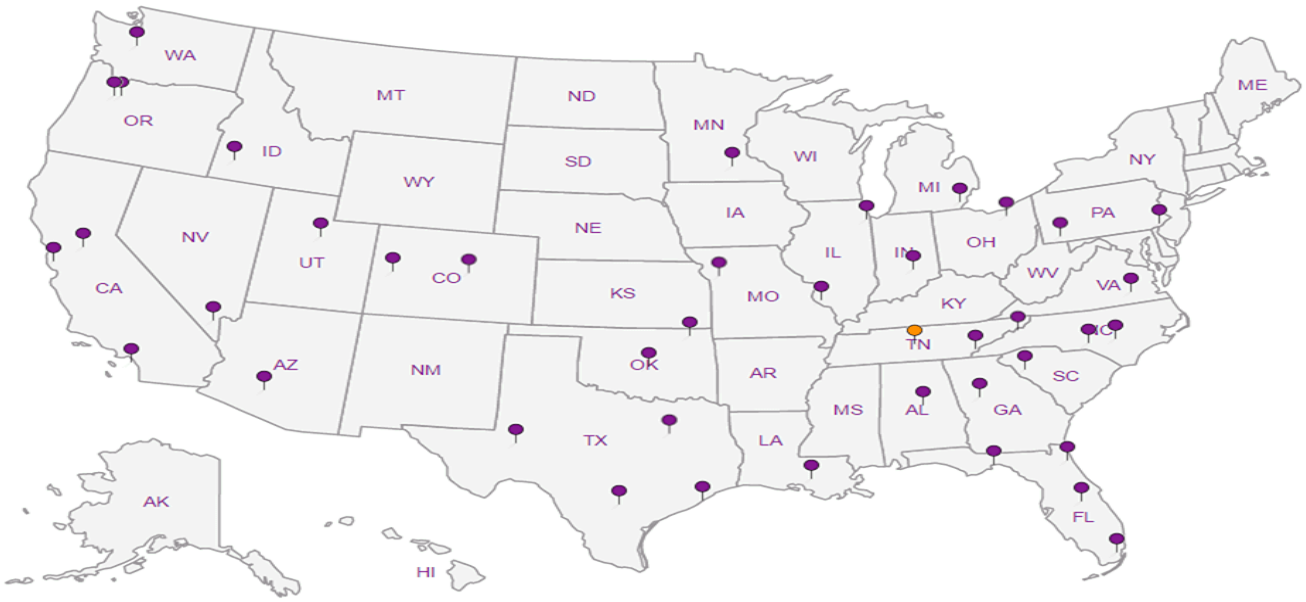
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.20

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature): Jason R. Franks

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-1	GRAB	NPW	—	5/20/20	0955	2	X		01
MW-2		NPW	—		1055	2	X		02
MW-6		NPW	—		0940	2	X		03
MW-7		NPW	—		1030	2	X		04
MW-8		NPW	—		1200	2	X		05
MW-9		NPW	—		1230	2	X		06
MW-10		NPW	—		1350	2	X		07
DUPLICATE		NPW	—		1035	2	X		08
~~MW-7~~ MS/MSD		NPW	—		1040	2	X		04
MSD		~~NPW~~				~~2~~	~~X~~		

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 122466
G012

Acctnum: AQUAOPKS
Template: T107350
Prelogin: P769506
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: RA 226/228 - Report separately and combined.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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
Jason R. Franks	5/21/20	1300	5/21/20 1300	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 20
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/22/20 Time: 8:00

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-4

July 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 22, 2020

SCS Engineers - KS

Sample Delivery Group:	L1239953
Samples Received:	07/15/2020
Project Number:	27213167.20
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-10 L1239953-01 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 09:35 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1510013	1	07/16/20 23:29	07/16/20 23:29	MSP	Mt. Juliet, TN

MW-104 L1239953-02 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 13:00 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1510363	1	07/18/20 00:01	07/18/20 07:45	EL	Mt. Juliet, TN

DUPLICATE 1 L1239953-03 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 13:00 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1510363	1	07/18/20 00:01	07/18/20 08:03	EL	Mt. Juliet, TN

MW-105 L1239953-04 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 13:40 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1511173	1	07/18/20 07:28	07/18/20 08:14	TH	Mt. Juliet, TN

DUPLICATE 2 L1239953-05 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 13:40 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1511173	1	07/18/20 07:28	07/18/20 08:14	TH	Mt. Juliet, TN

MW-109 L1239953-06 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 11:25 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1510009	10	07/17/20 20:59	07/17/20 20:59	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1510363	1	07/18/20 00:01	07/18/20 07:55	EL	Mt. Juliet, TN

DUPLICATE 3 L1239953-07 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 11:25 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1510013	5	07/17/20 12:57	07/17/20 12:57	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1510363	1	07/18/20 00:01	07/18/20 08:11	EL	Mt. Juliet, TN

MW-110 L1239953-08 GW

Collected by: Whit Martin | Collected date/time: 07/13/20 12:05 | Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1510013	1	07/17/20 00:02	07/17/20 00:02	MSP	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1510364	1	07/19/20 23:32	07/20/20 13:54	EL	Mt. Juliet, TN

DUPLICATE 4 L1239953-09 GW

Collected by: Whit Martin
Collected date/time: 07/13/20 12:05
Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1510013	1	07/17/20 00:51	07/17/20 00:51	MSP	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1510363	1	07/18/20 00:01	07/18/20 08:13	EL	Mt. Juliet, TN

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	47700		5000	1	07/16/2020 23:29	WG1510013

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	59700		1000	1	07/18/2020 07:45	WG1510363

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	61100		1000	1	07/18/2020 08:03	WG1510363

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	711000		13300	1	07/18/2020 08:14	WG1511173

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	715000		13300	1	07/18/2020 08:14	WG1511173

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	281000		50000	10	07/17/2020 20:59	WG1510009

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1340		200	1	07/18/2020 07:55	WG1510363

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	294000		25000	5	07/17/2020 12:57	WG1510013

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1350		200	1	07/18/2020 08:11	WG1510363

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	23200		1000	1	07/17/2020 00:02	WG1510013

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	3710		200	1	07/20/2020 13:54	WG1510364

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	23400		1000	1	07/17/2020 00:51	WG1510013

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	3790		200	1	07/18/2020 08:13	WG1510363

Method Blank (MB)

(MB) R3550836-1 07/18/20 08:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1239902-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1239902-01 07/18/20 08:14 • (DUP) R3550836-3 07/18/20 08:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3450000	3620000	1	4.81		5

L1239953-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1239953-05 07/18/20 08:14 • (DUP) R3550836-4 07/18/20 08:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	715000	687000	1	4.00		5

Laboratory Control Sample (LCS)

(LCS) R3550836-2 07/18/20 08:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8380000	95.2	85.0-115	

Method Blank (MB)

(MB) R3550811-1 07/17/20 08:24

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

L1239942-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1239942-01 07/17/20 17:42 • (DUP) R3550811-5 07/17/20 17:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	ND	ND	1	2.18		15

Laboratory Control Sample (LCS)

(LCS) R3550811-2 07/17/20 08:35

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

L1239916-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1239916-01 07/17/20 17:20 • (MS) R3550811-4 07/17/20 17:31

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	164000	211000	94.4	1	80.0-120	E

L1239953-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239953-06 07/17/20 20:04 • (MS) R3550811-6 07/17/20 20:15 • (MSD) R3550811-7 07/17/20 20:26

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	275000	315000	319000	80.2	88.2	1	80.0-120	E	E	1.26	15

Method Blank (MB)

(MB) R3550475-1 07/16/20 17:01

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

L1238681-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1238681-03 07/16/20 20:28 • (DUP) R3550475-3 07/16/20 20:45

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

L1239953-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1239953-09 07/17/20 00:51 • (DUP) R3550475-7 07/17/20 01:40

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23400	23100	1	1.21		15
Sulfate	190000	190000	1	0.0559	E	15

Laboratory Control Sample (LCS)

(LCS) R3550475-2 07/16/20 17:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.8	80.0-120	
Sulfate	40000	39800	99.5	80.0-120	

L1238681-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1238681-05 07/16/20 21:01 • (MS) R3550475-4 07/16/20 21:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	15700	66100	101	1	80.0-120	
Sulfate	50000	10700	61900	102	1	80.0-120	

L1239953-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239953-08 07/17/20 00:02 • (MS) R3550475-5 07/17/20 00:18 • (MSD) R3550475-6 07/17/20 00:34

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	23200	73700	73700	101	101	1	80.0-120			0.0700	15
Sulfate	50000	190000	233000	232000	85.6	84.4	1	80.0-120	E	E	0.256	15

Method Blank (MB)

(MB) R3550923-1 07/18/20 07:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200
Calcium	U		389	1000

Laboratory Control Sample (LCS)

(LCS) R3550923-2 07/18/20 07:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	991	99.1	80.0-120	
Calcium	10000	10500	105	80.0-120	

L1239953-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239953-02 07/18/20 07:45 • (MS) R3550923-4 07/18/20 07:50 • (MSD) R3550923-5 07/18/20 07:52

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	1230	2230	2190	100	96.0	1	75.0-125			1.90	20
Calcium	10000	59700	69700	68600	100	89.3	1	75.0-125			1.56	20

L1239953-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239953-06 07/18/20 07:55 • (MS) R3550923-6 07/18/20 07:57 • (MSD) R3550923-7 07/18/20 08:00

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	1340	2330	2280	98.9	93.8	1	75.0-125			2.20	20
Calcium	10000	87800	96700	95900	89.4	80.8	1	75.0-125			0.889	20

Method Blank (MB)

(MB) R3551331-1 07/20/20 13:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		25.4	200

Laboratory Control Sample (LCS)

(LCS) R3551331-2 07/20/20 13:51

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	962	96.2	80.0-120	

L1239953-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239953-08 07/20/20 13:54 • (MS) R3551331-4 07/20/20 13:59 • (MSD) R3551331-5 07/20/20 14:02

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	3710	4670	4570	96.3	85.8	1	75.0-125			2.28	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.
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).

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

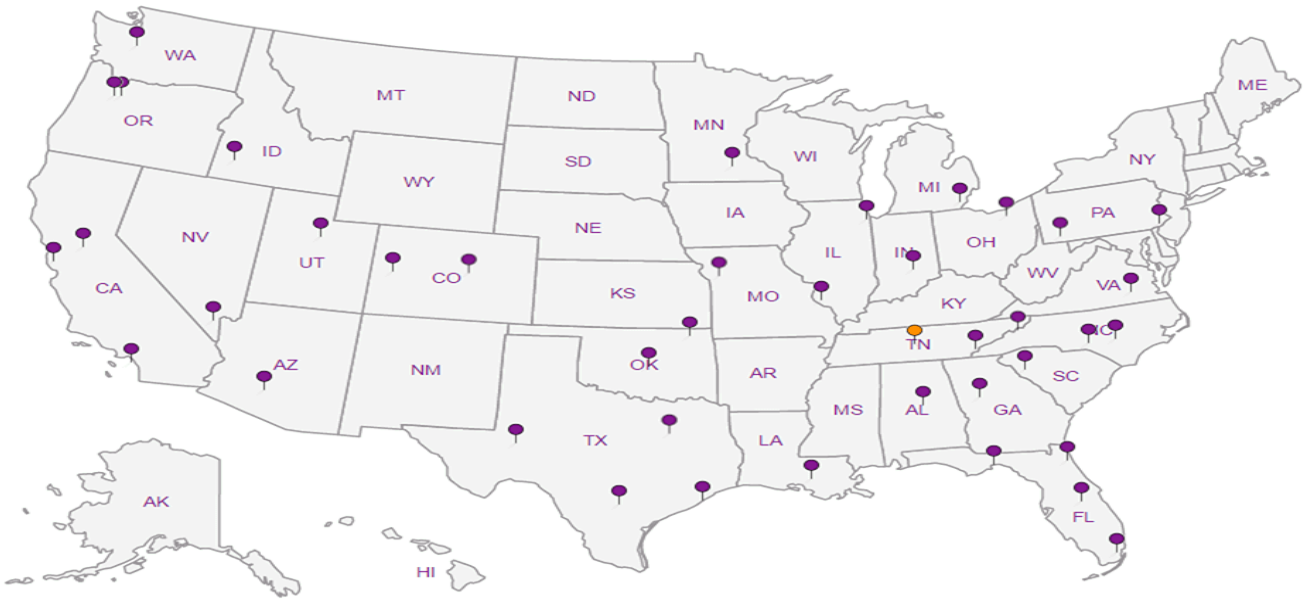
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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 Generating Station
City/State Collected:
Please Circle: PT MT CT ET

Phone: 913-681-0030
Client Project # 27213167.19
Lab Project # AQUAOPKS-IATAN

Collected by (print): Whit Martin
Site/Facility ID #
P.O. #

Collected by (signature):
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

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1234453
J139
Acctnum: AQUAOPKS
Template: T136056
Prelogin: P784702
PM: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-10	Grab	GW		7/13/20	0935	1				X			-01
MW-104	Grab	GW		7/13/20	1300	1		X					02
MW-104 MS/MSD	Grab	GW		7/13/20	1305	1		X					02
DUPLICATE 1	Grab	GW		7/13/20	1300	1		X					03
MW-105	Grab	GW		7/13/20	1340	1					X		04
DUPLICATE 2	Grab	GW		7/13/20	1340	1					X		05
MW-109	Grab	GW		7/13/20	1125	2	X			X			06
MW-109 MS/MSD	Grab	GW		7/13/20	1130	2	X			X			06
DUPLICATE 3	Grab	GW		7/13/20	1125	2	X			X			07
MW-110	Grab	GW		7/13/20	1205	2	X		X				08

* 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 # 1845 4330 1989

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
Whit Martin	7-14-20	1323		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6°C Bottles Received:	
	7-14-20	1800	FedEx	1.2-1=1.1 19	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 07/15/2020 Time: 7:30	Hold: Condition: NCF / OK

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

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Jason Franks

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

Project Description: Evergy Iatan Generating Station

City/State Collected:

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

SDG # L1239953

Table # J139

Collected by (print): Whit Martin

Site/Facility ID #

P.O. #

Acctnum: AQUAOPKS

Template: T136056

Prelogin: P784702

PM: 206 - Jeff Carr

PB:

Collected by (signature):

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

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-110 MS/MSD	Grab	GW		7/13/20	1210	2	X		X				08
DUPLICATE 4	Grab	GW		7/13/20	1205	2	X		X				09
MW-105 MS/MSD	Grab	GW		7/13/20	1345	1					X		04

* 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 # 1845 4330 1989

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)
Whit Martin	7-14-20	1323	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7-14-20	1600	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.2 °C Bottles Received: 19

Date: 07/15/2020 Time: 8:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-5

August 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 02, 2020

SCS Engineers - KS

Sample Delivery Group:	L1255433
Samples Received:	08/27/2020
Project Number:	27213167.20
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-10 L1255433-01 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 12:45 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 07:07	08/28/20 07:07	LBR	Mt. Juliet, TN

DUPLICATE 1 L1255433-02 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 12:45 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 07:39	08/28/20 07:39	LBR	Mt. Juliet, TN

MW-104 L1255433-03 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 14:15 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1535076	1	09/01/20 18:24	09/02/20 02:50	TRB	Mt. Juliet, TN

DUPLICATE 2 L1255433-04 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 14:15 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1535076	1	09/01/20 18:24	09/02/20 03:08	TRB	Mt. Juliet, TN

MW-109 L1255433-05 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 15:05 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1533924	10	08/28/20 08:12	08/28/20 08:12	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1535076	1	09/01/20 18:24	09/02/20 03:16	TRB	Mt. Juliet, TN

MW-110 L1255433-06 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 15:50 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 08:23	08/28/20 08:23	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1535077	1	09/01/20 11:45	09/01/20 14:26	CCE	Mt. Juliet, TN

DUPLICATE 3 L1255433-07 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 15:50 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1533924	5	08/28/20 09:06	08/28/20 09:06	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1535076	1	09/01/20 18:24	09/02/20 03:19	TRB	Mt. Juliet, TN

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	47900		5000	1	08/28/2020 07:07	WG1533924

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	47800		5000	1	08/28/2020 07:39	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	61900		1000	1	09/02/2020 02:50	WG1535076

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	62200		1000	1	09/02/2020 03:08	WG1535076

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	183000		50000	10	08/28/2020 08:12	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1510		200	1	09/02/2020 03:16	WG1535076

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20000		1000	1	08/28/2020 08:23	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	4130	O1	200	1	09/01/2020 14:26	WG1535077

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18200		5000	5	08/28/2020 09:06	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	4100		200	1	09/02/2020 03:19	WG1535076

Method Blank (MB)

(MB) R3565005-1 08/28/20 05:09

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

L1255046-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1255046-01 08/28/20 06:23 • (DUP) R3565005-3 08/28/20 06:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Sulfate	16100	16900	1	4.57		15

L1255482-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1255482-06 08/28/20 12:00 • (DUP) R3565005-10 08/28/20 12:33

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20800	20600	1	1.01		15
Sulfate	27800	27600	1	0.647		15

Laboratory Control Sample (LCS)

(LCS) R3565005-2 08/28/20 05:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.8	80.0-120	
Sulfate	40000	39900	99.7	80.0-120	

L1255433-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-01 08/28/20 07:07 • (MS) R3565005-4 08/28/20 07:18 • (MSD) R3565005-5 08/28/20 07:28

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	16600	69200	67900	105	102	1	80.0-120			1.91	15
Sulfate	50000	47900	98500	97900	101	100	1	80.0-120			0.558	15

L1255433-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-06 08/28/20 08:23 • (MS) R3565005-6 08/28/20 08:34 • (MSD) R3565005-7 08/28/20 08:45

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	20000	71300	70500	103	101	1	80.0-120			1.23	15
Sulfate	50000	182000	232000	225000	101	87.4	1	80.0-120	E	E	2.92	15

L1255482-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255482-04 08/28/20 11:17 • (MS) R3565005-8 08/28/20 11:27 • (MSD) R3565005-9 08/28/20 11:38

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	8790	60500	60000	103	102	1	80.0-120			0.858	15
Sulfate	50000	80100	130000	130000	99.0	99.0	1	80.0-120	E	E	0.0218	15

Method Blank (MB)

(MB) R3566413-1 09/02/20 02:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200
Calcium	U		389	1000

Laboratory Control Sample (LCS)

(LCS) R3566413-2 09/02/20 02:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	981	98.1	80.0-120	
Calcium	10000	9890	98.9	80.0-120	

L1255433-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-03 09/02/20 02:50 • (MS) R3566413-4 09/02/20 02:55 • (MSD) R3566413-5 09/02/20 02:58

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	1190	2130	2130	94.0	94.0	1	75.0-125			0.00512	20
Calcium	10000	61900	70400	70700	85.7	87.8	1	75.0-125			0.297	20

Method Blank (MB)

(MB) R3566148-1 09/01/20 14:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		25.4	200

Laboratory Control Sample (LCS)

(LCS) R3566148-2 09/01/20 14:23

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	974	97.4	80.0-120	

L1255433-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-06 09/01/20 14:26 • (MS) R3566148-4 09/01/20 14:31 • (MSD) R3566148-5 09/01/20 14:34

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	4130	5040	5050	91.5	92.0	1	75.0-125			0.0974	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.
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).
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

