

# 2020-2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## ASH IMPOUNDMENT IATAN GENERATING STATION PLATTE COUNTY, MISSOURI

Presented To:  
Evergy Metro, Inc.

**SCS ENGINEERS**

27213167.21 | July 2021, Revised December 16, 2022

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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 2020-2021 Annual Groundwater Monitoring and Corrective Action Report for the Ash Impoundment at the Iatan Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



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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 2020-2021 Annual Groundwater Monitoring and Corrective Action Report for the Ash Impoundment at the Iatan Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



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Douglas L. Doerr, P.E.

SCS Engineers

# 2020-2021 Groundwater Monitoring and Corrective Action Report

Revision Number	Revision Date	Revision Section	Summary of Revisions
0	July 23, 2021	NA	Original
1	December 16, 2022	Addendum 1	Added Addendum 1

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# 1 INTRODUCTION

This 2020-2021 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 2020-2021 Annual Groundwater Monitoring and Corrective Action Report for the Ash Impoundment 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 (August 1, 2020), the Ash Impoundment 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 (June 30, 2021), the Ash Impoundment was operating under an assessment monitoring program in compliance with § 257.95.

### 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
Spring 2020	MW-109	Boron	Successful
Spring 2020	MW-110	Boron	*Unsuccessful
Spring 2020	MW-104	Calcium	Successful

ASD – Alternative Source Demonstration  
 \*Unsuccessful as of the time of this report.

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

The assessment monitoring program was initiated on March 26, 2021 and the initial assessment monitoring sampling event was performed on February 2, 2021.

#### 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;*

A statistically significant level above the groundwater protection standard was not identified.

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

Not applicable because a statistically significant level above the groundwater protection standard was not identified.

*(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 [inactive] CCR surface impoundments, no later than [July 31, 2019], and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For [inactive] CCR surface impoundments, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than [July 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 Unit and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Unit 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 Ash Impoundment within the 2020-2021 monitoring period.

### 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;*

Detection and assessment monitoring was required to be conducted during the reporting period (2020-2021). Detection monitoring groundwater samples collected in November 2020 were collected and analyzed for Appendix III detection monitoring constituents. Assessment monitoring groundwater samples collected in February 2021 were collected and analyzed for Appendix IV assessment monitoring constituents. Samples collected in May 2021 were collected and analyzed for Appendix III detection monitoring constituents and detected Appendix IV assessment monitoring constituents. Results of the sampling events are provided in **Appendix B, Table 1** (Appendix III Detection Monitoring and Required Appendix IV Assessment Monitoring Results), and **Table 2** (Detection and Assessment Monitoring Field

Measurements). These tables include the Spring 2020 first and second verification sample data, the Fall 2020 semi-annual detection monitoring data, verification sample data, the initial Appendix IV assessment monitoring data, and the first semi-annual assessment 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*

The detection monitoring program transitioned to an assessment monitoring program following an unsuccessful alternative source demonstration (ASD) for an SSI for boron in monitoring well MW-110 dated December 28, 2020. The initial annual groundwater assessment monitoring event for the assessment monitoring program was conducted on February 2, 2021 and the first semi-annual assessment monitoring sampling event was conducted on May 20, 2021.

## 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 assessment monitoring.

*Summary of Key Actions Completed.*

- a. completion of the Spring 2020 verification sampling and analyses per the certified statistical method,
- b. completion of the statistical evaluation of the Spring 2020 semi-annual detection monitoring sampling and analysis event per the certified statistical method,
- c. completion of the Fall 2020 semi-annual detection monitoring sampling and analysis event, and subsequent verification sampling per the certified statistical method,
- d. completion of a successful ASD for boron in monitoring well MW-109 and for calcium in monitoring well MW-104 for the Spring 2020 semi-annual detection monitoring event.
- e. completion of the initial assessment monitoring groundwater sampling and analysis event,
- f. initiation of the first Spring 2021 semi-annual assessment monitoring sampling and analysis event, and

## 2020-2021 Groundwater Monitoring and Corrective Action Report

g. completion of the 2020-2021 Annual Groundwater Monitoring and Corrective Action Report.

### *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 (2021-2022).*

Completion of verification sampling and data analysis, and the statistical evaluation of the Spring 2021 semi-annual groundwater assessment monitoring sampling and analysis events. Fall 2021 semi-annual groundwater assessment monitoring sampling and analysis, statistical evaluation, and if, required, ASD(s). Annual groundwater assessment monitoring sampling event in February 2022. Initiation of the Spring 2022 semi-annual assessment monitoring sampling and analysis event. Completion of the 2021-2022 Groundwater Monitoring and Corrective Action Report.

## 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 demonstration report below is included as Appendix C. Note that a successful alternative source demonstration was not completed for boron for MW-110 as of the completion of this annual report. However, the boron results for the last three sampling events have not been shown a statistically significant increase above background.

- C.1 CCR Groundwater Monitoring Alternate Source Demonstration Report May 2020 Groundwater Monitoring Event, Ash Impoundment, Iatan Generating Station (December 28, 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 no alternative monitoring frequency for assessment monitoring and certification was pursued.