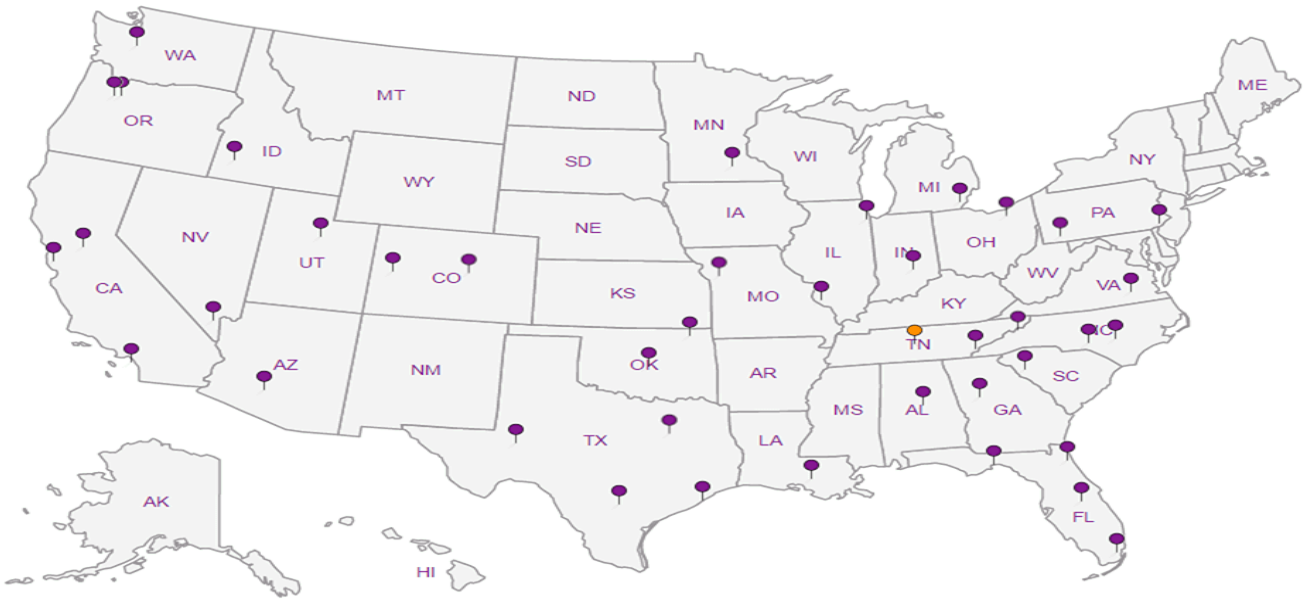
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Report to: Jason Franks

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

Project Description: Evergy - Iatan Generating Station

City/State Collected: Weston, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.20

Lab Project # AQUAOPKS-IATAN

Collected by (print): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature): Whit Martin

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

Pres Chk: c2 c2

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	SO4 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-10	Grab	GW		8/25/20	1245	1				X		-01
MW-10 MS/MSD	Grab	GW			1245	1				X		
DUPLICATE 1	Grab	GW			1245	1				X		-02
MW-104	Grab	GW			1415	1		X				-03
MW-104 MS/MSD	Grab	GW			1415	1		X				
DUPLICATE 2	Grab	GW			1415	1		X				-04
MW-109	Grab	GW			1505	2	X			X		-05
MW-110	Grab	GW			1550	2	X		X			-06
MW-110 MS/MSD	Grab	GW			1550	2	X		X			
DUPLICATE 3	Grab	GW			1550	2	X		X			-07

* 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 # 1845 4330 0180

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
Whit Martin	8/26/20	1240	Alan Nelson 8-26-20		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.3-5=38 °C Bottles Received: 14	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8-27-20 Time: 930	Hold: Condition: NCF / OK

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1255433

1124

Acctnum: AQUAOPKS

Template: T166691

Prelogin: P789892

PM: 206 - Jeff Carr

PB:

Shipped Via:

8/27

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 03, 2020

SCS Engineers - KS

Sample Delivery Group:	L1255449
Samples Received:	08/27/2020
Project Number:	27213167.20
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-10 L1255449-01 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 12:45 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1534047	1	08/29/20 23:39	08/29/20 23:39	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 09:17	08/28/20 09:17	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1536087	1	09/02/20 10:42	09/02/20 12:22	CCE	Mt. Juliet, TN

MW-104 L1255449-02 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 14:15 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1534047	1	08/29/20 23:55	08/29/20 23:55	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 09:28	08/28/20 09:28	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1533924	10	08/28/20 09:39	08/28/20 09:39	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1536087	1	09/02/20 10:42	09/02/20 12:37	CCE	Mt. Juliet, TN

MW-109 L1255449-03 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 15:05 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1534047	1	08/30/20 00:05	08/30/20 00:05	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1533924	1	08/28/20 09:50	08/28/20 09:50	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1536087	1	09/02/20 10:42	09/02/20 12:40	CCE	Mt. Juliet, TN

MW-110 L1255449-04 GW

Collected by: Whit Martin | Collected date/time: 08/25/20 15:50 | Received date/time: 08/27/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1534047	1	08/30/20 00:16	08/30/20 00:16	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534488	10	08/29/20 12:52	08/29/20 12:52	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1536087	1	09/02/20 10:42	09/02/20 14:44	TRB	Mt. Juliet, TN

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

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	589000		20000	1	08/29/2020 23:39	WG1534047
Alkalinity,Carbonate	ND		20000	1	08/29/2020 23:39	WG1534047

Sample Narrative:

L1255449-01 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	16400		1000	1	08/28/2020 09:17	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	163000	O1 V	1000	1	09/02/2020 12:22	WG1536087
Magnesium	59100	O1	1000	1	09/02/2020 12:22	WG1536087
Potassium	4510		2000	1	09/02/2020 12:22	WG1536087
Sodium	11900		3000	1	09/02/2020 12:22	WG1536087

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	223000		20000	1	08/29/2020 23:55	WG1534047
Alkalinity,Carbonate	ND		20000	1	08/29/2020 23:55	WG1534047

Sample Narrative:

L1255449-02 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	22800		1000	1	08/28/2020 09:28	WG1533924
Sulfate	126000		50000	10	08/28/2020 09:39	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Magnesium	13000		1000	1	09/02/2020 12:37	WG1536087
Potassium	3760		2000	1	09/02/2020 12:37	WG1536087
Sodium	79600		3000	1	09/02/2020 12:37	WG1536087

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	197000		20000	1	08/30/2020 00:05	WG1534047
Alkalinity,Carbonate	ND		20000	1	08/30/2020 00:05	WG1534047

Sample Narrative:

L1255449-03 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	25200		1000	1	08/28/2020 09:50	WG1533924

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	62300		1000	1	09/02/2020 12:40	WG1536087
Magnesium	12900		1000	1	09/02/2020 12:40	WG1536087
Potassium	5780		2000	1	09/02/2020 12:40	WG1536087
Sodium	96000		3000	1	09/02/2020 12:40	WG1536087

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	293000		20000	1	08/30/2020 00:16	WG1534047
Alkalinity,Carbonate	ND		20000	1	08/30/2020 00:16	WG1534047

Sample Narrative:

L1255449-04 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	179000		50000	10	08/29/2020 12:52	WG1534488

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	37000		1000	1	09/02/2020 14:44	WG1536087
Magnesium	6680		1000	1	09/02/2020 14:44	WG1536087
Potassium	6050		2000	1	09/02/2020 14:44	WG1536087
Sodium	176000		3000	1	09/02/2020 14:44	WG1536087

Method Blank (MB)

(MB) R3565352-1 08/29/20 16:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1254487-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1254487-01 08/29/20 16:26 • (DUP) R3565352-3 08/29/20 16:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	249000	249000	1	0.255		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1255084-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1255084-01 08/29/20 23:19 • (DUP) R3565352-6 08/29/20 23:29

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	22000	21900	1	0.607		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3565005-1 08/28/20 05:09

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

L1255046-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1255046-01 08/28/20 06:23 • (DUP) R3565005-3 08/28/20 06:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Sulfate	16100	16900	1	4.57		15

L1255482-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1255482-06 08/28/20 12:00 • (DUP) R3565005-10 08/28/20 12:33

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20800	20600	1	1.01		15
Sulfate	27800	27600	1	0.647		15

Laboratory Control Sample (LCS)

(LCS) R3565005-2 08/28/20 05:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.8	80.0-120	
Sulfate	40000	39900	99.7	80.0-120	

L1255433-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-01 08/28/20 07:07 • (MS) R3565005-4 08/28/20 07:18 • (MSD) R3565005-5 08/28/20 07:28

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	16600	69200	67900	105	102	1	80.0-120			1.91	15
Sulfate	50000	47900	98500	97900	101	100	1	80.0-120			0.558	15

L1255433-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255433-06 08/28/20 08:23 • (MS) R3565005-6 08/28/20 08:34 • (MSD) R3565005-7 08/28/20 08:45

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	20000	71300	70500	103	101	1	80.0-120			1.23	15
Sulfate	50000	182000	232000	225000	101	87.4	1	80.0-120	E	E	2.92	15

L1255482-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255482-04 08/28/20 11:17 • (MS) R3565005-8 08/28/20 11:27 • (MSD) R3565005-9 08/28/20 11:38

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	8790	60500	60000	103	102	1	80.0-120			0.858	15
Sulfate	50000	80100	130000	130000	99.0	99.0	1	80.0-120	E	E	0.0218	15

Method Blank (MB)

(MB) R3565413-1 08/29/20 09:23

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

L1255052-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1255052-01 08/29/20 10:49 • (DUP) R3565413-3 08/29/20 11:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	506000	509000	10	0.607		15

L1255539-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1255539-09 08/29/20 15:46 • (DUP) R3565413-6 08/29/20 16:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	314000	315000	1	0.227	E	15

Laboratory Control Sample (LCS)

(LCS) R3565413-2 08/29/20 09:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfate	40000	43000	107	80.0-120	

L1255315-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255315-01 08/29/20 11:23 • (MS) R3565413-4 08/29/20 11:40 • (MSD) R3565413-5 08/29/20 11:58

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	90800	143000	149000	105	117	1	80.0-120	E	E	4.08	15

L1255620-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1255620-02 08/29/20 16:56 • (MS) R3565413-7 08/29/20 17:11

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	64100	117000	105	1	80.0-120	E

Method Blank (MB)

(MB) R3566516-1 09/02/20 12:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		389	1000
Magnesium	U		111	1000
Potassium	U		510	2000
Sodium	U		1400	3000

Laboratory Control Sample (LCS)

(LCS) R3566516-2 09/02/20 12:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9870	98.7	80.0-120	
Magnesium	10000	9390	93.9	80.0-120	
Potassium	10000	9370	93.7	80.0-120	
Sodium	10000	10100	101	80.0-120	

L1255449-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255449-01 09/02/20 12:22 • (MS) R3566516-4 09/02/20 12:27 • (MSD) R3566516-5 09/02/20 12:29

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	163000	168000	167000	49.3	47.8	1	75.0-125	V	V	0.0895	20
Magnesium	10000	59100	67600	67500	84.9	83.4	1	75.0-125			0.217	20
Potassium	10000	4510	14100	13900	95.7	94.3	1	75.0-125			1.03	20
Sodium	10000	11900	21700	21600	98.3	97.3	1	75.0-125			0.478	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.
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).
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
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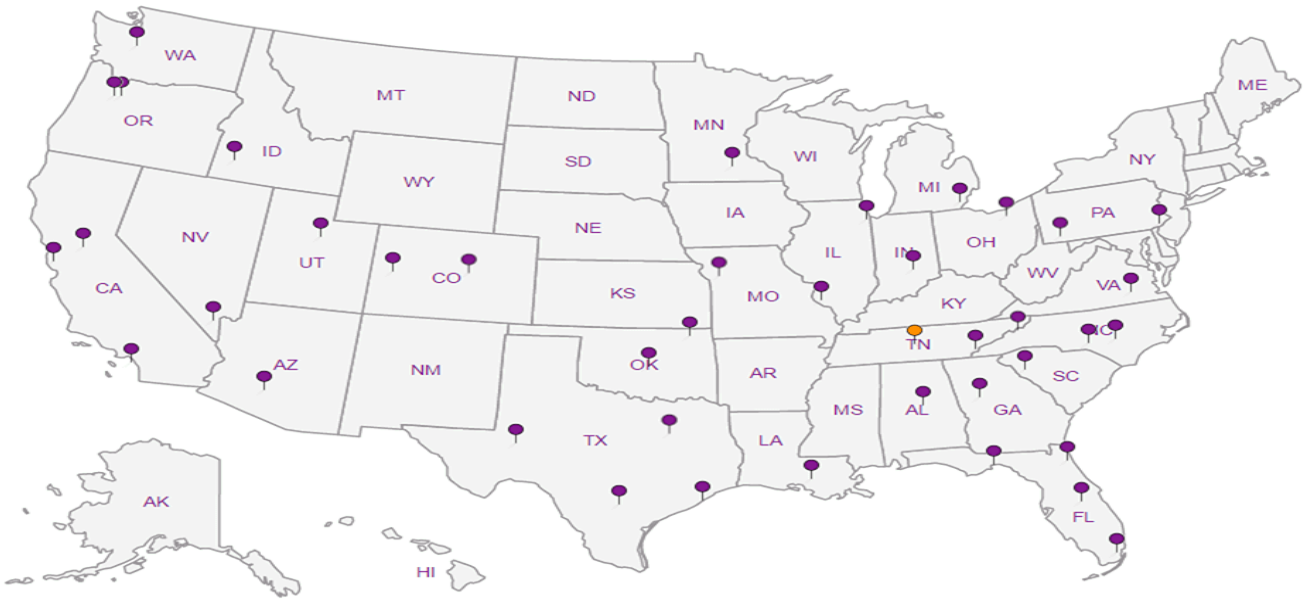
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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 Generating Station

City/State Collected: Weston, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.20

Lab Project # AQUAOPKS-IATAN

Collected by (print): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

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	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	Chloride - 9056 125mlHDPE-NoPres	K, Mg, Na - 6010 250mlHDPE-HNO3	SO4 - 9056 125mlHDPE-NoPres	SO4, Chloride - 9056 125mlHDPE-NoPres					Remarks	Sample # (lab only)
								42		42								
MW-10	Grab	GW		8/25/20	1245	3	X	X	X									-01
MW-104	Grab	GW		8/25/20	1415	3	X			X		X						02
MW-109	Grab	GW		8/25/20	1505	3	X	X	X									03
MW-110	Grab	GW		8/25/20	1550	3	X	X			X							04

* 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 # 1845 4330 0150

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
	8/26/20	1240		8-26-20 1240
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				4.0-5.5=3.8 (2)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				8-27-20 930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

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

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1255449

1123

Acctnum: AQUAOPKS
Template: T152879
Prelogin: P789896
PM: 206 - Jeff Carr
PB:
Shipped Via:

Jared Morrison
December 16, 2022

ATTACHMENT 1-6

November 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 20, 2020

SCS Engineers - KS

Sample Delivery Group:	L1284237
Samples Received:	11/11/2020
Project Number:	27213167.20
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-1 L1284237-01 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 14:10 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 17:56	11/18/20 17:56	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576871	1	11/16/20 22:11	11/17/20 17:04	EL	Mt. Juliet, TN

MW-2 L1284237-02 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 14:55 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 18:14	11/18/20 18:14	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	5	11/18/20 18:33	11/18/20 18:33	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576871	1	11/16/20 22:11	11/17/20 17:07	EL	Mt. Juliet, TN

MW-6 L1284237-03 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 12:50 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 18:51	11/18/20 18:51	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576871	1	11/16/20 22:11	11/17/20 15:57	EL	Mt. Juliet, TN

MW-7 L1284237-04 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 13:20 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 20:23	11/18/20 20:23	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576871	1	11/16/20 22:11	11/17/20 17:10	EL	Mt. Juliet, TN

MW-8 L1284237-05 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 12:40 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 21:00	11/18/20 21:00	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:03	CCE	Mt. Juliet, TN

DUPLICATE L1284237-06 GW

Collected by: Jason R Franks | Collected date/time: 11/09/20 12:50 | Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578077	1	11/18/20 21:19	11/18/20 21:19	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:06	CCE	Mt. Juliet, TN

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	520000	J3	10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5240		1000	1	11/18/2020 17:56	WG1578077
Fluoride	271		150	1	11/18/2020 17:56	WG1578077
Sulfate	30900		5000	1	11/18/2020 17:56	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 17:04	WG1576871
Calcium	134000		1000	1	11/17/2020 17:04	WG1576871

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	640000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7030		1000	1	11/18/2020 18:14	WG1578077
Fluoride	313		150	1	11/18/2020 18:14	WG1578077
Sulfate	129000		25000	5	11/18/2020 18:33	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 17:07	WG1576871
Calcium	167000		1000	1	11/17/2020 17:07	WG1576871

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	548000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1600		1000	1	11/18/2020 18:51	WG1578077
Fluoride	308		150	1	11/18/2020 18:51	WG1578077
Sulfate	24800		5000	1	11/18/2020 18:51	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 15:57	WG1576871
Calcium	160000		1000	1	11/17/2020 15:57	WG1576871

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	453000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3180		1000	1	11/18/2020 20:23	WG1578077
Fluoride	288		150	1	11/18/2020 20:23	WG1578077
Sulfate	34000		5000	1	11/18/2020 20:23	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 17:10	WG1576871
Calcium	132000		1000	1	11/17/2020 17:10	WG1576871

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	571000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9920		1000	1	11/18/2020 21:00	WG1578077
Fluoride	357		150	1	11/18/2020 21:00	WG1578077
Sulfate	58500		5000	1	11/18/2020 21:00	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 11:03	WG1576873
Calcium	158000		1000	1	11/17/2020 11:03	WG1576873

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	557000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1580		1000	1	11/18/2020 21:19	WG1578077
Fluoride	304		150	1	11/18/2020 21:19	WG1578077
Sulfate	25000		5000	1	11/18/2020 21:19	WG1578077

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 11:06	WG1576873
Calcium	162000		1000	1	11/17/2020 11:06	WG1576873

Method Blank (MB)

(MB) R3593450-1 11/15/20 14:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1284237-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284237-01 11/15/20 14:37 • (DUP) R3593450-3 11/15/20 14:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	520000	490000	1	5.94	J3	5

L1284370-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284370-01 11/15/20 14:37 • (DUP) R3593450-4 11/15/20 14:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	213000	176000	1	19.0	J3	5

Laboratory Control Sample (LCS)

(LCS) R3593450-2 11/15/20 14:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8270000	94.0	77.4-123	

Method Blank (MB)

(MB) R3594543-1 11/18/20 10:51

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

L1284237-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1284237-04 11/18/20 20:23 • (DUP) R3594543-7 11/18/20 20:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	3180	3170	1	0.258		15
Fluoride	288	296	1	2.54		15
Sulfate	34000	33900	1	0.142		15

Laboratory Control Sample (LCS)

(LCS) R3594543-2 11/18/20 11:09

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39700	99.2	80.0-120	
Fluoride	8000	8300	104	80.0-120	
Sulfate	40000	40200	100	80.0-120	

L1284227-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1284227-01 11/18/20 15:10 • (MS) R3594543-4 11/18/20 15:29

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Chloride	50000	ND	53400	105	1	80.0-120	
Fluoride	5000	ND	5230	103	1	80.0-120	
Sulfate	50000	103000	154000	102	1	80.0-120	E

L1284237-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284237-03 11/18/20 18:51 • (MS) R3594543-5 11/18/20 19:10 • (MSD) R3594543-6 11/18/20 19:28

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	%	%		%			%	%
Chloride	50000	1600	48900	48800	94.5	94.3	1	80.0-120			0.192	15
Fluoride	5000	308	4950	4940	92.9	92.7	1	80.0-120			0.146	15

L1284237-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284237-03 11/18/20 18:51 • (MS) R3594543-5 11/18/20 19:10 • (MSD) R3594543-6 11/18/20 19:28

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	24800	73400	73400	97.2	97.1	1	80.0-120			0.0673	15

Method Blank (MB)

(MB) R3594218-1 11/17/20 15:52

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) R3594218-2 11/17/20 15:55

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	960	96.0	80.0-120	
Calcium	10000	9810	98.1	80.0-120	

L1284237-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284237-03 11/17/20 15:57 • (MS) R3594218-4 11/17/20 16:03 • (MSD) R3594218-5 11/17/20 16:05

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	101	99.5	1	75.0-125			1.76	20
Calcium	10000	160000	170000	171000	104	110	1	75.0-125			0.314	20

Method Blank (MB)

(MB) R3594035-1 11/17/20 10:47

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) R3594035-2 11/17/20 10:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	999	99.9	80.0-120	
Calcium	10000	10700	107	80.0-120	

L1284240-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284240-02 11/17/20 10:53 • (MS) R3594035-4 11/17/20 10:58 • (MSD) R3594035-5 11/17/20 11:01

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	1100	1110	98.0	98.5	1	75.0-125			0.473	20
Calcium	10000	158000	164000	163000	60.8	57.5	1	75.0-125	V	V	0.201	20

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

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).
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.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
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State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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		

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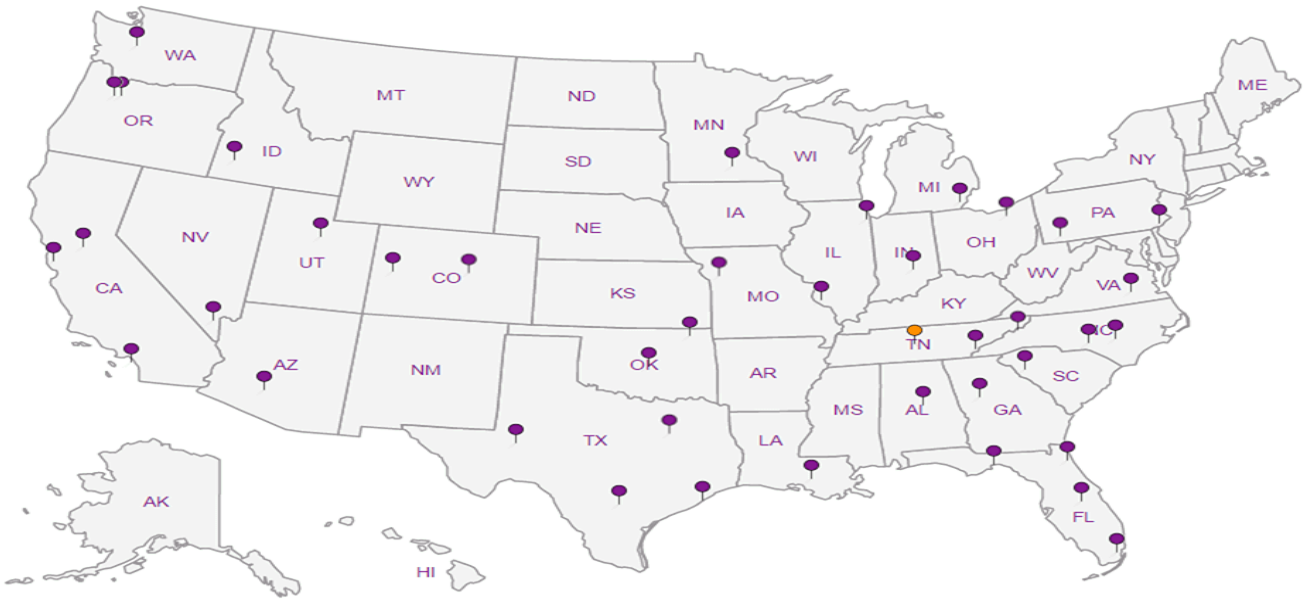

SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

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 Generating Station

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.19

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

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	GRAB	GW	-	11/9/20	1410	3	X	X	X		-01
MW-2		GW	-		1455	3	X	X	X		02
MW-6		GW	-		1250	3	X	X	X		03
MW-7		GW	-		1320	3	X	X	X		04
MW-8		GW	-		1240	3	X	X	X		05
DUPLICATE		GW	-		1250	3	X	X	X		06
6 MS / MSD		GW			1250	3	X	X	X		03

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 284237
Tab F245
Acctnum: AQUAOPKS
Template: T136059
Prelogin: P805776
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 #

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)
	11/10/20	1028	
	11/10/20	1800	FedEx
			Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 3.2 -0.1 -3.1 °C Bottles Received: 21

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Date: 11/11/20 Time: 1240

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 22, 2020

SCS Engineers - KS

Sample Delivery Group:	L1284240
Samples Received:	11/11/2020
Project Number:	27213167.20
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 L1284240-01 GW

Collected by: Jason R Franks
Collected date/time: 11/09/20 14:45
Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578226	1	11/21/20 00:43	11/21/20 00:43	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:09	CCE	Mt. Juliet, TN

MW-10 L1284240-02 GW

Collected by: Jason R Franks
Collected date/time: 11/09/20 13:55
Received date/time: 11/11/20 12:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1576584	1	11/15/20 06:42	11/15/20 14:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578226	1	11/21/20 01:34	11/21/20 01:34	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 10:53	CCE	Mt. Juliet, TN

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	475000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1300	B	1000	1	11/21/2020 00:43	WG1578226
Fluoride	324		150	1	11/21/2020 00:43	WG1578226
Sulfate	17400		5000	1	11/21/2020 00:43	WG1578226

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 11:09	WG1576873
Calcium	123000		1000	1	11/17/2020 11:09	WG1576873

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	645000		10000	1	11/15/2020 14:37	WG1576584

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	16700		1000	1	11/21/2020 01:34	WG1578226
Fluoride	476		150	1	11/21/2020 01:34	WG1578226
Sulfate	42300		5000	1	11/21/2020 01:34	WG1578226

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	11/17/2020 10:53	WG1576873
Calcium	158000	V	1000	1	11/17/2020 10:53	WG1576873

Method Blank (MB)

(MB) R3593450-1 11/15/20 14:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1284237-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284237-01 11/15/20 14:37 • (DUP) R3593450-3 11/15/20 14:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	520000	490000	1	5.94	J3	5

L1284370-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284370-01 11/15/20 14:37 • (DUP) R3593450-4 11/15/20 14:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	213000	176000	1	19.0	J3	5

Laboratory Control Sample (LCS)

(LCS) R3593450-2 11/15/20 14:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8270000	94.0	77.4-123	

Method Blank (MB)

(MB) R3595861-1 11/20/20 22:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	447	J	379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1284109-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284109-01 11/20/20 23:26 • (DUP) R3595861-3 11/20/20 23:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	9110	9020	1	1.01		15
Fluoride	ND	ND	1	19.3	P1	15
Sulfate	6210	6150	1	0.872		15

L1284370-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1284370-07 11/21/20 04:11 • (DUP) R3595861-7 11/21/20 04:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	33000	33100	1	0.269		15
Fluoride	ND	160	1	15.6	P1	15
Sulfate	27200	27500	1	0.793		15

Laboratory Control Sample (LCS)

(LCS) R3595861-2 11/20/20 23:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39600	99.1	80.0-120	
Fluoride	8000	7900	98.7	80.0-120	
Sulfate	40000	40000	99.9	80.0-120	

L1284110-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1284110-01 11/20/20 23:52 • (MS) R3595861-4 11/21/20 00:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	80500	134000	107	1	80.0-120	E
Fluoride	5000	153	5740	112	1	80.0-120	
Sulfate	50000	6110	63400	115	1	80.0-120	

L1284240-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284240-02 11/21/20 01:34 • (MS) R3595861-5 11/21/20 01:47 • (MSD) R3595861-6 11/21/20 02:00

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	16700	73100	73800	113	114	1	80.0-120			0.959	15
Fluoride	5000	476	5910	5980	109	110	1	80.0-120			1.23	15
Sulfate	50000	42300	97100	98800	110	113	1	80.0-120			1.71	15

Method Blank (MB)

(MB) R3594035-1 11/17/20 10:47

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) R3594035-2 11/17/20 10:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	999	99.9	80.0-120	
Calcium	10000	10700	107	80.0-120	

L1284240-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284240-02 11/17/20 10:53 • (MS) R3594035-4 11/17/20 10:58 • (MSD) R3594035-5 11/17/20 11:01

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	1100	1110	98.0	98.5	1	75.0-125			0.473	20
Calcium	10000	158000	164000	163000	60.8	57.5	1	75.0-125	V	V	0.201	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.
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.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
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.

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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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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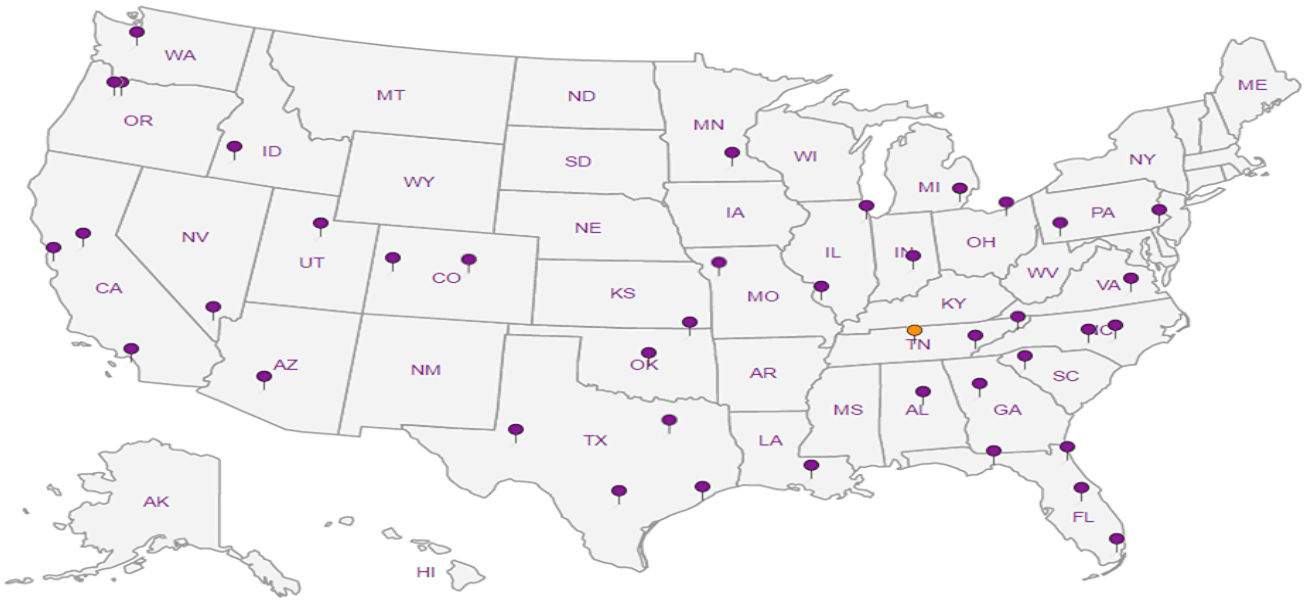


SCS Engineers - KS
8575 W. 110th Street
Overland Park, KS 66210

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 Generating Station

City/State Collected: WESTON, MO

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27213167.20

Lab Project # AQUAOPKS-IATAN

Collected by (print): JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature): Jason R. Franks

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	GRAB	GW	-	11/9/20	1445	3	X	X	X								-01
MW-10	GRAB	GW	-	11/9/20	1355	3	X	X	X								02

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 184240
Table F244
Acctnum: AQUAOPKS
Template: T166691
Prelogin: P805779
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 #

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)
Jason R. Franks	11/10/20	1028	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	11/10/20	800	SWA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Olivia Turner

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 3.2 -0.1= 3.1 °C Bottles Received: 6

Date: 11/11/20 Time: 240

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 2

Statistical Analyses

Jared Morrison
December 16, 2022

ATTACHMENT 2-1

Fall 2019 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

March 10, 2020

To: Iatan Generating Station
20250 State Route 45 N
Platte County, Missouri
Evergy Metro, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases - CCR Landfill
Fall 2019 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 4, 2019. Review and validation of the results from the November 2019 Detection Monitoring Event was completed on December 12, 2019, which constitutes completion and finalization of detection monitoring laboratory analyses. A 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 15, 2020 and February 4, 2020.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-1.

Constituent/Monitoring Well	*UPL	Observation November 4, 2019	1st Verification January 15, 2020	2nd Verification February 4, 2020
Fluoride				
MW-1	0.3201	0.488	0.326	0.329

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for fluoride in monitoring well MW-1.

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 10, 2020

ATTACHMENT 1

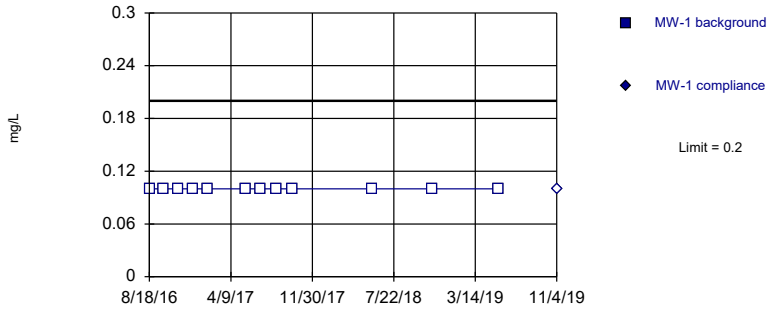
Sanitas™ Output

Sanitas™ v.9.6.25 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 2/25/2020 9:43 AM View: CCR LF III

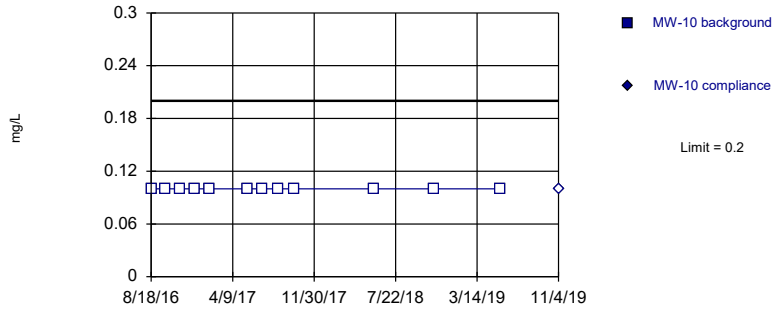
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 2/25/2020 9:43 AM View: CCR LF III

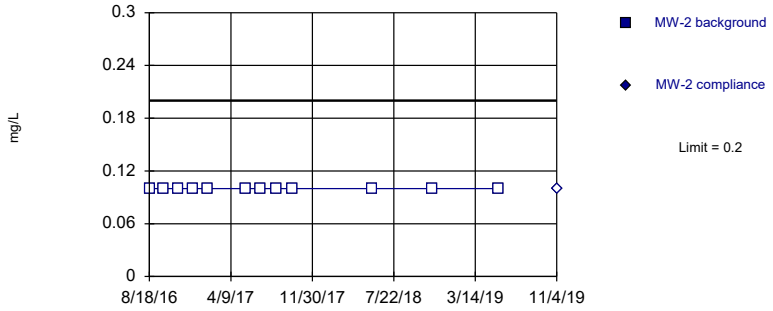
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas 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 2/25/2020 9:44 AM View: CCR LF III

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

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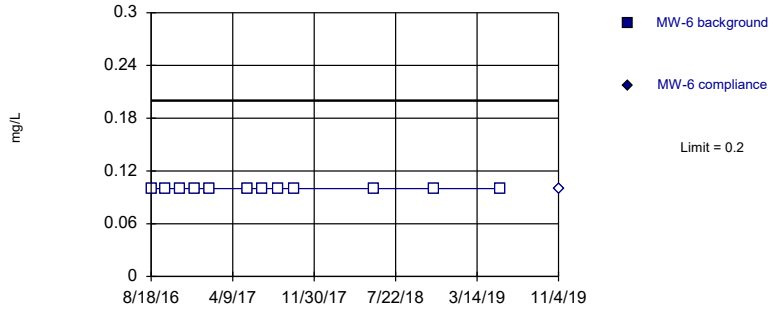
Hollow symbols indicate censored values.

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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Boron Analysis Run 2/25/2020 10:03 AM View: CCR LF III

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

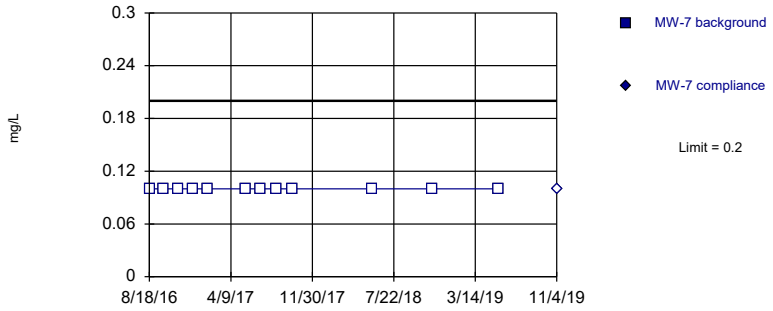
	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	<0.2		<0.2		<0.2		<0.2	
9/29/2016	<0.2		<0.2		<0.2		<0.2	
11/9/2016	<0.2		<0.2		<0.2		<0.2	
12/21/2016	<0.2		<0.2		<0.2		<0.2	
2/3/2017	<0.2		<0.2		<0.2		<0.2	
5/24/2017	<0.2		<0.2		<0.2		<0.2	
7/5/2017	<0.2		<0.2		<0.2		<0.2	
8/17/2017	<0.2		<0.2		<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

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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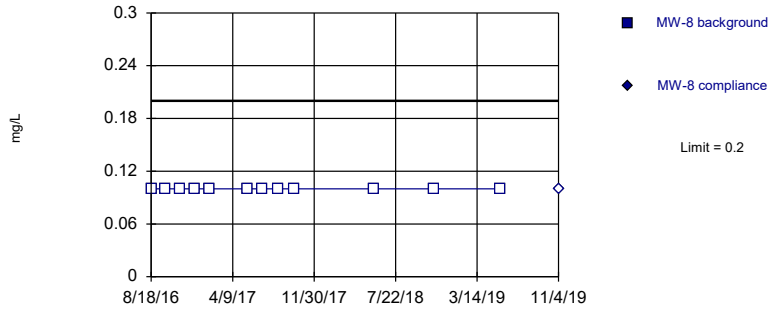
Constituent: Boron Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

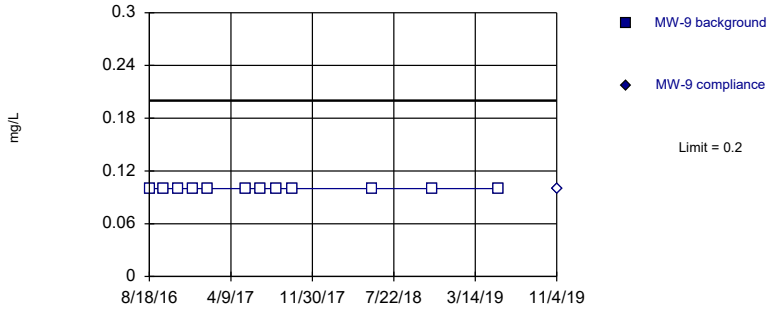
Constituent: Boron Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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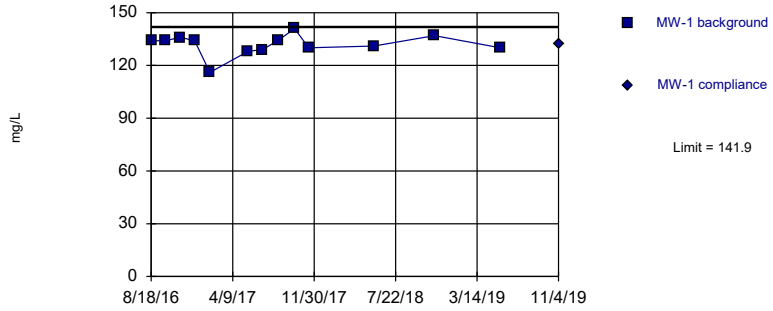
Constituent: Boron Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=131.8, Std. Dev.=5.97, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron, Calcium Analysis Run 2/25/2020 10:03 AM View: CCR LF III