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

*Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by § 257.90(e).*

The concentrations of Appendix III and detected Appendix IV constituents from the assessment monitoring are provide in **Appendix B, Table 1** and **Table 2**. The established groundwater protection standards (GWPSs) as applicable are provided in **Appendix B, Table 3**.

#### 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 an assessment monitoring alternate source demonstration was not required.

#### 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 an assessment of corrective measures was not required.

### 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 Ash Impoundment. No warranties, express or implied, are intended or made.

## APPENDIX A

### FIGURES

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (November 2020)

Figure 3: Potentiometric Surface Map (February 2021)

Figure 4: Potentiometric Surface Map (May 2021)



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**LEGEND:**

▲ MW-109 MONITORING WELL

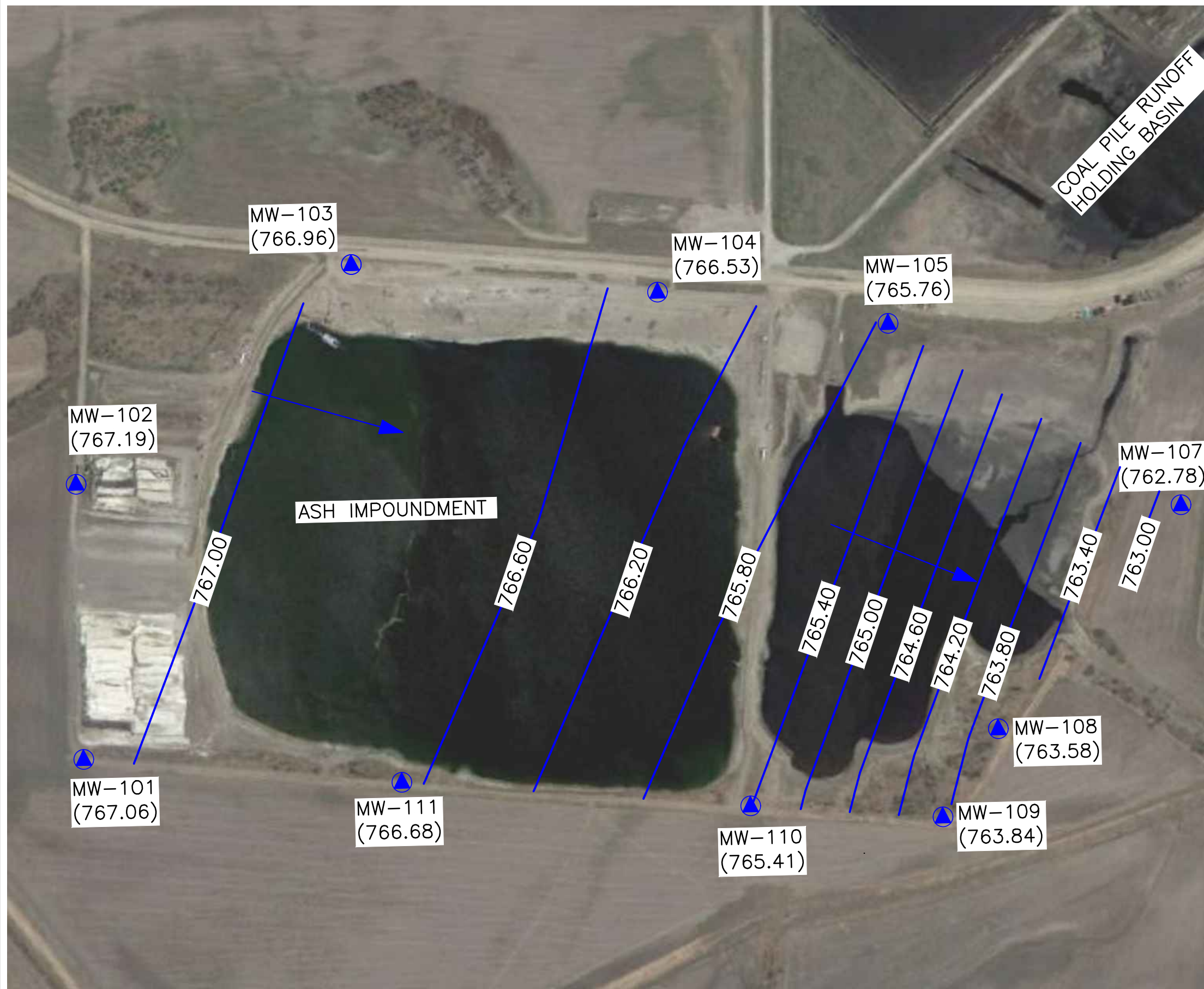
**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.