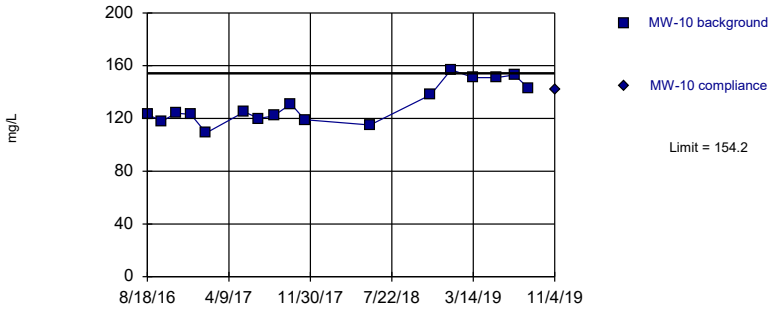
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=130.7, Std. Dev.=15.04, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8963, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

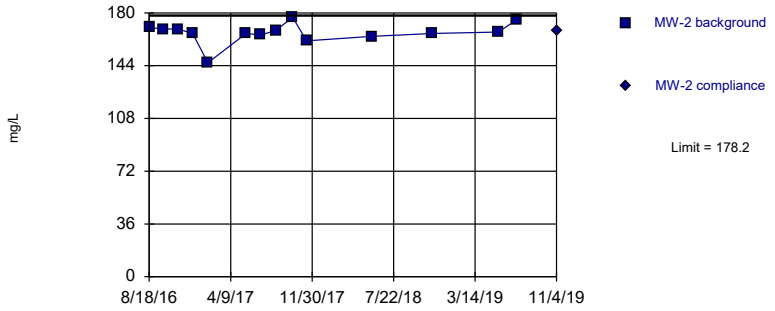
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=166.4, Std. Dev.=7.175, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8366, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

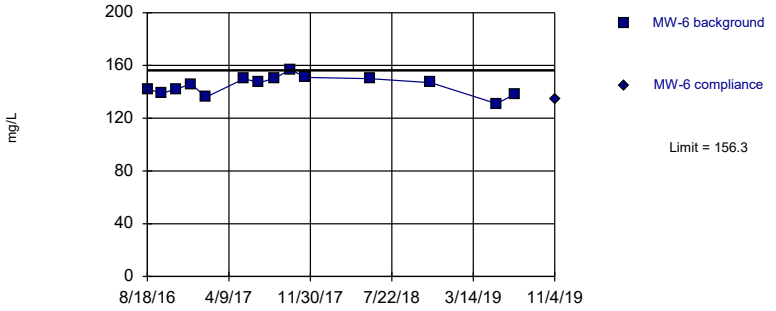
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=144.7, Std. Dev.=7.032, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9678, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

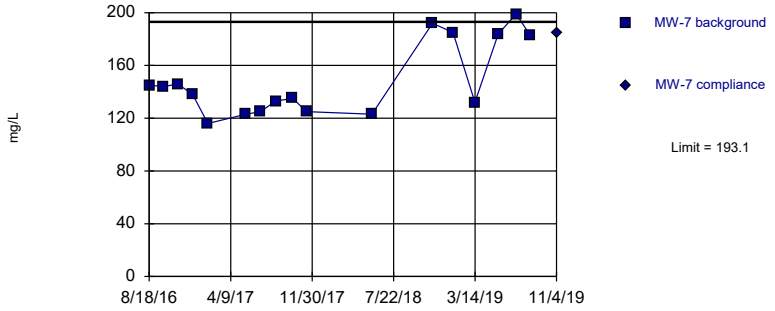
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.15, Std. Dev.=1.12, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8573, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Calcium Analysis Run 2/25/2020 10:03 AM View: CCR LF III

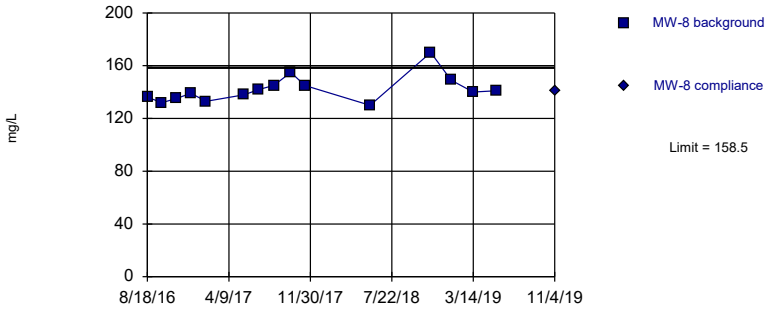
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=142, Std. Dev.=10.21, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8744, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

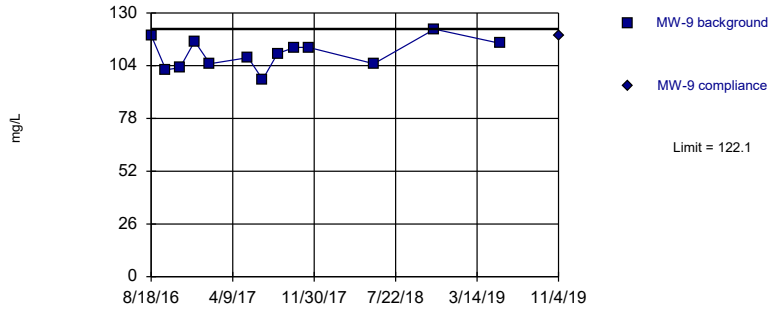
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.9, Std. Dev.=7.272, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9797, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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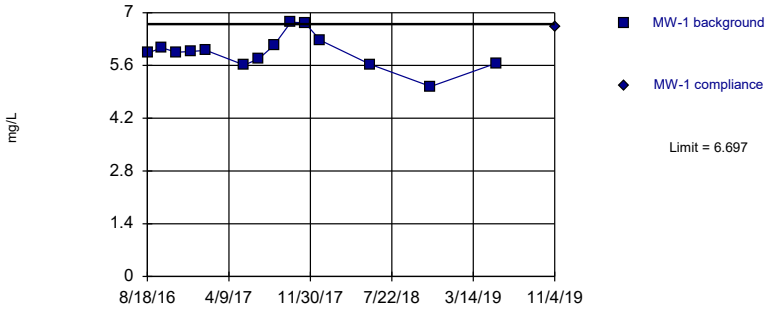
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.966, Std. Dev.=0.4435, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9436, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

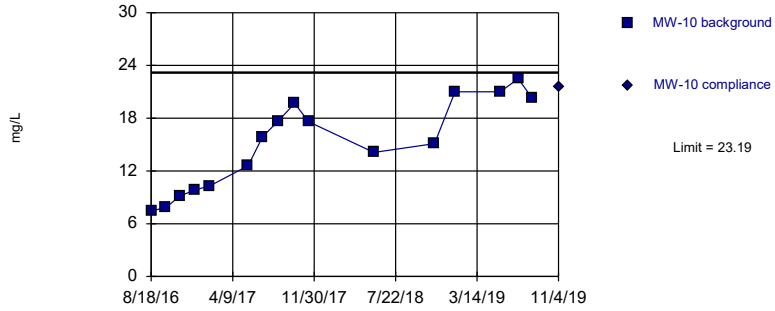
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.12, Std. Dev.=5.1, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9286, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Calcium, Chloride Analysis Run 2/25/2020 10:03 AM View: CCR LF III

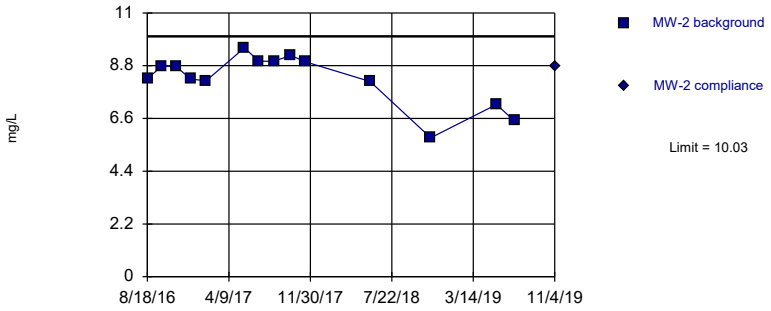
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.253, Std. Dev.=1.076, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8719, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

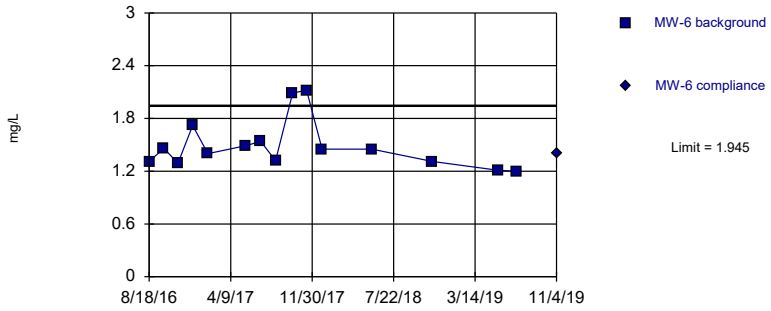
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.216, Std. Dev.=0.1104, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8387, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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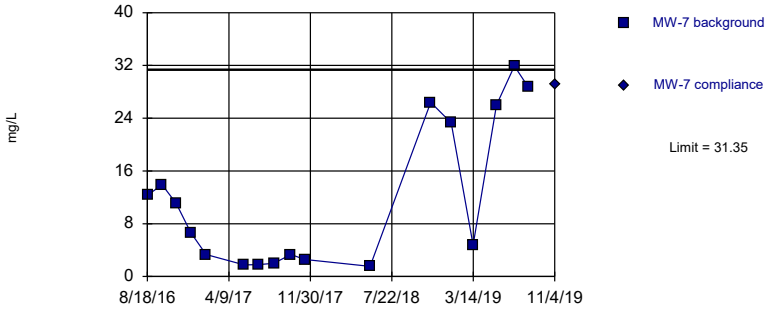
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=3.057, Std. Dev.=1.629, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8683, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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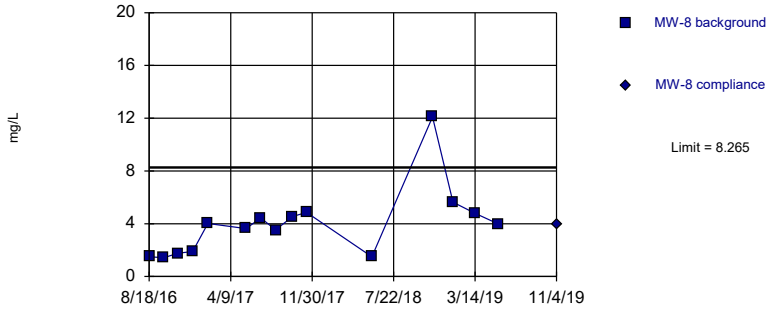
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.907, Std. Dev.=0.5992, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8695, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Chloride Analysis Run 2/25/2020 10:03 AM View: CCR LF III

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

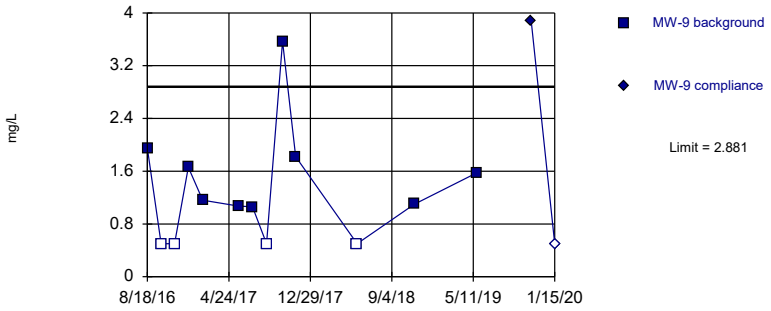
	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	8.26		1.31		12.3		1.5	
9/29/2016	8.79		1.46		13.9		1.42	
11/9/2016	8.76		1.29		11.1		1.76	
12/21/2016	8.24		1.72		6.64		1.89	
2/3/2017	8.17		1.4		3.32		4.02	
5/24/2017	9.54		1.49		1.76		3.63	
7/5/2017	8.99		1.54		1.81		4.44	
8/17/2017	8.98		1.32		2		3.53	
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

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Aitchison`s Adjustment): Mean=1.151, Std. Dev.=1.028, n=13, 30.77% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8333, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

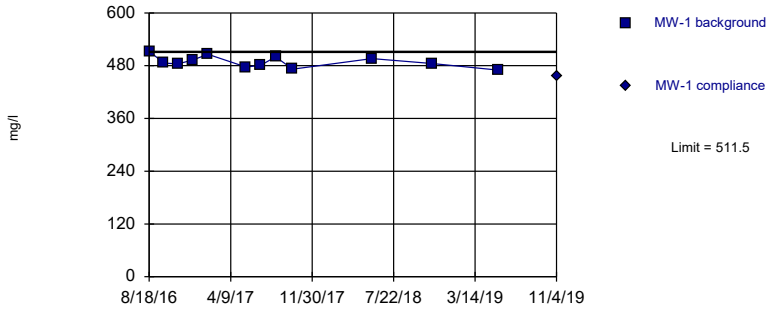
Constituent: Chloride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=488.6, Std. Dev.=13.34, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9663, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

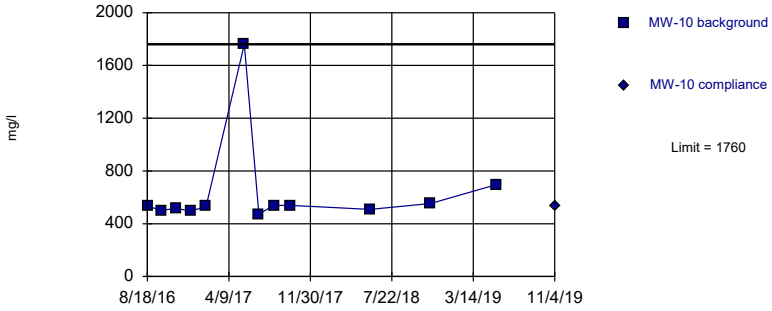
Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

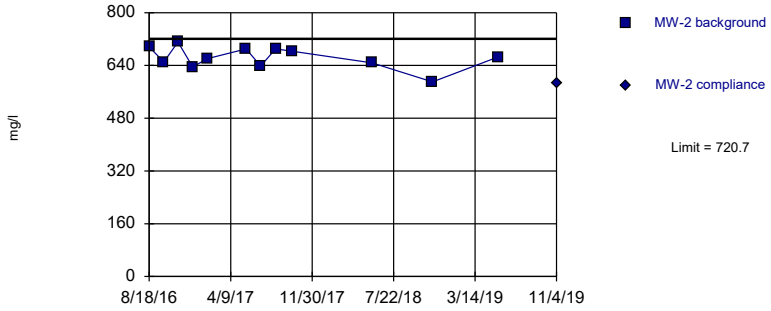
Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=663.3, Std. Dev.=33.46, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9501, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 2/25/2020 10:03 AM View: CCR LF III

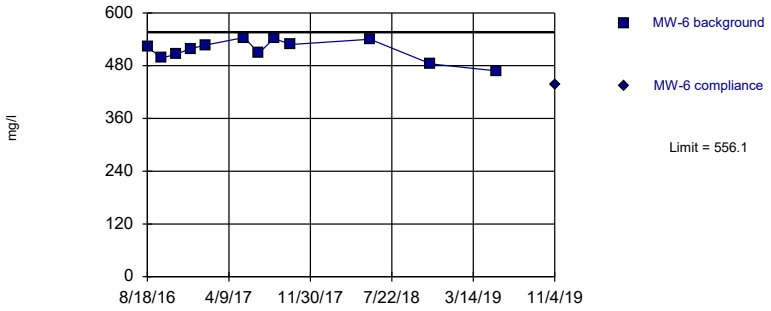
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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 1st Verification						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=515.5, Std. Dev.=23.66, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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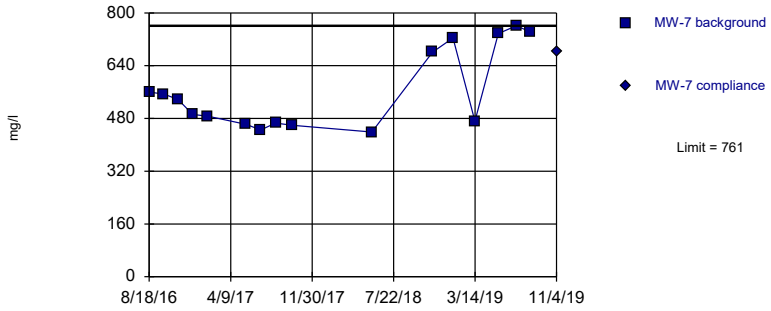
Within Limit

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 16 background values. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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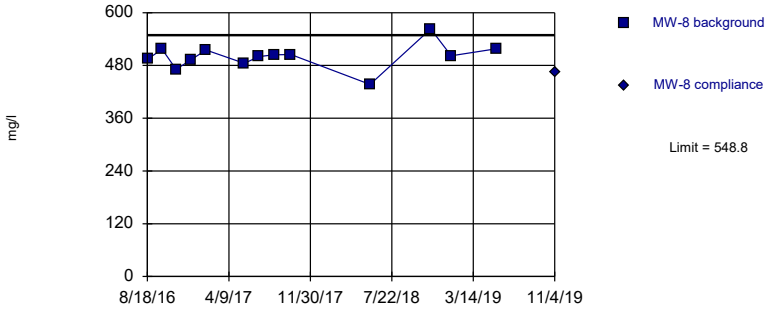
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=500.3, Std. Dev.=28.83, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9252, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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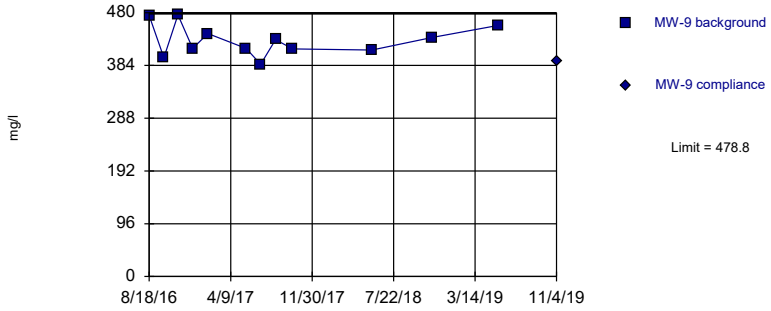
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=429.7, Std. Dev.=28.65, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9417, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Dissolved Solids Analysis Run 2/25/2020 10:03 AM View: CCR LF III

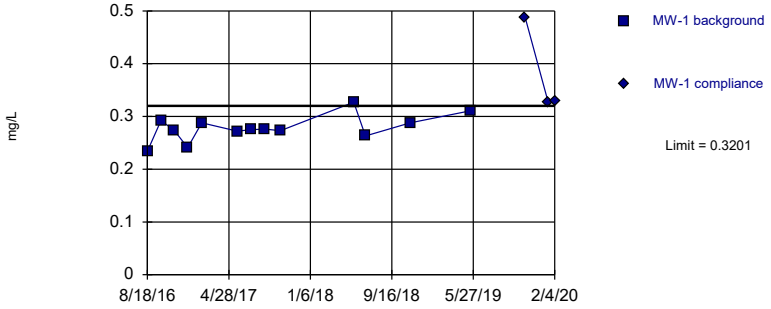
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.278, Std. Dev.=0.02501, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9534, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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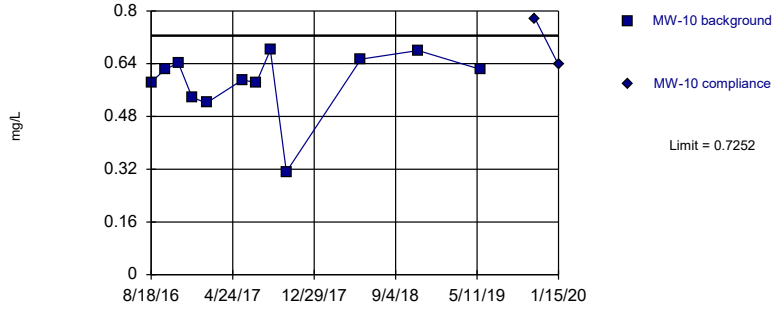
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=0.3525, Std. Dev.=0.1011, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8795, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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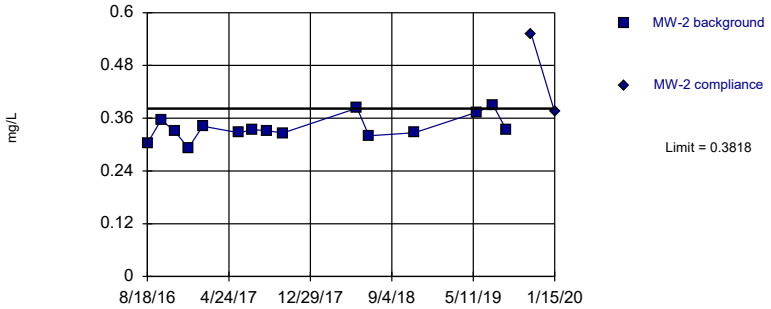
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3379, Std. Dev.=0.02721, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9262, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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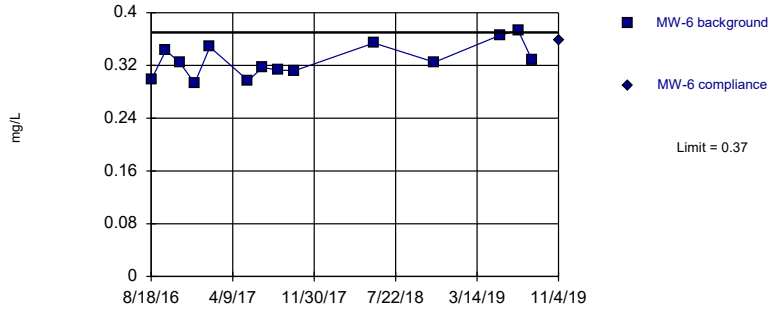
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3279, Std. Dev.=0.02554, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9487, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Fluoride Analysis Run 2/25/2020 10:03 AM View: CCR LF III

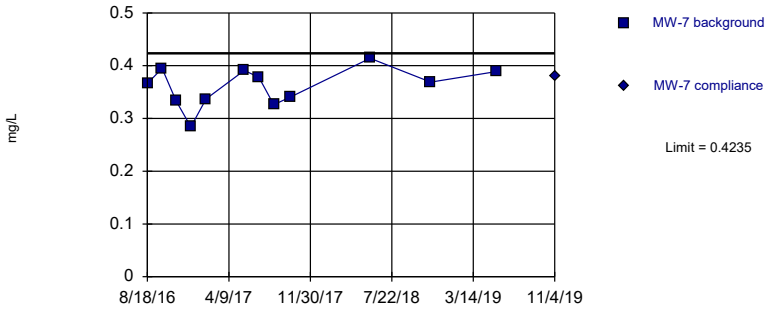
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	1st Verification		0.637	1st Verification		0.374	1st Verification		
2/4/2020		0.329	2nd Verification								

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3603, Std. Dev.=0.03685, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9559, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

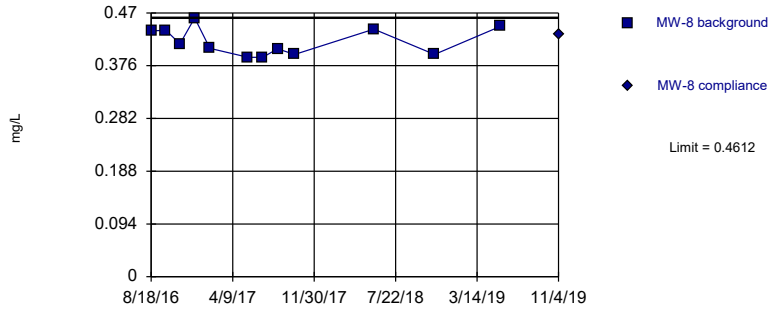
Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4189, Std. Dev.=0.02467, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8902, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

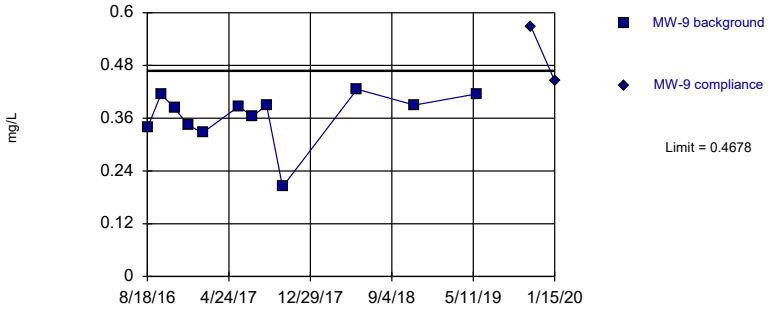
Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3653, Std. Dev.=0.05978, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8122, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

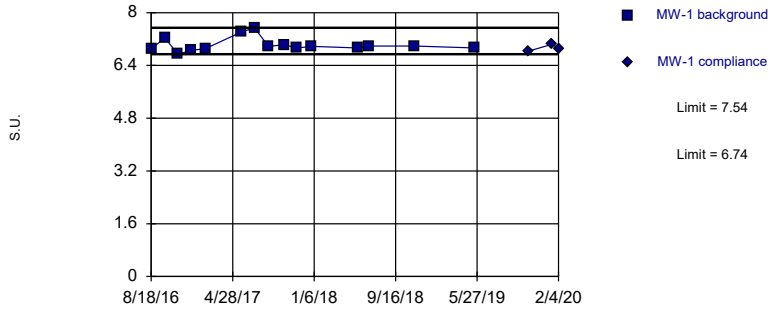
Constituent: Fluoride Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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 15 background values. Well-constituent pair annual alpha = 0.005248. Individual comparison alpha = 0.002625 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Fluoride, pH Analysis Run 2/25/2020 10:03 AM View: CCR LF III

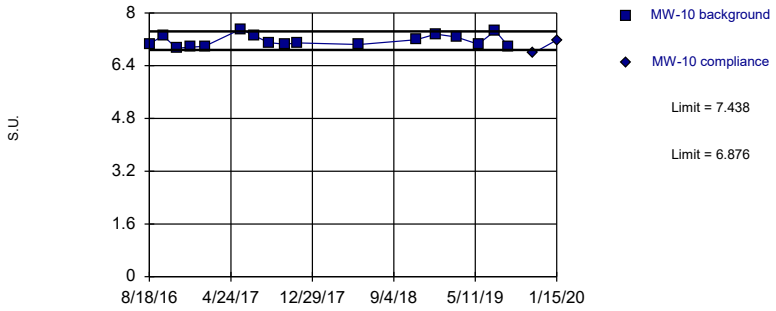
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	1st Verification	7.04	Extra Sample
2/4/2020								6.91	Extra Sample

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.157, Std. Dev.=0.18, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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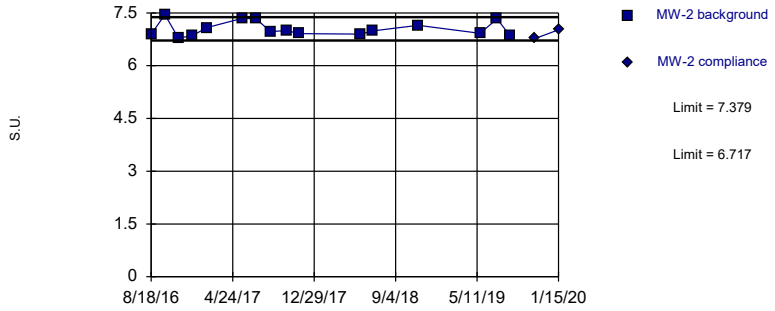
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.048, Std. Dev.=0.2096, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8784, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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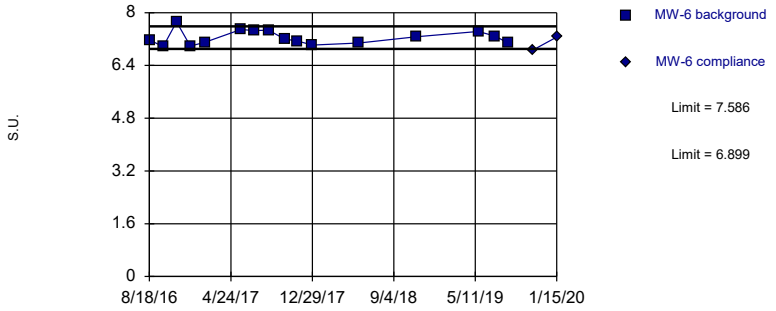
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.243, Std. Dev.=0.2171, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9298, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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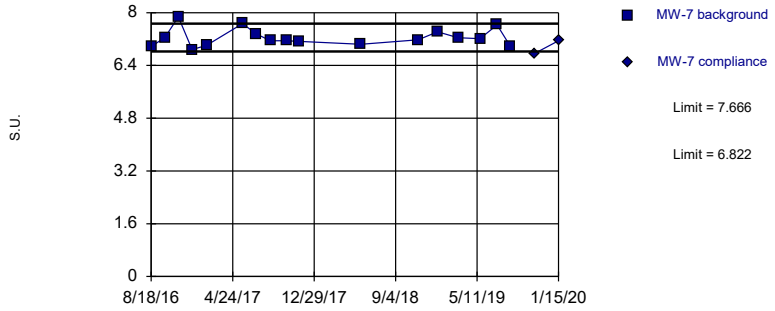
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.244, Std. Dev.=0.2706, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.916, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: pH Analysis Run 2/25/2020 10:03 AM View: CCR LF III

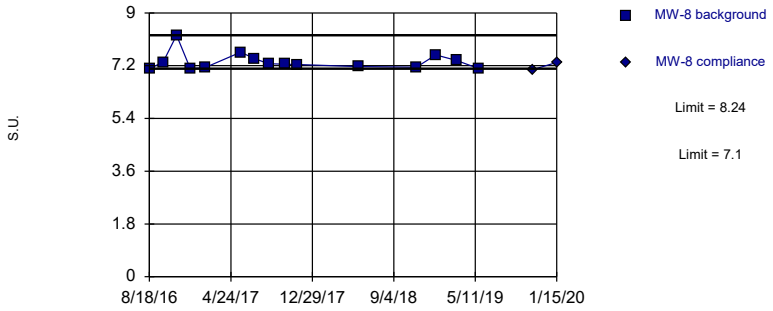
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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 1st Verification		7.02 Extra Sample		7.26 1st Verification		7.15 1st Verification

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 15 background values. Well-constituent pair annual alpha = 0.005248. Individual comparison alpha = 0.002625 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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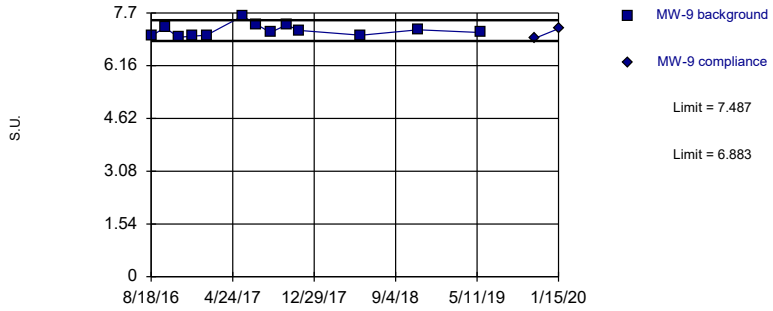
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.185, Std. Dev.=0.1795, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.895, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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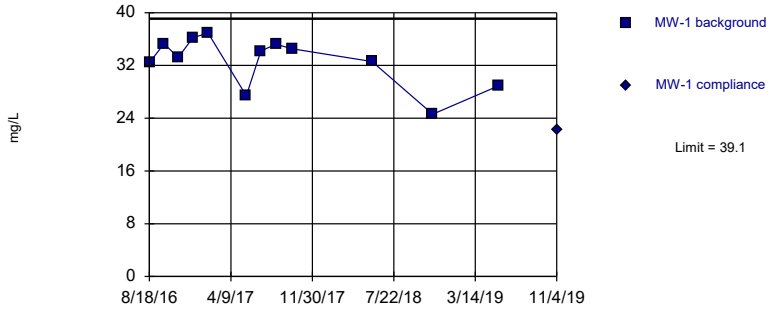
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.62, Std. Dev.=3.775, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8898, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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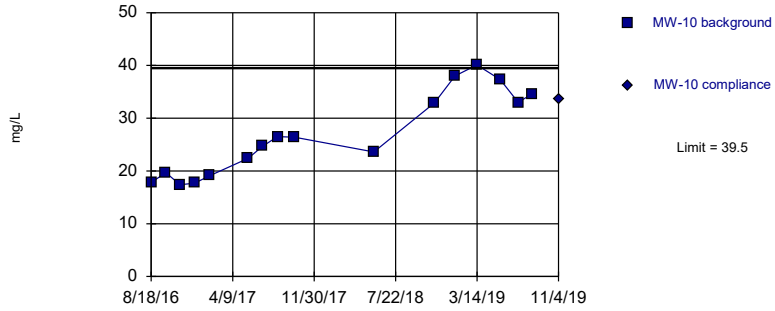
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=26.95, Std. Dev.=7.937, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9063, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: pH, Sulfate Analysis Run 2/25/2020 10:03 AM View: CCR LF III

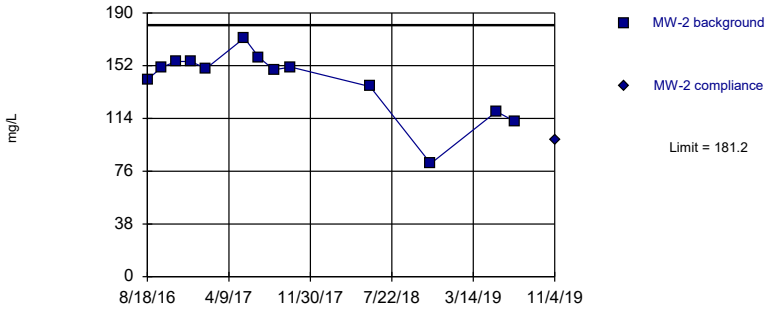
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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 1st Verification		7.24 Extra Sample				

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=141, Std. Dev.=23.93, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8552, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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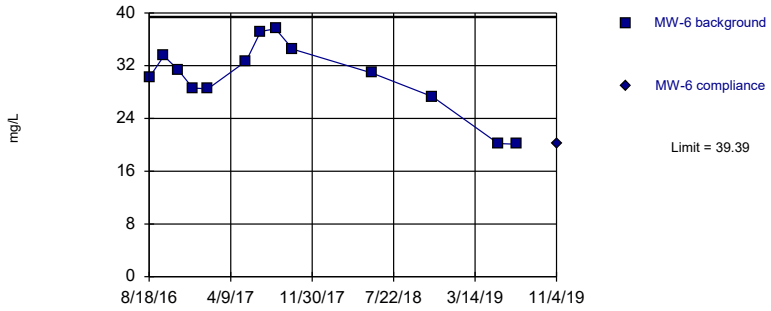
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.21, Std. Dev.=5.456, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9209, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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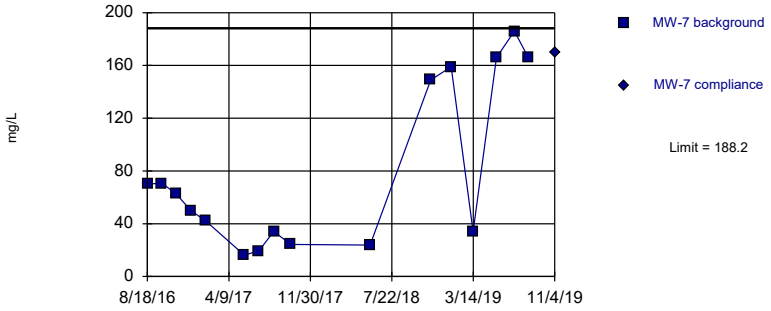
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=8.273, Std. Dev.=3.445, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8729, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

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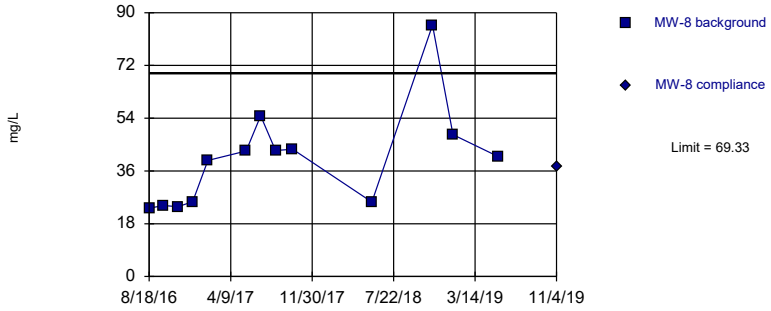
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=40.07, Std. Dev.=17.39, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8273, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Sulfate Analysis Run 2/25/2020 10:03 AM View: CCR LF III

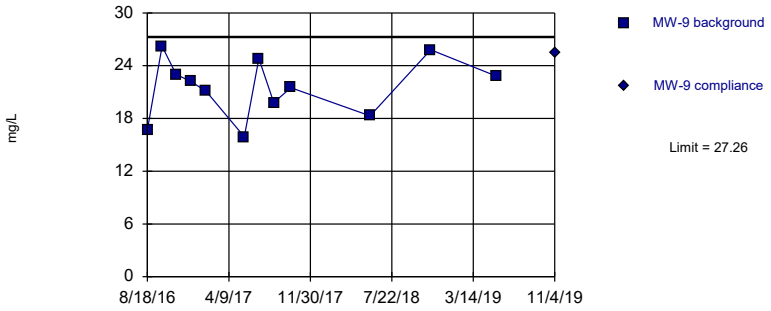
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.51, Std. Dev.=3.352, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9571, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 2/25/2020 9:44 AM View: CCR LF III

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

Prediction Limit

Constituent: Sulfate Analysis Run 2/25/2020 10:03 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

Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 2/25/2020, 10:03 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	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-10	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-2	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-6	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-7	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-8	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-9	0.2	n/a	11/4/2019	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Calcium (mg/L)	MW-1	141.9	n/a	11/4/2019	132	No	13	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-10	154.2	n/a	11/4/2019	142	No	17	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-2	178.2	n/a	11/4/2019	168	No	14	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-6	156.3	n/a	11/4/2019	134	No	14	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-7	193.1	n/a	11/4/2019	185	No	17	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-8	158.5	n/a	11/4/2019	141	No	15	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-9	122.1	n/a	11/4/2019	119	No	13	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-1	6.697	n/a	11/4/2019	6.61	No	14	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-10	23.19	n/a	11/4/2019	21.6	No	16	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-2	10.03	n/a	11/4/2019	8.77	No	14	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-6	1.945	n/a	11/4/2019	1.4	No	15	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-7	31.35	n/a	11/4/2019	29.1	No	17	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-8	8.265	n/a	11/4/2019	3.99	No	15	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-9	2.881	n/a	1/15/2020	0.5ND	No	13	30.77	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-1	511.5	n/a	11/4/2019	457	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-10	1760	n/a	11/4/2019	534	No	12	0	n/a	0.002173	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-2	720.7	n/a	11/4/2019	585	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-6	556.1	n/a	11/4/2019	437	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-7	761	n/a	11/4/2019	682	No	16	0	n/a	0.001026	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-8	548.8	n/a	11/4/2019	465	No	13	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-9	478.8	n/a	11/4/2019	392	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	**MW-1**	**0.3201**	**n/a**	**2/4/2020**	**0.329**	**Yes**	**13**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Fluoride (mg/L)	MW-10	0.7252	n/a	1/15/2020	0.637	No	12	0	x^2	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-2	0.3818	n/a	1/15/2020	0.374	No	15	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-6	0.37	n/a	11/4/2019	0.359	No	14	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-7	0.4235	n/a	11/4/2019	0.381	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-8	0.4612	n/a	11/4/2019	0.431	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-9	0.4678	n/a	1/15/2020	0.445	No	12	0	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-1	7.54	6.74	2/4/2020	6.91	No	15	0	n/a	0.002625	NP Intra (normality) ...
pH (S.U.)	MW-10	7.438	6.876	1/15/2020	7.18	No	17	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-2	7.379	6.717	1/15/2020	7.02	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.586	6.899	1/15/2020	7.26	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	7.666	6.822	1/15/2020	7.15	No	17	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-8	8.24	7.1	1/15/2020	7.31	No	15	0	n/a	0.002625	NP Intra (normality) ...
pH (S.U.)	MW-9	7.487	6.883	1/15/2020	7.24	No	13	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-1	39.1	n/a	11/4/2019	22.3	No	12	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-10	39.5	n/a	11/4/2019	33.6	No	16	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-2	181.2	n/a	11/4/2019	98.8	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-6	39.39	n/a	11/4/2019	20.2	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-7	188.2	n/a	11/4/2019	170	No	16	0	sqrt(x)	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-8	69.33	n/a	11/4/2019	37.6	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-9	27.26	n/a	11/4/2019	25.4	No	12	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)

Jared Morrison
December 16, 2022

ATTACHMENT 2-2

Spring 2020 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

September 28, 2020

To: Iatan Generating Station
20250 State Route 45 N
Platte County, Missouri
Evergy Metro, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases - CCR Landfill
Spring 2020 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 20, 2020. Review and validation of the results from the May 2020 Detection Monitoring Event was completed on June 29, 2020, which constitutes completion and finalization of detection monitoring laboratory analyses. A 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 13, 2020 and August 25, 2020.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-10.