SHEET TITLE <b>IATAN ASH IMPOUNDMENT SITE MAP</b>		REV. DATE	CK. BY
PROJECT TITLE <b>ANNUAL GROUNDWATER REPORT</b>		▲	-
CLIENT <b>EVERGY IATAN GENERATING STATION WESTON, MISSOURI</b>		▲	-
<b>SCS ENGINEERS</b> 8675 West 110th St., Ste. 100 Overland Park, MO 66210 PH. (813) 681-0630 FAX. (813) 681-0012 PROJ. NO. 27213167.20 DSK BY: DAW    DWN. BY: MRB    Q/A RW BY: JRR CHK BY: JRE    PRD. MGR: JRF		▲	-
CADD FILE: 27213167.20_ASH IMPOUNDMENT_MAY 21 - FIGURE 1.dwg		▲	-
DATE: 7/8/2021		▲	-
FIGURE <b>1</b>		▲	-

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**LEGEND:**

- MW-109 MONITORING WELL (763.84) (GROUNDWATER ELEVATION)
- 766.40— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- DIRECTION OF GROUNDWATER FLOW

**NOTES:**

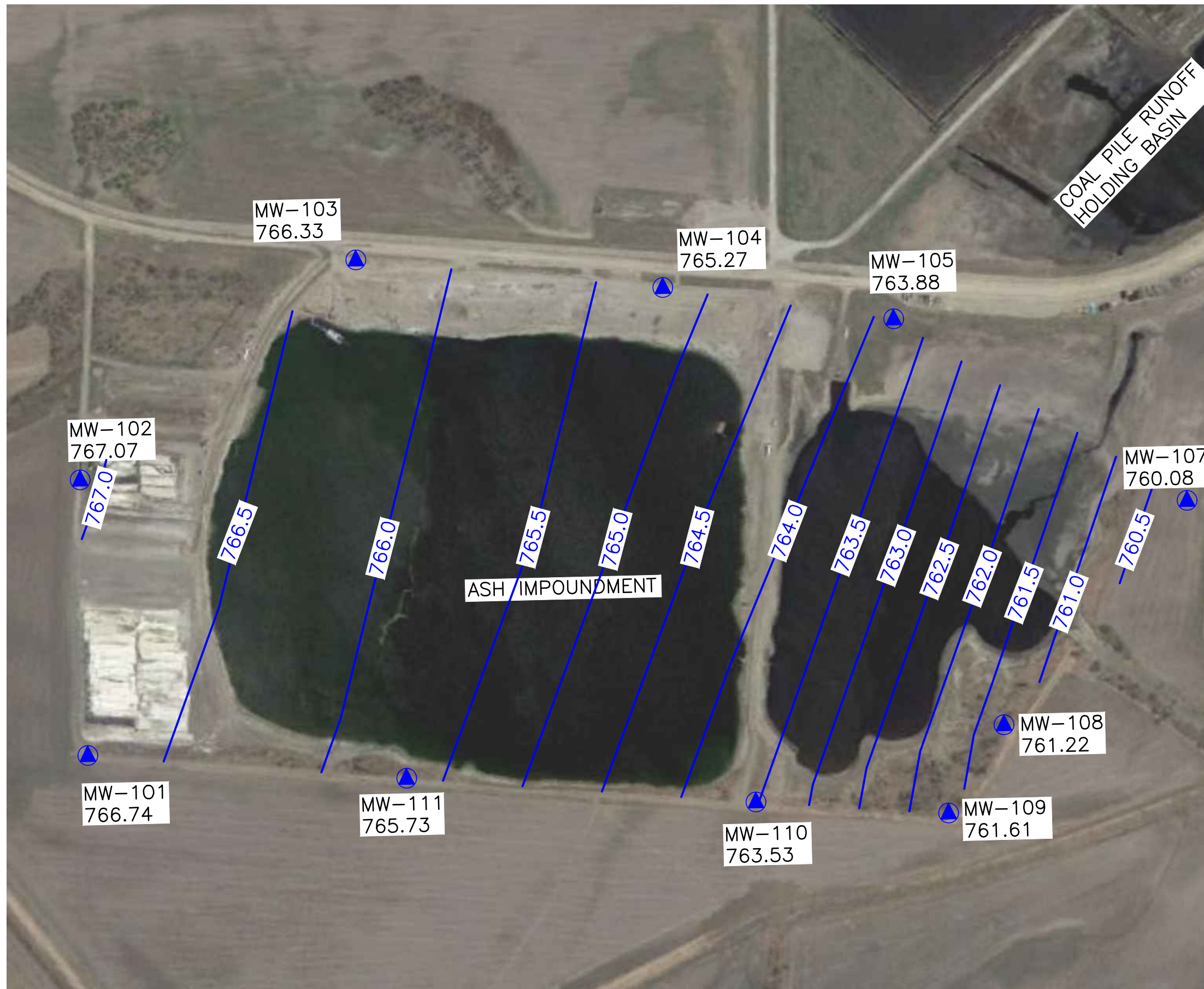
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2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON NOVEMBER 9, 2020.



	REV.	DATE					
	▲	▲	▲	▲	▲	▲	▲
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CLIENT				EVERGY IATAN GENERATING STATION WESTON, MISSOURI			
SCS ENGINEERS		DWN. BY: ALR		D/A RW BY: JRR		PROJ. MGR. JRF	
8875 West 110th St., Ste. 100 Overland Park, MO 66210 PH: (913) 681-0630 FAX: (913) 681-0012		CHK. BY: JRF		PROJ. NO. 27213167.20		DATE: 7/16/21	
CADD FILE: 27213167.20_ASH IMPOUNDMENT_NOVEMBER 20		DATE:		FIGURE		2	



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**LEGEND:**

- MW-109 MONITORING WELL (763.84) (GROUNDWATER ELEVATION)
- 766.40 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- DIRECTION OF GROUNDWATER FLOW

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON FEBRUARY 2, 2021.



REV.	DATE	BY

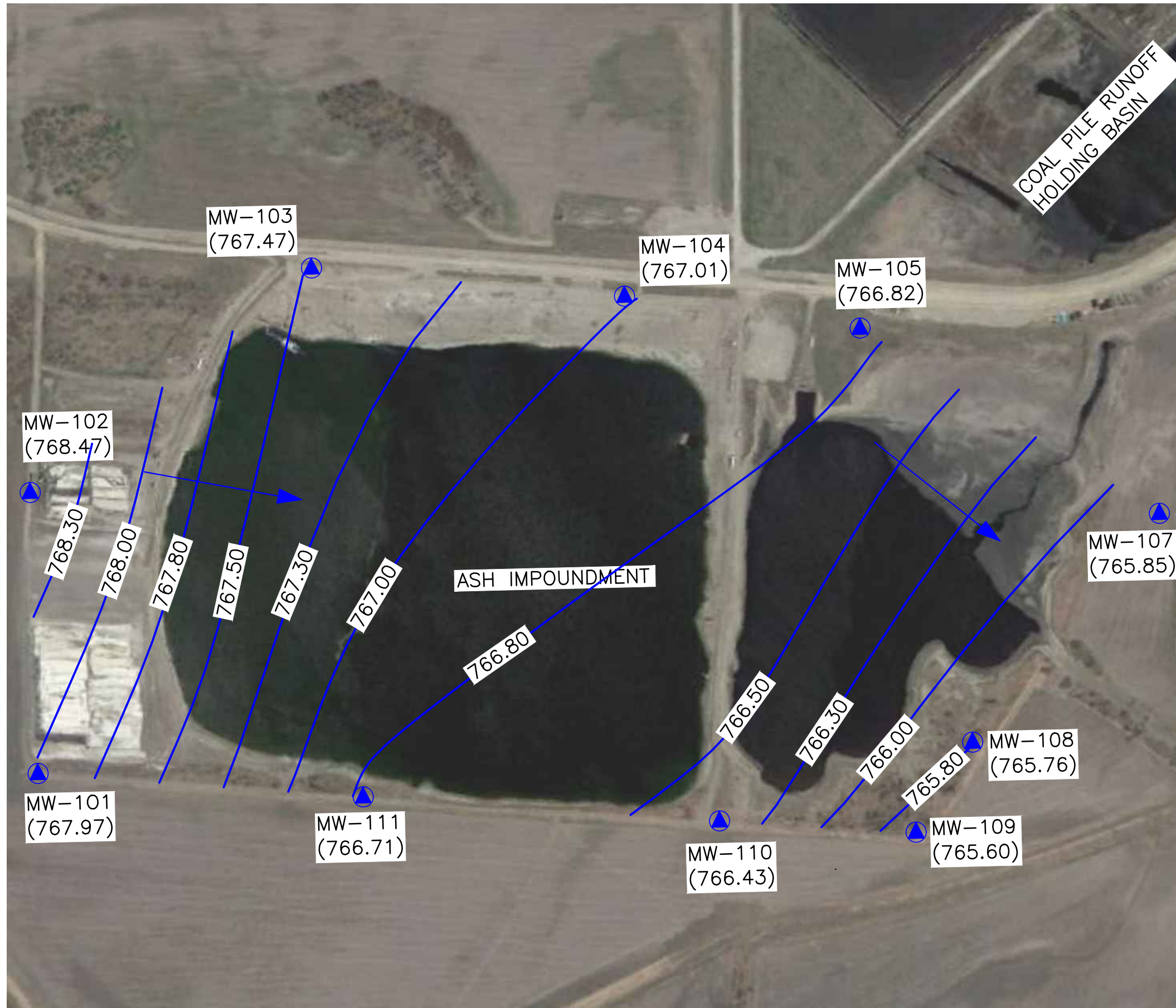
SHEET TITLE	POTENTIOMETRIC SURFACE MAP (FEBRUARY 2021)
PROJECT TITLE	ANNUAL GROUNDWATER REPORT

CLIENT	KANSAS CITY POWER & LIGHT COMPANY IATAN GENERATING STATION WESTON, MISSOURI
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<b>SCS ENGINEERS</b>	
8875 West 110th St., Ste. 100 Overland Park, MO 66210 PH: (913) 681-0630 FAX: (913) 681-0012	
PROJ. NO. 27217413.00	DWN. BY: ALR
CHK. BY: ALR	D/A RW BY: JRR
	PROD. MGR: JRR

CADD FILE:	FIGURE 1 - GROUNDWATER MONITORING WELLS
DATE:	7/8/21
FIGURE NO.	<b>3</b>

N:\KCP\Projects\Groundwater\DWG\Iatan\2021\Ash Impoundment\27213167\_20\_Ash Impoundment\_MAY 21 - Figure 4 Annual Report.dwg Jul 15, 2021 - 8:12am Layout Name: 6K By: 5036mrb



**LEGEND:**

- MW-109 MONITORING WELL (764.67) (GROUNDWATER ELEVATION)
- 766.50 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- DIRECTION OF GROUNDWATER FLOW

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON MAY 20, 2021.