Constituent/Monitoring Well	*UPL	Observation May 20, 2020	1st Verification July 13, 2020	2nd Verification August 25, 2020
Sulfate				
MW-10	39.5	43.1	47.7	47.9

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for sulfate in 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
September 28, 2020

ATTACHMENT 1

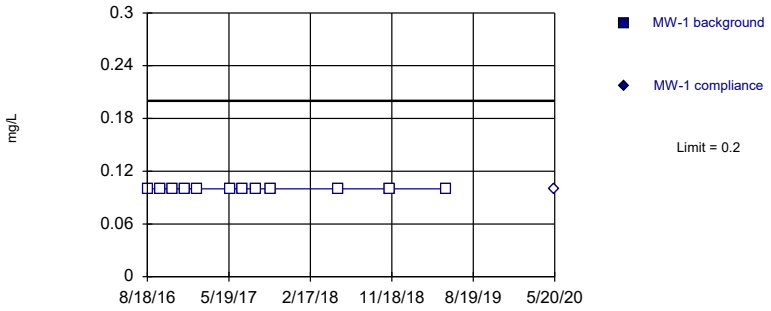
Sanitas™ Output

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

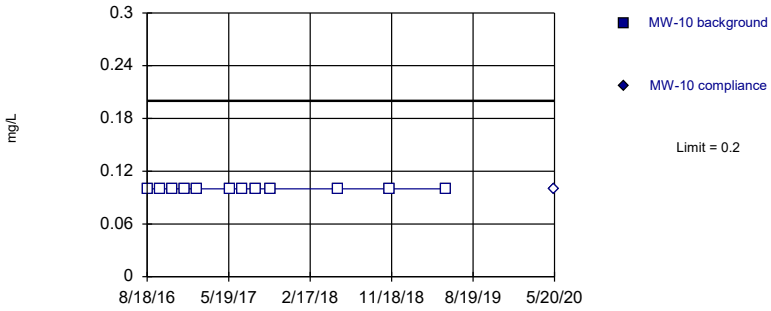
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

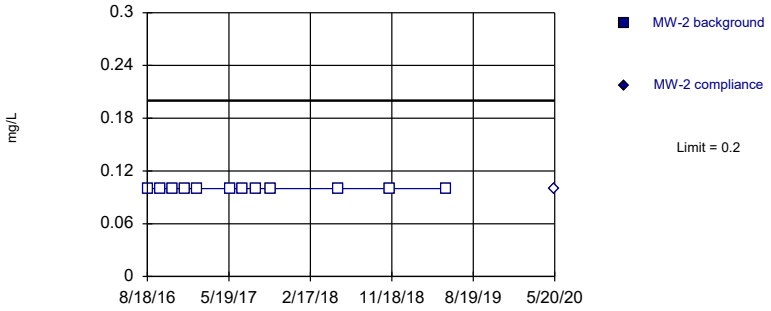
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

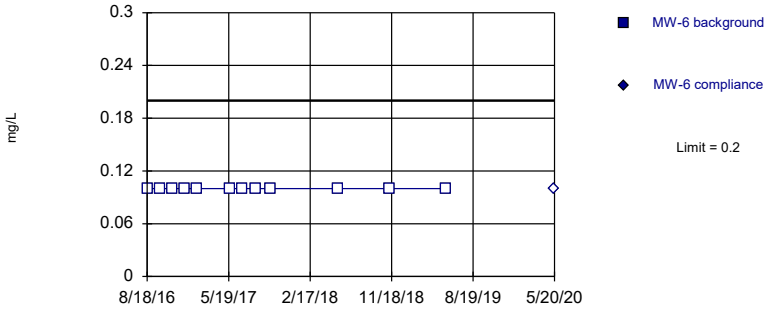
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron Analysis Run 9/9/2020 9:18 AM View: CCR LF III

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

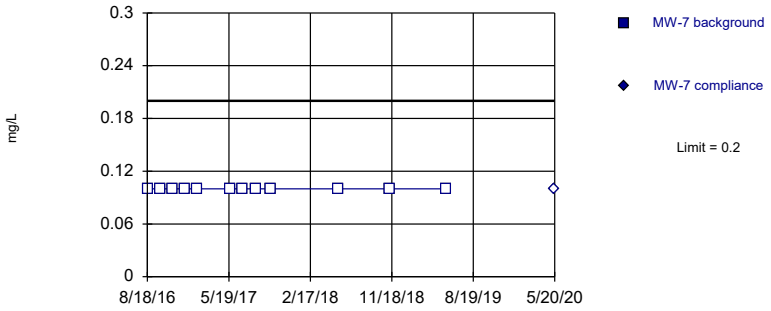
	MW-1	MW-1	MW-10	MW-10	MW-2	MW-2	MW-6	MW-6
8/18/2016	<0.2		<0.2		<0.2		<0.2	
9/29/2016	<0.2		<0.2		<0.2		<0.2	
11/9/2016	<0.2		<0.2		<0.2		<0.2	
12/21/2016	<0.2		<0.2		<0.2		<0.2	
2/3/2017	<0.2		<0.2		<0.2		<0.2	
5/24/2017	<0.2		<0.2		<0.2		<0.2	
7/5/2017	<0.2		<0.2		<0.2		<0.2	
8/17/2017	<0.2		<0.2		<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	
5/20/2020		<0.2		<0.2		<0.2		<0.2

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

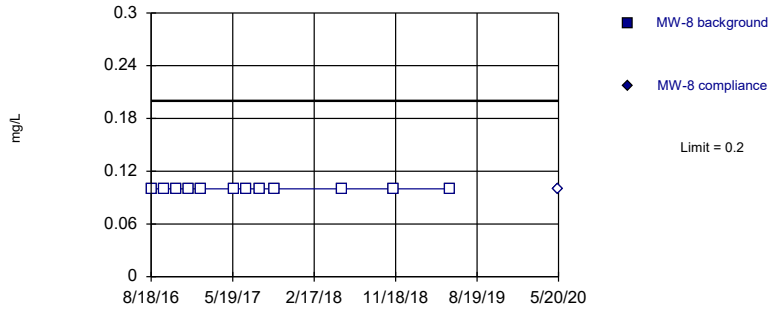
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

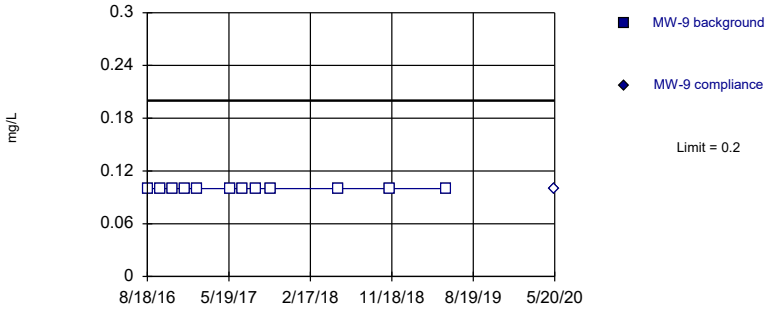
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas 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 = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

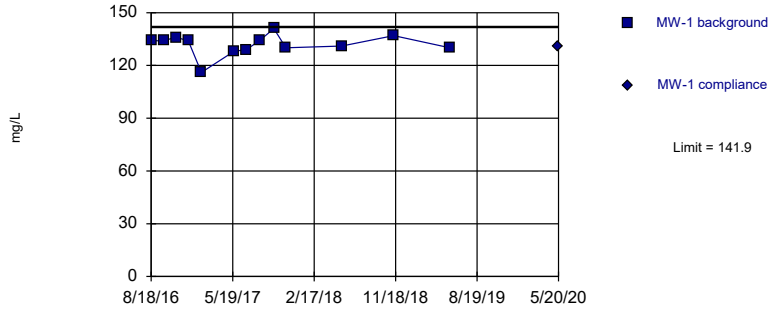
Constituent: Boron Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=131.8, Std. Dev.=5.97, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Prediction Limit

Constituent: Boron, Calcium Analysis Run 9/9/2020 9:18 AM View: CCR LF III

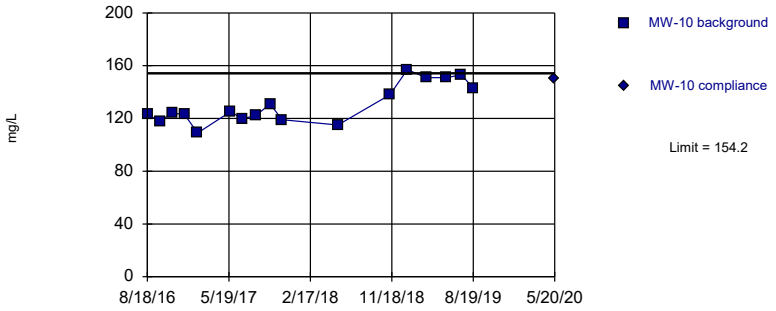
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		<0.2		<0.2		<0.2		131

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=130.7, Std. Dev.=15.04, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8963, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

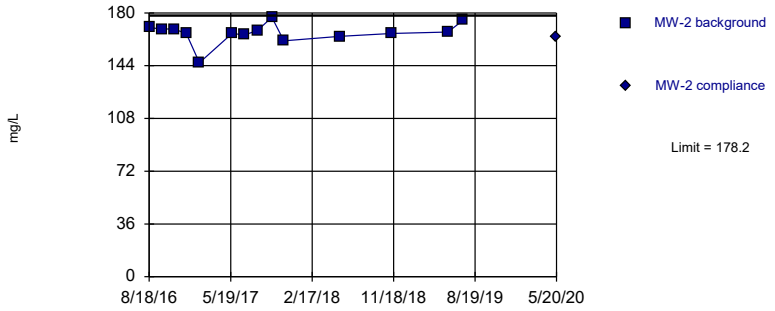
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=166.4, Std. Dev.=7.175, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8366, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

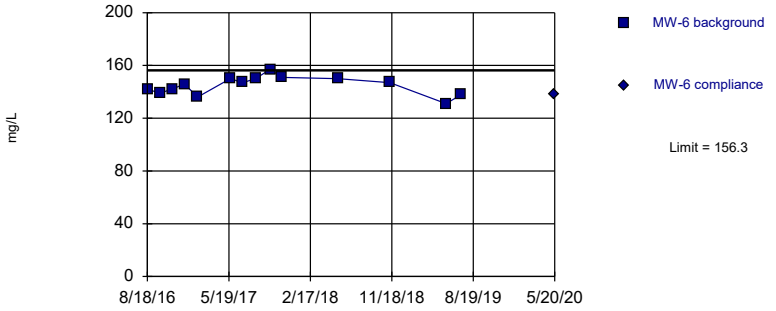
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=144.7, Std. Dev.=7.032, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9678, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

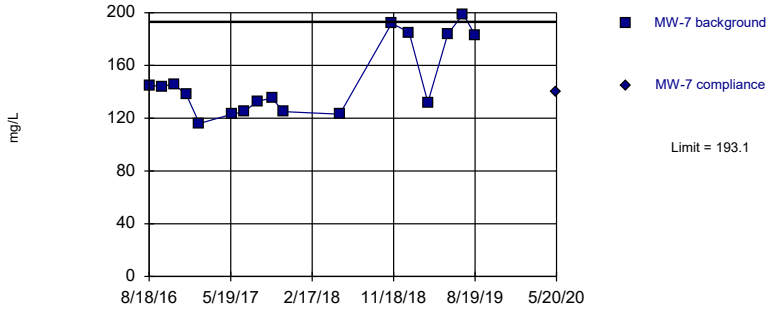
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.15, Std. Dev.=1.12, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8573, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

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

Prediction Limit

Constituent: Calcium Analysis Run 9/9/2020 9:19 AM View: CCR LF III

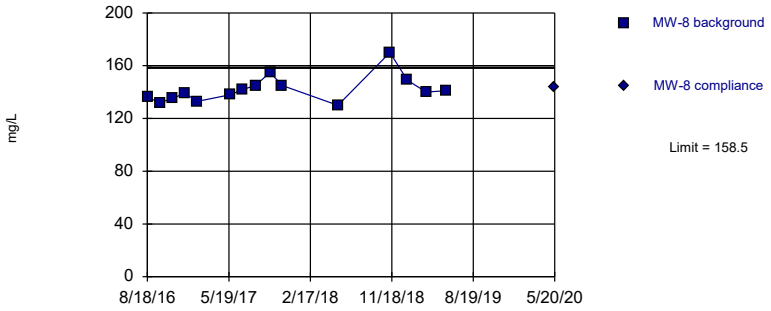
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		150		164		138		140

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=142, Std. Dev.=10.21, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8744, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

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

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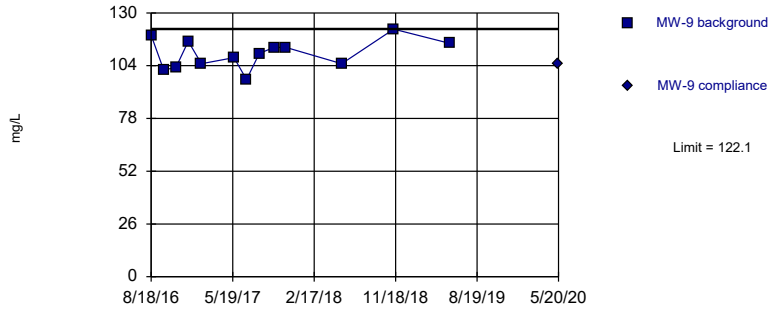
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.9, Std. Dev.=7.272, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9797, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Calcium Analysis Run 9/9/2020 9:14 AM View: CCR LF III

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

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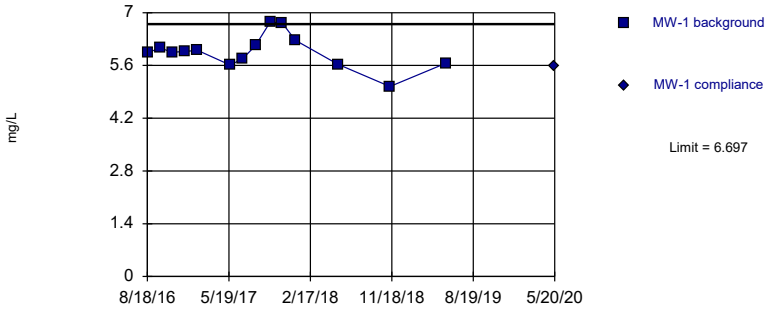
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.966, Std. Dev.=0.4435, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9436, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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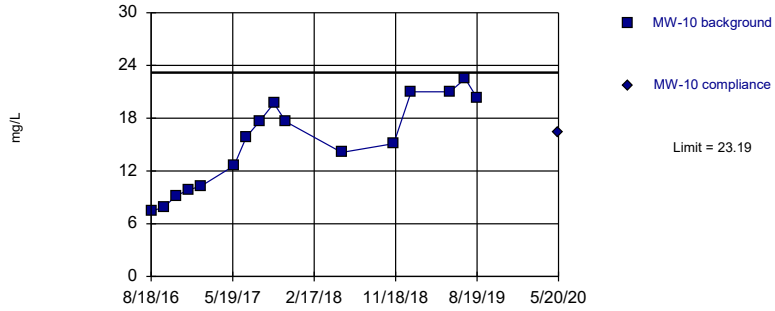
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.12, Std. Dev.=5.1, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9286, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Calcium, Chloride Analysis Run 9/9/2020 9:19 AM View: CCR LF III

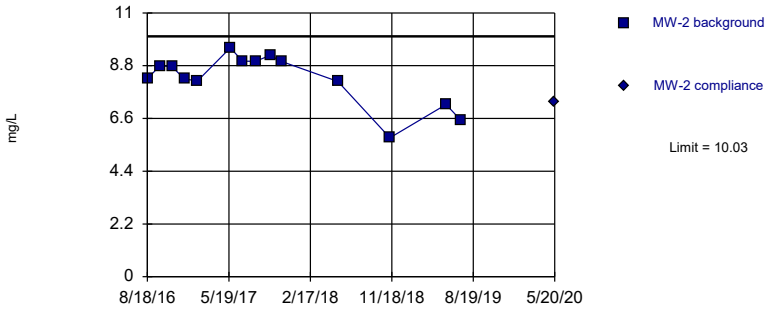
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		144		105		5.6		16.4