SHEET TITLE <b>POTENTIOMETRIC SURFACE MAP (MAY 2021)</b>	REV.	DATE	BY
PROJECT TITLE <b>ANNUAL GROUNDWATER REPORT</b>			
CLIENT <b>EVERGY IATAN GENERATING STATION WESTON, MISSOURI</b>			
<b>SCS ENGINEERS</b> 8675 West 110th St., Ste. 100 Overland Park, MO 66210 PH: (813) 681-0630 FAX: (813) 681-0012 PROJ. NO. 27213167.21 DSK: BT DAW	DWN. BY:	MRB	D/A RW BY:
	CHK. BY:	JRF	PROJ. MGR. BY:
CADD FILE: 27213167_20_ASH IMPOUNDMENT_MAY 21 - FIGURE 4 ANNUAL REPORT.dwg			
DATE:	7/9/2021		
FIGURE	4		

## APPENDIX B

### TABLES

Table 1: Appendix III and Appendix IV Detection and Assessment Monitoring Results

Table 2: Detection and Assessment Monitoring Field Measurements

Table 3: Groundwater Protection Standards



**Table 1**  
**Ash Impoundment**  
**Appendix III and Appendix IV Detection Monitoring Results**  
**Evergy Iatan Generating Station**

Well Number	Sample Date	Appendix III Constituents							Appendix IV Constituents														
		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-101	11/09/20	<0.200	129	6.04	0.330	7.03	<5.00	518	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-101	02/02/21	---	---	---	---	7.48	---	---	<0.00400	<0.00200	0.652	<0.00200	<0.00100	<0.0100	<0.00200	0.290	<0.00200	0.0319	<0.000200	<0.00500	<0.00200	<0.00200	0.287
MW-101	05/20/21	<0.200	129	6.36	0.317	7.46	<5.00	515	---	<0.00200	0.652	---	---	---	---	0.317	---	0.0306	---	<0.00500	---	---	1.30
MW-102	11/09/20	<0.200	127	5.73	0.238	7.03	<5.00	475	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-102	02/02/21	---	---	---	---	7.53	---	---	<0.00400	0.0111	0.615	<0.00200	<0.00100	<0.0100	<0.00200	0.260	<0.00200	0.0319	<0.000200	<0.00500	<0.00200	<0.00200	1.51
MW-102	05/20/21	<0.200	121	5.76	0.239	7.43	<5.00	459	---	0.00713	0.659	---	---	---	---	0.239	---	0.0333	---	<0.00500	---	---	1.60
MW-103	11/09/20	<0.200	131	4.37	0.218	7.06	<5.00	463	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-103	02/02/21	---	---	---	---	7.02	---	---	<0.00400	<0.00200	0.658	<0.00200	<0.00100	<0.0100	<0.00200	0.259	<0.00200	0.0452	<0.000200	<0.00500	<0.00200	<0.00200	3.27
MW-103	05/20/21	<0.200	135	4.22	0.228	7.38	<5.00	483	---	<0.00200	0.660	---	---	---	---	0.228	---	0.0467	---	<0.00500	---	---	1.83
MW-104	07/13/20	---	*59.7	---	---	**7.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-104	08/25/20	---	*61.9	---	---	**7.50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-104	11/09/20	1.22	62.9	22.3	0.518	7.41	122	454	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-104	02/02/21	---	---	---	---	7.88	---	---	<0.00400	<0.00200	0.197	<0.00200	<0.00100	<0.0100	<0.00200	0.445	<0.00200	0.0163	<0.000200	0.0283	<0.00200	<0.00200	0.637
MW-104	05/20/21	1.50	74.6	13.7	0.491	7.64	103	119	---	<0.00200	0.240	---	---	---	---	0.491	---	0.0219	---	0.0280	---	---	0.988
MW-105	07/13/20	---	---	---	---	**7.25	---	*711	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-105	11/09/20	1.83	68.7	20.2	0.842	7.35	271	686	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-105	02/02/21	---	---	---	---	7.72	---	---	<0.00400	<0.00200	0.210	<0.00200	<0.00100	<0.0100	<0.00200	0.790	<0.00200	0.0211	<0.000200	0.0299	<0.00200	<0.00200	0.976
MW-105	05/20/21	1.63	75.5	19.5	0.652	6.74	246	664	---	<0.00200	0.236	---	---	---	---	0.652	---	0.0215	---	0.0263	---	---	1.89
MW-106	11/09/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-106	02/02/21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-106	05/20/21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-107	11/09/20	0.410	71.1	24.9	0.279	7.92	192	473	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-107	02/02/21	---	---	---	---	7.39	---	---	<0.00400	<0.00200	0.102	<0.00200	<0.00100	<0.0100	<0.00200	0.371	<0.00200	0.0176	<0.000200	0.0379	<0.00200	<0.00200	0.0385
MW-107	05/20/21	1.090	66.4	26.1	0.459	7.70	187	509	---	<0.00200	0.106	---	---	---	---	0.459	---	0.0177	---	0.0489	---	---	0.653
MW-108	11/09/20	2.08	89.8	17.3	0.532	7.78	219	706	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-108	02/02/21	---	---	---	---	7.10	---	---	<0.00400	<0.00200	0.0887	<0.00200	<0.00100	<0.0100	<0.00200	0.571	<0.00200	0.0250	<0.000200	0.0336	<0.00200	<0.00200	0.216
MW-108	05/20/21	2.26	92.6	23.2	0.473	7.71	155	756	---	<0.00200	0.0989	---	---	---	---	0.473	---	0.0239	---	0.0185	---	---	0.629
MW-109	07/13/20	*1.34	---	---	---	**7.15	*281	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-109	08/25/20	*1.51	---	---	---	**7.33	*183	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-109	11/09/20	1.78	72.0	21.9	0.598	7.52	213	630	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-109	02/02/21	---	---	---	---	7.01	---	---	<0.00400	<0.00200	0.139	<0.00200	<0.00100	<0.0100	<0.00200	0.603	<0.00200	0.0194	<0.000200	0.0371	<0.00200	<0.00200	0.137
MW-109	05/20/21	1.64	60.4	23.5	0.592	7.74	203	573	---	<0.00200	0.132	---	---	---	---	0.592	---	0.0182	---	0.0407	---	---	0.739
MW-110	07/13/20	*3.71	---	*23.2	---	**7.27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-110	08/25/20	*4.13	---	*20.0	---	**7.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-110	11/09/20	3.06	40.3	19.8	0.704	7.19	223	656	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-110	02/02/21	---	---	---	---	7.27	---	---	<0.00400	0.00319	0.0776	<0.00200	<0.00100	<0.0100	<0.00200	0.708	<0.00200	<0.0150	<0.000200	0.0968	<0.00200	<0.00200	0.209
MW-110	05/20/21	2.98	32.5	16.7	0.573	7.96	260	574	---	<0.00200	0.0759	---	---	---	---	0.573	---	<0.0150	---	0.113	---	---	0.713
MW-111	11/09/20	0.697	104	7.94	0.448	7.30	9.38	571	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-111	02/02/21	---	---	---	---	7.10	---	---	<0.00400	<0.00200	0.451	<0.00200	<0.00100	<0.0100	<0.00200	0.530	<0.00200	0.0257	<0.000200	0.00944	<0.00200	<0.00200	2.11
MW-111	05/20/21	0.720	114	7.45	0.423	7.52	32.9	546	---	<0.00200	0.474	---	---	---	---	0.423	---	0.0257	---	0.00916	---	---	1.55

mg/L - milligrams per liter  
pCi/L - picocuries per liter  
S.U. - Standard Units  
--- Not Sampled

**Table 2**  
**Ash Impoundment**  
**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-101	11/09/20	7.03	940	15.75	6.7	-139	0.25	10.13	767.06
MW-101	02/02/21	7.48	906	11.54	7.4	-121	0.00	10.45	766.74
MW-101	05/20/21	7.46	886	14.76	0.6	-157	0.00	9.22	767.97
MW-102	11/09/20	7.03	867	15.50	0.0	-134	0.31	8.60	767.19
MW-102	02/02/21	7.53	863	7.68	3.6	-125	0.00	8.72	767.07
MW-102	05/20/21	7.43	813	14.44	4.3	-157	0.00	7.32	768.47
MW-103	11/09/20	7.06	778	16.20	0.0	-88	0.53	16.23	766.96
MW-103	02/02/21	7.02	891	9.74	0.3	-120	0.00	16.86	766.33
MW-103	05/20/21	7.38	832	15.59	4.7	-138	0.00	15.72	767.47
MW-104	07/13/20	**7.38	702	16.06	8.0	-181	0.00	10.29	768.83
MW-104	08/25/20	**7.50	734	17.46	0.0	-181	8.32	10.16	768.96
MW-104	11/09/20	7.41	688	16.40	0.0	-122	1.20	12.59	766.53
MW-104	02/02/21	7.88	775	9.60	25.4	-135	3.99	13.85	765.27
MW-104	05/20/21	7.64	924	15.23	7.0	-162	0.00	12.11	767.01
MW-105	07/13/20	**7.25	1130	15.72	0.5	-173	0.00	11.31	768.84
MW-105	11/09/20	7.35	1010	15.65	0.0	-109	1.19	14.39	765.76
MW-105	02/02/21	7.72	1030	10.35	8.6	-126	0.00	16.27	763.88
MW-105	05/20/21	6.74	1070	15.88	0.0	-169	0.00	13.33	766.82
MW-106	11/09/20	NA	NA	NA	NA	NA	NA	NA	NA
MW-106	02/02/21	NA	NA	NA	NA	NA	NA	NA	NA
MW-106	05/20/21	NA	NA	NA	NA	NA	NA	NA	NA
MW-107	11/09/20	7.92	727	15.20	0.0	-153	1.98	15.33	762.78
MW-107	02/02/21	7.39	855	11.09	23.5	-90	1.06	18.03	760.08
MW-107	05/20/21	7.70	750	17.06	4.3	-151	0.00	12.26	765.85
MW-108	11/09/20	7.78	1070	13.29	0.0	-160	2.21	14.00	763.58
MW-108	02/02/21	7.10	1190	9.51	3.3	-159	0.55	16.36	761.22
MW-108	05/20/21	7.71	1110	12.03	2.8	-175	0.00	11.82	765.76
MW-109	07/13/20	**7.15	977	14.45	0.0	-163	0.00	10.08	767.75
MW-109	08/25/20	**7.33	821	22.54	0.0	-156	0.00	11.48	766.35
MW-109	11/09/20	7.52	952	15.42	0.0	-168	1.64	13.99	763.84
MW-109	02/02/21	7.01	1040	12.16	0.0	-162	0.43	16.22	761.61
MW-109	05/20/21	7.74	881	13.87	3.4	-166	0.00	12.23	765.60
MW-110	07/13/20	**7.27	891	12.77	0.0	-172	0.00	9.63	768.59
MW-110	08/25/20	**7.60	933	17.41	0.0	-161	1.18	10.10	768.12
MW-110	11/09/20	7.19	968	13.59	0.0	-143	0.50	12.81	765.41
MW-110	02/02/21	7.27	1110	11.22	0.0	-158	0.40	14.69	763.53
MW-110	05/20/21	7.96	857	13.18	13.5	-156	0.00	11.79	766.43
MW-111	11/09/20	7.30	923	15.90	1.2	-145	0.36	12.08	766.68
MW-111	02/02/21	7.10	1040	13.49	0.0	-158	0.42	13.03	765.73
MW-111	05/20/21	7.52	917	15.10	3.9	-161	0.00	12.05	766.71