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.253, Std. Dev.=1.076, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8719, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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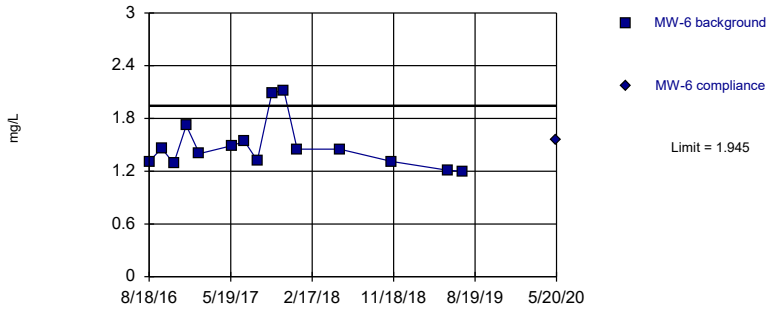
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.216, Std. Dev.=0.1104, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8387, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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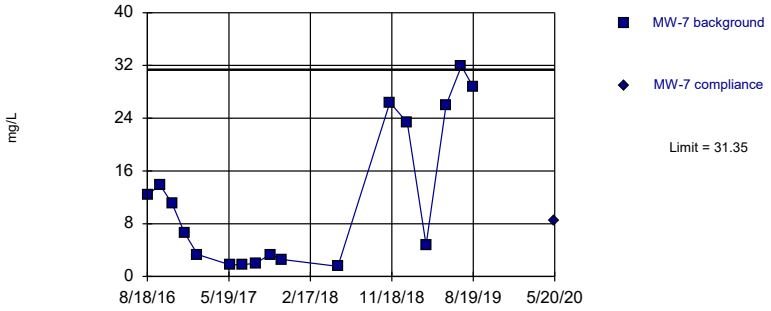
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=3.057, Std. Dev.=1.629, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8683, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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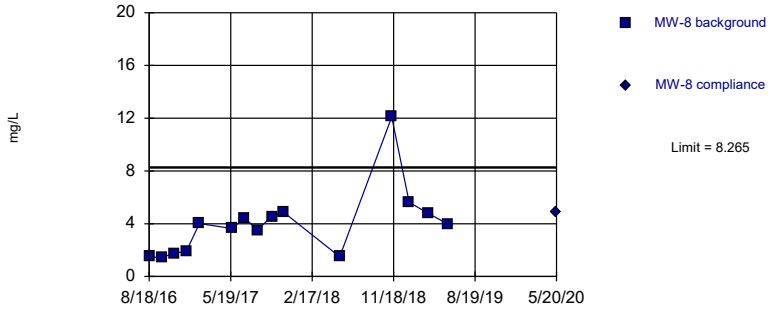
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.907, Std. Dev.=0.5992, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8695, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Chloride Analysis Run 9/9/2020 9:19 AM View: CCR LF III

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

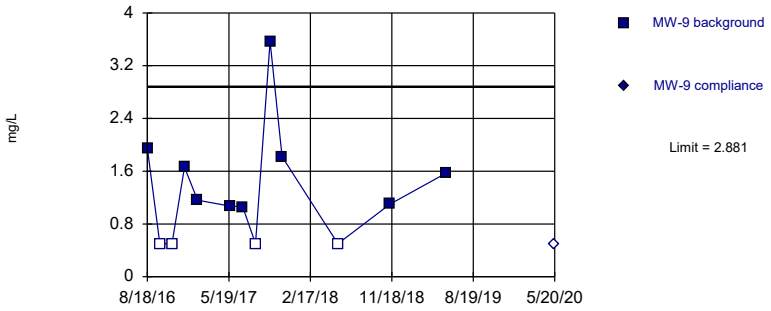
	MW-2	MW-2	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8
8/18/2016	8.26		1.31		12.3		1.5	
9/29/2016	8.79		1.46		13.9		1.42	
11/9/2016	8.76		1.29		11.1		1.76	
12/21/2016	8.24		1.72		6.64		1.89	
2/3/2017	8.17		1.4		3.32		4.02	
5/24/2017	9.54		1.49		1.76		3.63	
7/5/2017	8.99		1.54		1.81		4.44	
8/17/2017	8.98		1.32		2		3.53	
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			
5/20/2020		7.28		1.55		8.49		4.89

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Aitchison`s Adjustment): Mean=1.151, Std. Dev.=1.028, n=13, 30.77% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8333, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

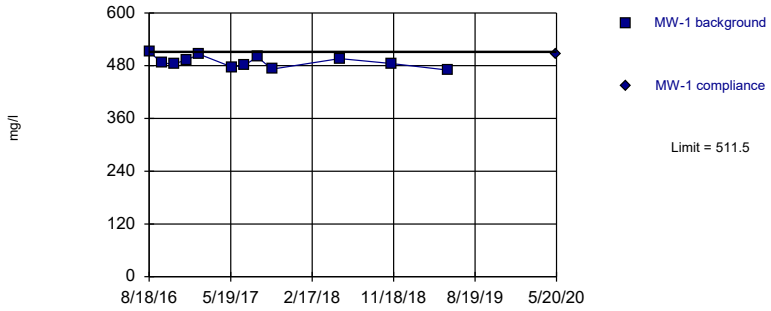
Constituent: Chloride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=488.6, Std. Dev.=13.34, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9663, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

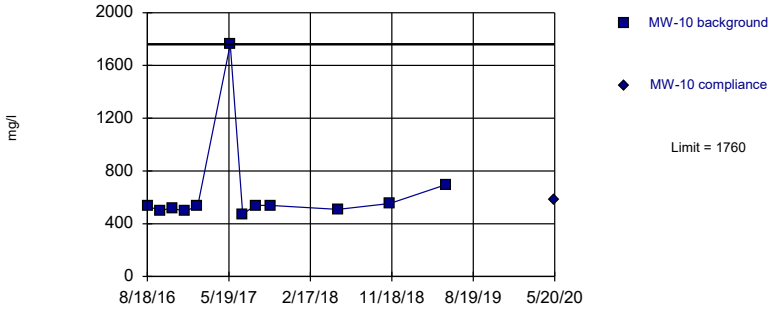
Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

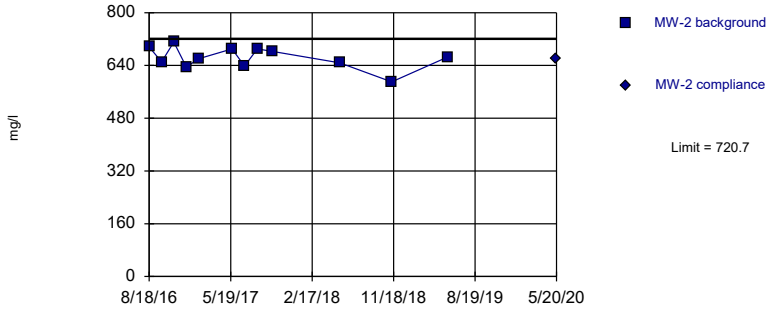
Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=663.3, Std. Dev.=33.46, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9501, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 9/9/2020 9:19 AM View: CCR LF III

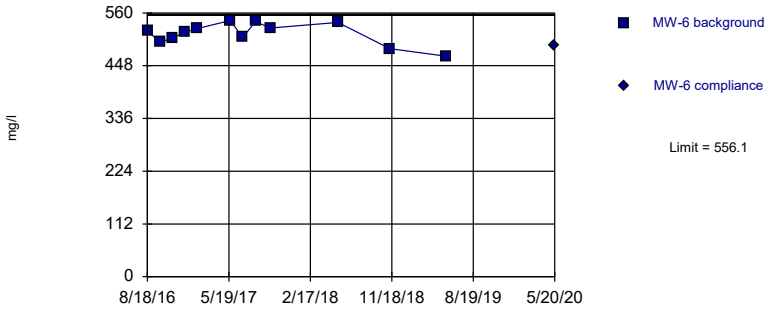
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		<1		507		585		659

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=515.5, Std. Dev.=23.66, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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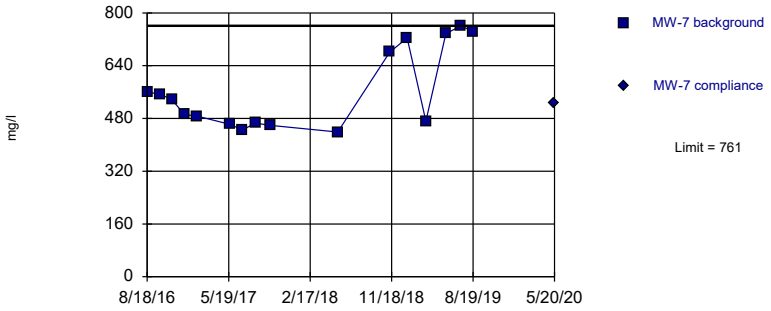
Within Limit

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 16 background values. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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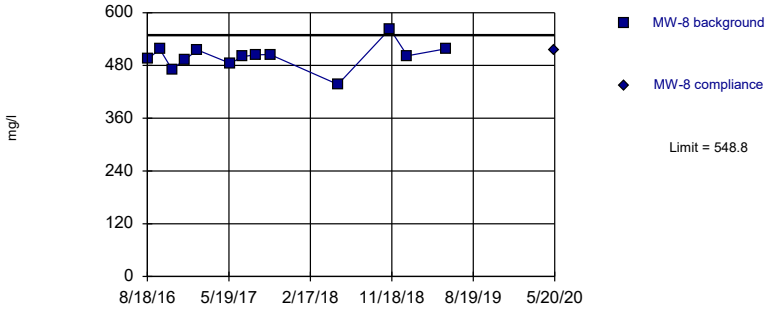
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=500.3, Std. Dev.=28.83, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9252, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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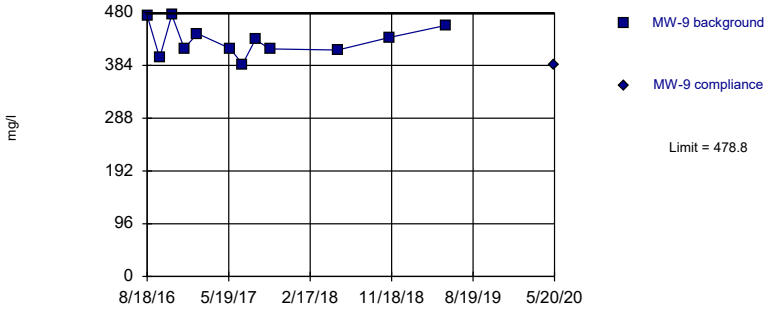
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=429.7, Std. Dev.=28.65, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9417, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/9/2020 9:19 AM View: CCR LF III

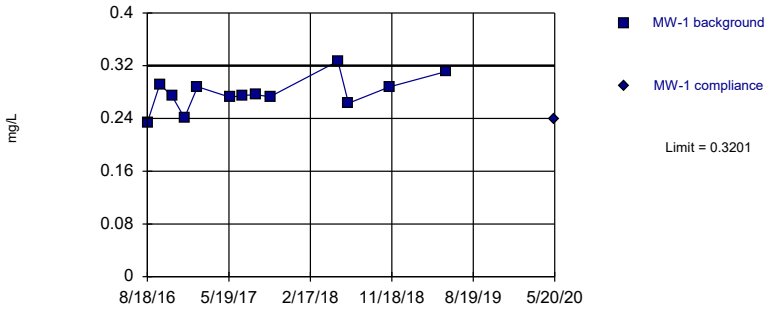
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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					
5/20/2020		491		525		516		385

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.278, Std. Dev.=0.02501, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9534, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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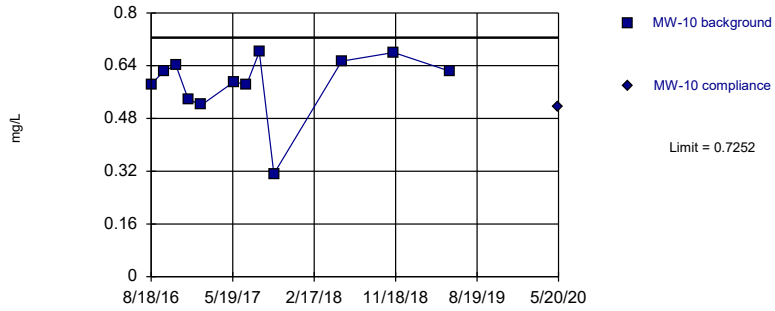
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=0.3525, Std. Dev.=0.1011, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8795, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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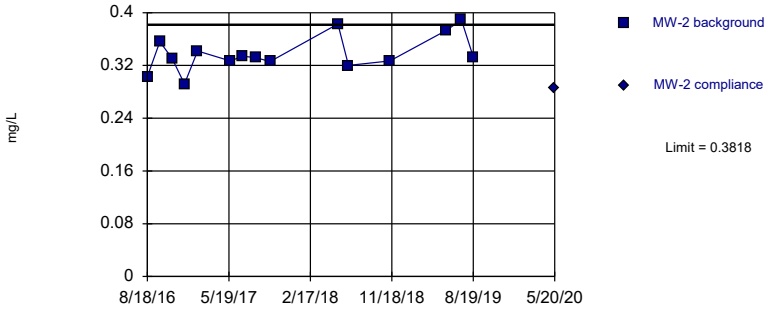
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3379, Std. Dev.=0.02721, n=15. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9262, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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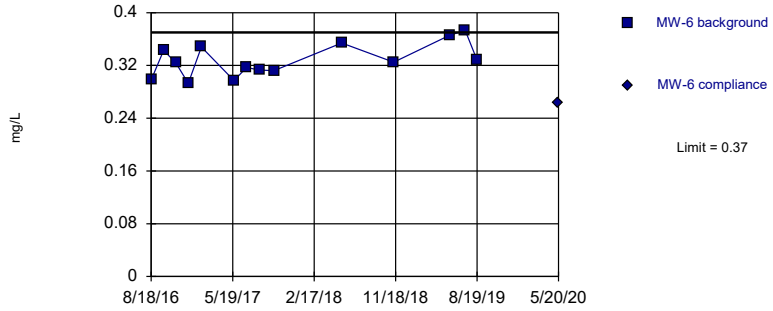
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3279, Std. Dev.=0.02554, n=14. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9487, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Fluoride Analysis Run 9/9/2020 9:19 AM View: CCR LF III

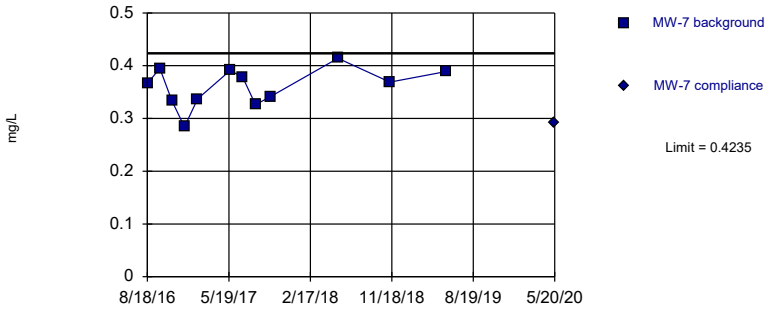
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		0.24		0.517		0.286		0.264

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3603, Std. Dev.=0.03685, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9559, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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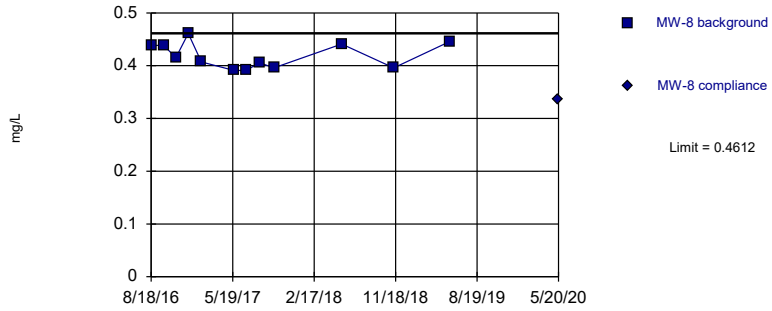
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4189, Std. Dev.=0.02467, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8902, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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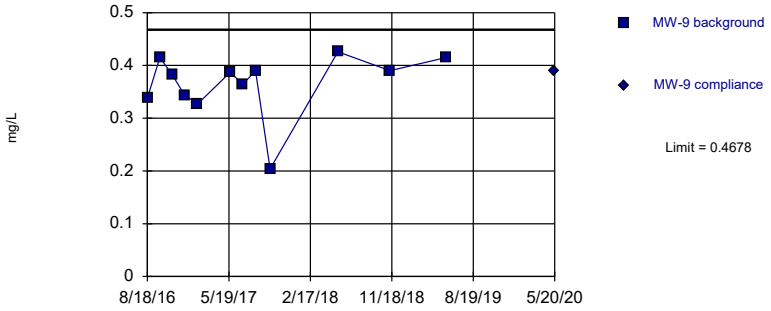
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3653, Std. Dev.=0.05978, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8122, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Fluoride Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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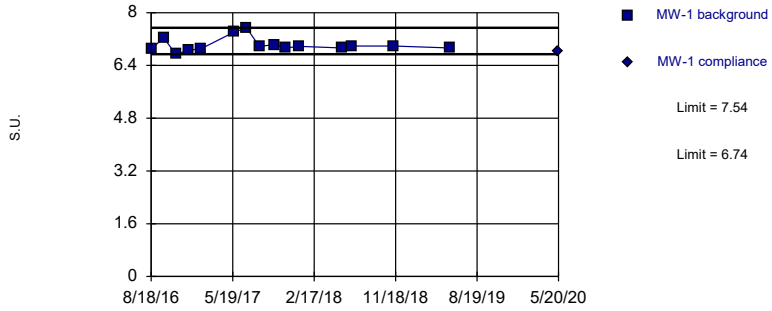
Within Limits

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 15 background values. Well-constituent pair annual alpha = 0.005248. Individual comparison alpha = 0.002625 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Fluoride, pH Analysis Run 9/9/2020 9:19 AM View: CCR LF III

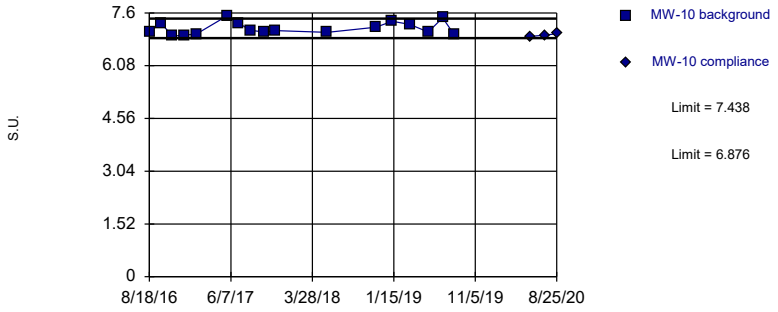
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		0.291		0.336		0.389		6.81

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.157, Std. Dev.=0.18, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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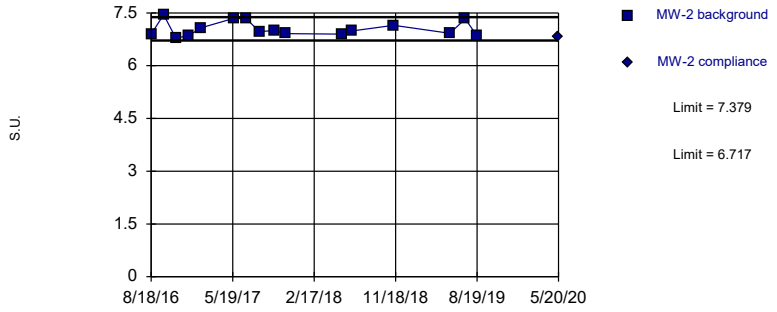
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.048, Std. Dev.=0.2096, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8784, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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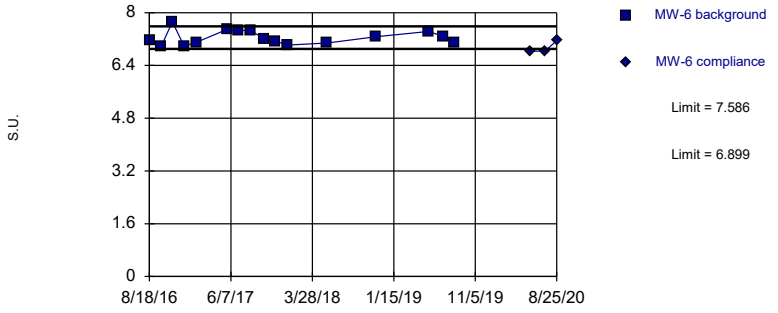
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.243, Std. Dev.=0.2171, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9298, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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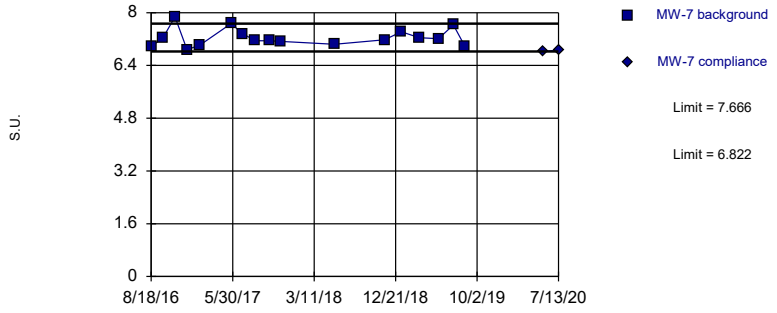
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.244, Std. Dev.=0.2706, n=17. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.916, critical = 0.851. Kappa = 1.561 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: pH Analysis Run 9/9/2020 9:19 AM View: CCR LF III