\* Verification Sample  
\*\* Extra Sample Collected 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

**Table 3  
Groundwater Protection Standards  
Ash Impoundment  
Evergy Iatan Generating Station**

Well Number	Sample Date	Appendix III Constituents							Appendix IV Constituents												
		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)	Radium Combined (pCi/L)
<b>MCL GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	NA	4.0	0.015*	NA	0.002	NA	5
<b>40 CFR 257.95(h) GWPS</b>		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.006	NA	NA	0.040	NA	0.100	NA
<b>MW-101 PL/BG</b>		0.200	137.3	6.675	0.4156	7.814/6.628	5	554.4	0.002	0.007753	0.7322	0.002	0.001	0.01	0.01	0.4303	0.002	0.04177	0.0002	0.005	3.569
<b>MW-101 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.04177**	0.002	0.100	5
MW-101	11/09/20	<0.200	129	6.04	0.330	7.03	<5.00	518	---	---	---	---	---	---	---	0.33	---	---	---	---	---
MW-101	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.652	<0.00200	<0.00100	<0.0100	<0.00200	0.29	<0.00200	0.0319	<0.000200	<0.00500	0.287
MW-101	5/20/2021	<0.200	129	6.36	0.317	7.46	<5.00	515	---	<0.00200	0.652	---	---	---	---	0.317	---	0.0306	---	<0.00500	1.30
<b>MW-102 PL/BG</b>		0.200	143.5	5.657	0.362	7.661/6.772	5	539.1	0.002	0.04415	0.8502	0.002	0.001	0.01	0.01	0.3783	0.002	0.04603	0.0002	0.005	4.338
<b>MW-102 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.04415**	2	0.004	0.005	0.1	0.006	4	0.015	0.04603**	0.002	0.100	5
MW-102	11/9/2020	<0.200	127	5.73	0.238	7.03	<5.00	475	---	---	---	---	---	---	---	0.238	---	---	---	---	---
MW-102	2/2/2021	---	---	---	---	---	---	---	<0.00400	0.0111	0.615	<0.00200	<0.00100	<0.0100	<0.00200	0.260	<0.00200	0.0319	<0.000200	<0.00500	1.51
MW-102	5/20/2021	<0.200	121	5.76	0.239	7.43	<5.00	459	---	0.00713	0.659	---	---	---	---	0.239	<0.00200	0.0333	---	<0.00500	1.60
<b>MW-103 PL/BG</b>		0.200	182.1	4.679	0.328	7.49/6.84	5	629.7	0.002	0.002	0.7999	0.002	0.001	0.01	0.01	0.3425	0.002	0.06572	0.0002	0.005	4.142
<b>MW-3 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.06572**	0.002	0.100	5
MW-103	11/9/2020	<0.200	131	4.37	0.218	7.06	<5.00	463	---	---	---	---	---	---	---	0.218	---	---	---	---	---
MW-103	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.658	<0.00200	<0.00100	<0.0100	<0.00200	0.259	<0.00200	0.0452	<0.000200	<0.00500	3.27
MW-103	5/20/2021	<0.200	135	4.22	0.228	7.38	<5.00	483	---	<0.00200	0.660	---	---	---	---	0.228	---	0.0467	---	<0.00500	1.83
<b>MW-104 PL/BG</b>		1.361	54.12	25.02	0.7603	7.932/7.095	159.1	474.5	0.002	0.002	0.1843	0.002	0.001	0.01	0.01	0.7922	0.002	0.03283	0.0002	0.03131	2.284
<b>MW-104 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0000	0.015	0.040	0.002	0.100	5
MW-104	11/9/2020	1.22	62.9	22.3	0.518	7.41	122	454	---	---	---	---	---	---	---	0.518	---	---	---	---	---
MW-104	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.197	<0.00200	<0.00100	<0.0100	<0.00200	0.445	<0.00200	0.0163	<0.000200	0.0283	0.637
MW-104	5/20/2021	1.5	74.6	13.7	0.491	7.64	103	119	---	<0.00200	0.240	---	---	---	---	0.491	---	0.0219	---	0.0280	0.988
<b>MW-105 PL/BG</b>		1.920	104.6	19.3	0.9151	7.853/6.875	305.3	719.9	0.002	0.002	0.4079	0.002	0.001	0.01	0.01	0.9474	0.002	0.04029	0.0002	0.0455	2.824
<b>MW-105 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.100	5
MW-105	11/9/2020	1.83	68.7	20.2	0.842	7.35	271	686	---	---	---	---	---	---	---	0.842	---	---	---	---	---
MW-105	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.210	<0.00200	<0.00100	<0.0100	<0.00200	0.790	<0.00200	0.0211	<0.000200	0.0299	0.976
MW-105	5/20/2021	1.63	75.5	19.5	0.652	6.74	246	664	---	<0.00200	0.236	---	---	---	---	0.652	---	0.0215	---	0.0263	1.89