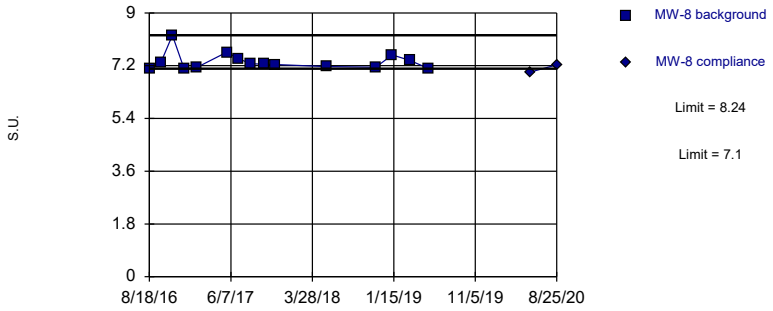
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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	
5/20/2020		6.92		6.81		6.83		6.82
7/13/2020		6.96 Extra Sample				6.84 1st Verification Sample		6.87 1st Verification Sample
8/25/2020		7 Extra Sample				7.15 2nd Verification Sample		

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 15 background values. Well-constituent pair annual alpha = 0.005248. Individual comparison alpha = 0.002625 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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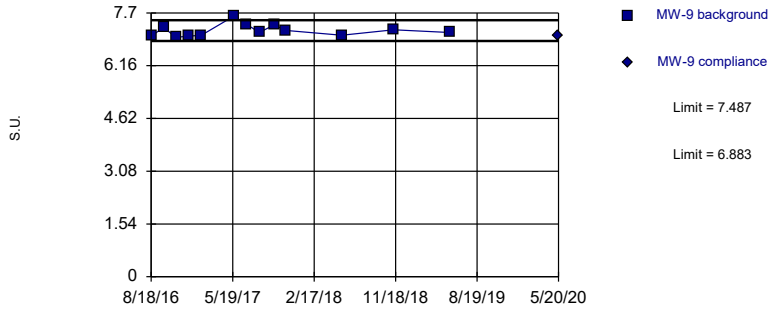
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.185, Std. Dev.=0.1795, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.895, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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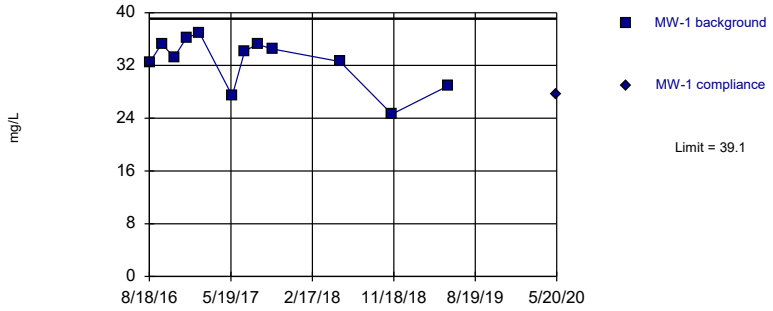
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=32.62, Std. Dev.=3.775, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8898, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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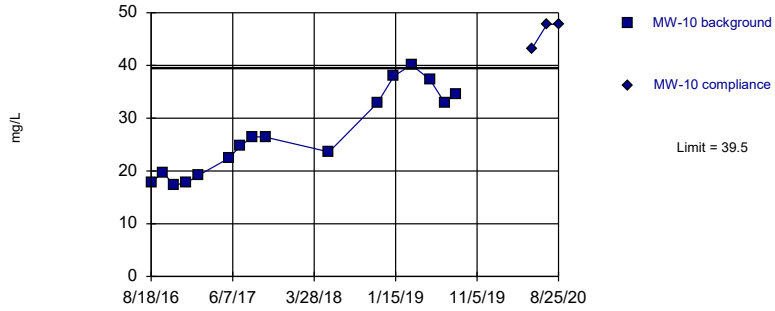
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=26.95, Std. Dev.=7.937, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9063, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: pH, Sulfate Analysis Run 9/9/2020 9:19 AM View: CCR LF III

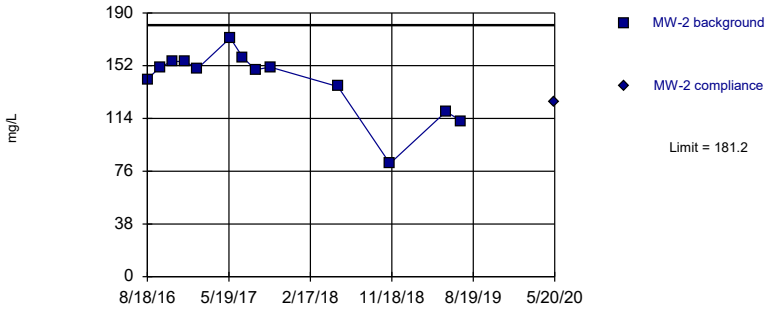
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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		
5/20/2020		6.98			7.02		27.6		43.1	
7/13/2020									47.7	1st Verification Sample
8/25/2020		7.23	1st Verification Sample						47.9	2nd Verification Sample

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=141, Std. Dev.=23.93, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8552, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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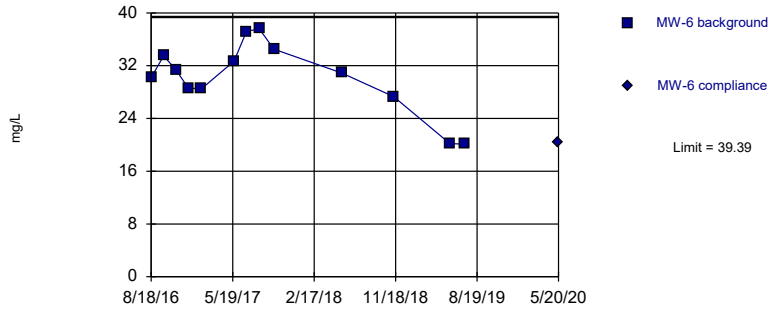
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.21, Std. Dev.=5.456, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9209, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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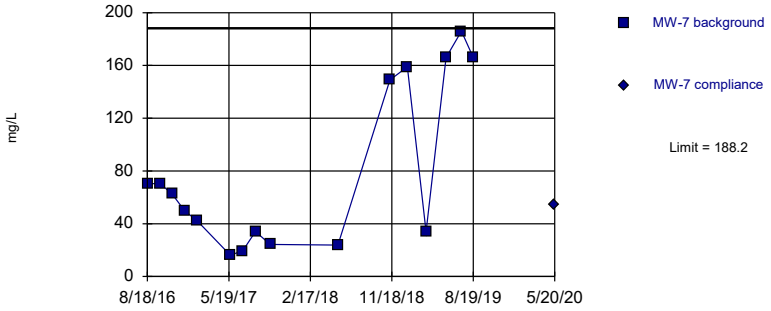
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=8.273, Std. Dev.=3.445, n=16. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8729, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

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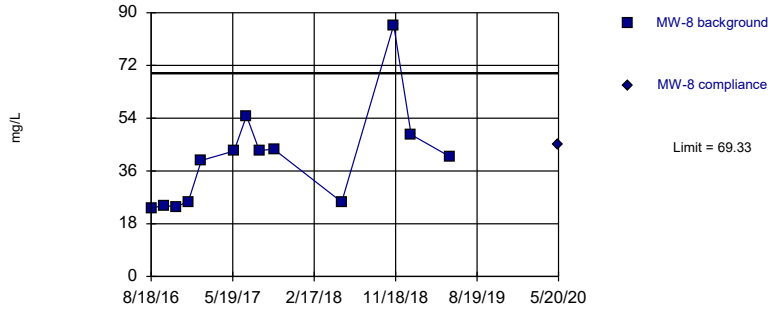
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=40.07, Std. Dev.=17.39, n=13. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8273, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Sulfate Analysis Run 9/9/2020 9:19 AM View: CCR LF III

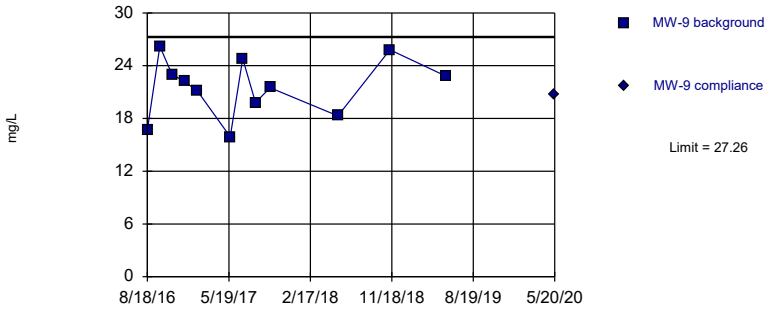
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	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			
5/20/2020		126		20.4		54.4		45

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=21.51, Std. Dev.=3.352, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9571, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: Sulfate Analysis Run 9/9/2020 9:15 AM View: CCR LF III

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

Prediction Limit

Constituent: Sulfate Analysis Run 9/9/2020 9:19 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	
5/20/2020		20.7

Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 9/9/2020, 9:19 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	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-10	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-2	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-6	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-7	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-8	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-9	0.2	n/a	5/20/2020	0.1ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
Calcium (mg/L)	MW-1	141.9	n/a	5/20/2020	131	No	13	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-10	154.2	n/a	5/20/2020	150	No	17	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-2	178.2	n/a	5/20/2020	164	No	14	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-6	156.3	n/a	5/20/2020	138	No	14	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-7	193.1	n/a	5/20/2020	140	No	17	0	sqrt(x)	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-8	158.5	n/a	5/20/2020	144	No	15	0	No	0.001075	Param Intra 1 of 3
Calcium (mg/L)	MW-9	122.1	n/a	5/20/2020	105	No	13	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-1	6.697	n/a	5/20/2020	5.6	No	14	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-10	23.19	n/a	5/20/2020	16.4	No	16	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-2	10.03	n/a	5/20/2020	7.28	No	14	0	No	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-6	1.945	n/a	5/20/2020	1.55	No	15	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-7	31.35	n/a	5/20/2020	8.49	No	17	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-8	8.265	n/a	5/20/2020	4.89	No	15	0	sqrt(x)	0.001075	Param Intra 1 of 3
Chloride (mg/L)	MW-9	2.881	n/a	5/20/2020	0.5ND	No	13	30.77	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-1	511.5	n/a	5/20/2020	507	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-10	1760	n/a	5/20/2020	585	No	12	0	n/a	0.002173	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-2	720.7	n/a	5/20/2020	659	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-6	556.1	n/a	5/20/2020	491	No	12	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-7	761	n/a	5/20/2020	525	No	16	0	n/a	0.001026	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-8	548.8	n/a	5/20/2020	516	No	13	0	No	0.001075	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-9	478.8	n/a	5/20/2020	385	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-1	0.3201	n/a	5/20/2020	0.24	No	13	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-10	0.7252	n/a	5/20/2020	0.517	No	12	0	x^2	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-2	0.3818	n/a	5/20/2020	0.286	No	15	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-6	0.37	n/a	5/20/2020	0.264	No	14	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-7	0.4235	n/a	5/20/2020	0.291	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-8	0.4612	n/a	5/20/2020	0.336	No	12	0	No	0.001075	Param Intra 1 of 3
Fluoride (mg/L)	MW-9	0.4678	n/a	5/20/2020	0.389	No	12	0	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-1	7.54	6.74	5/20/2020	6.81	No	15	0	n/a	0.002625	NP Intra (normality) ...
pH (S.U.)	MW-10	7.438	6.876	8/25/2020	7	No	17	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-2	7.379	6.717	5/20/2020	6.81	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-6	7.586	6.899	8/25/2020	7.15	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-7	7.666	6.822	7/13/2020	6.87	No	17	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-8	8.24	7.1	8/25/2020	7.23	No	15	0	n/a	0.002625	NP Intra (normality) ...
pH (S.U.)	MW-9	7.487	6.883	5/20/2020	7.02	No	13	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-1	39.1	n/a	5/20/2020	27.6	No	12	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	**MW-10**	**39.5**	**n/a**	**8/25/2020**	**47.9**	**Yes**	**16**	**0**	**No**	**0.001075**	**Param Intra 1 of 3**
Sulfate (mg/L)	MW-2	181.2	n/a	5/20/2020	126	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-6	39.39	n/a	5/20/2020	20.4	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-7	188.2	n/a	5/20/2020	54.4	No	16	0	sqrt(x)	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-8	69.33	n/a	5/20/2020	45	No	13	0	No	0.001075	Param Intra 1 of 3
Sulfate (mg/L)	MW-9	27.26	n/a	5/20/2020	20.7	No	12	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)

Jared Morrison
December 16, 2022

ATTACHMENT 3

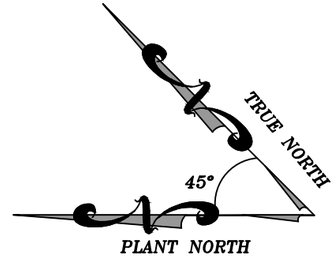
Groundwater Potentiometric Surface Maps

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 20, 2020



500 0 500 1000
SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
CCR LANDFILL (MAY 2020)

PROJECT TITLE
2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

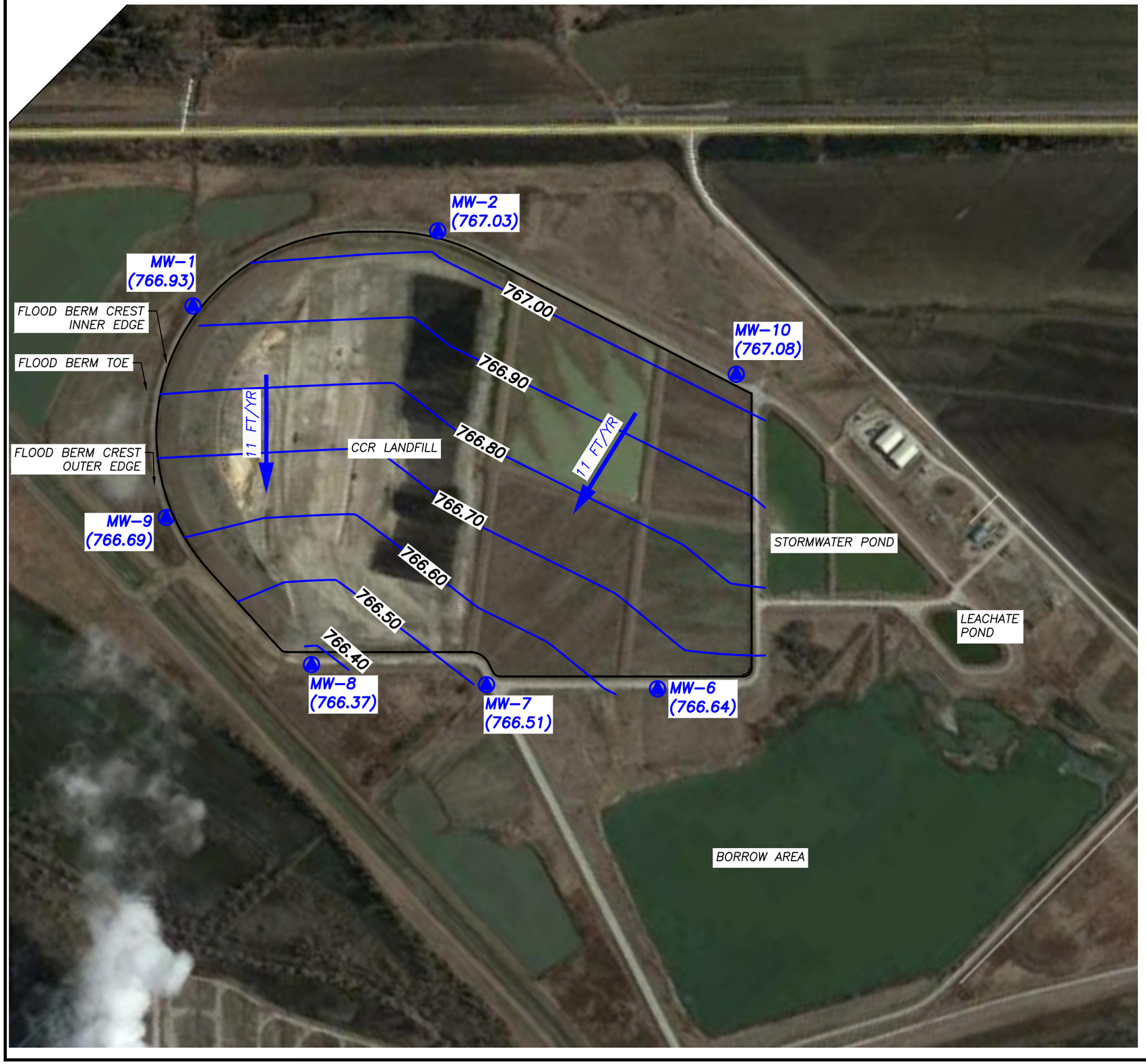
SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH: (913) 681-0030 FAX: (913) 681-0012

PROJ. NO.	DWN. BY:	Q/A REVIEW BY:
27213167.20	MBJ	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
TGW	JRR	JRR

CADD FILE:
IATAN LF CCR MDNR FIG 2 MAY20 V1.DWG

DATE:
12/12/22

FIGURE NO.
2

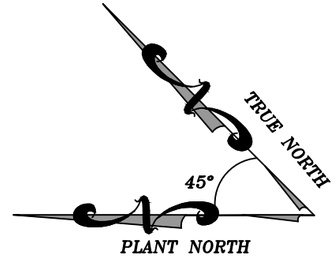


LEGEND

- 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 NOVEMBER 9, 2020



500 0 500 1000
SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
CCR LANDFILL (NOVEMBER 2020)

PROJECT TITLE
2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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PROJ. NO.	DWN. BY:	Q/A REVIEW BY:	PROJ. MGR
27213167.20	ALR	JRR	JRR
DSN. BY:	CHK. BY:		
TGW	JRR		

CADD FILE:
IATAN LF CCR MDNR FIG 2 NOV20 V3.DWG

DATE:
12/12/22

FIGURE NO.
3

N:\KCPL\Projects\Groundwater\DWG\Iatan\2020\Groundwater\Landfill\NOVEMBER 2020\Iatan LF CCR MDNR Fig 2 NOV20 v3.dwg Dec 12, 2022 - 1:56pm Layout Name: Fig 2-CCR By: 5412jds