\* EPA Action Level  
 \*\* Groundwater Protection Standard Based on Background Level  
 CCR - Coal Combustion Residuals  
 GWPS - Groundwater Protection Standard  
 MCL - Maximum Contaminant Level  
 PL/BG - Prediction Limit / Background Level  
 mg/L - Milligrams per Liter  
 pCi/L - Picocuries per Liter  
 "----" - Not Analyzed



**Table 3**  
**Groundwater Protection Standards**  
**Ash Impoundment**  
**Evergy Iatan Generating Station**

Well Number	Sample Date	Appendix III Constituents							Appendix IV Constituents												
		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)	Radium Combined (pCi/L)
<b>MCL GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	NA	4.0	0.015*	NA	0.002	NA	5
<b>40 CFR 257.95(h) GWPS</b>		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.006	NA	NA	0.040	NA	0.100	NA
<b>MW-107 PL/BG</b>		2.771	63.34	25.9	0.9095	8.033/7.192	280.2	710.4	0.002	0.002	0.1207	0.002	0.001	0.01	0.01	0.9578	0.002	0.015	0.0002	0.1295	2.325
<b>MW-107 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.1295**	5
MW-107	11/9/2020	0.41	71.1	24.9	0.279	7.92	192	473	---	---	---	---	---	---	---	0.279	---	---	---	---	---
MW-107	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.102	<0.00200	<0.00100	<0.0100	<0.00200	0.371	<0.00200	0.0176	<0.000200	0.0379	0.0385
MW-107	5/20/2021	1.09	66.4	26.1	0.459	7.70	187	509	---	<0.00200	0.106	---	---	---	---	0.459	---	0.0177	---	0.0489	0.653
<b>MW-108 PL/BG</b>		2.035	250	28.7	0.7348	8.736/6.576	666	1490	0.002	0.004927	0.3081	0.002	0.001	0.01	0.01	0.7754	0.002	0.04651	0.0002	0.01701	2.149
<b>MW-108 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.100	5
MW-108	11/9/2020	2.08	89.8	17.3	0.532	7.78	219	706	---	---	---	---	---	---	---	0.532	---	---	---	---	---
MW-108	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.0887	<0.00200	<0.00100	<0.0100	<0.00200	0.571	<0.00200	0.0250	<0.000200	0.0336	0.216
MW-108	5/20/2021	2.26	92.6	23.2	0.473	7.71	155	756	---	<0.00200	0.0989	---	---	---	---	0.473	---	0.0239	---	0.0185	0.629
<b>MW-109 PL/BG</b>		0.850	141.5	30.45	0.6709	7.651/6.951	259.3	784.3	0.002	0.006871	0.3081	0.002	0.001	0.01	0.01	0.6944	0.002	0.03881	0.0002	0.0295	2.56
<b>MW-109 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.100	5
MW-109	11/9/2020	1.78	72	21.9	0.598	7.52	213	630	---	---	---	---	---	---	---	0.598	---	---	---	---	---
MW-109	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.139	<0.00200	<0.00100	<0.0100	<0.00200	0.603	<0.00200	0.0194	<0.000200	0.0371	0.137
MW-109	5/20/2021	1.64	60.4	23.5	0.592	7.74	203	573	---	<0.00200	0.132	---	---	---	---	0.592	---	0.0182	---	0.0407	0.739
<b>MW-110 PL/BG</b>		3.130	86.38	21.0	0.7402	8.044/7.041	690	801.3	0.002	0.007361	0.374	0.002	0.001	0.01	0.01	0.7768	0.002	0.04121	0.0002	0.1316	1.902
<b>MW-110 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.1316**	5
MW-110	11/9/2020	3.06	40.3	19.8	0.704	7.19	223	656	---	---	---	---	---	---	---	0.704	---	---	---	---	---
MW-110	2/2/2021	---	---	---	---	---	---	---	<0.00400	0.00319	0.0776	<0.00200	<0.00100	<0.0100	<0.00200	0.708	<0.00200	<0.0150	<0.000200	0.0968	0.209
MW-110	5/20/2021	2.98	32.5	16.7	0.573	7.96	260	540	---	<0.00200	0.0759	---	---	---	---	0.573	---	<0.0150	---	0.113	0.713
<b>MW-111 PL/BG</b>		1.028	108.2	13.08	0.7493	7.611/7.062	96.55	594.5	0.002	0.0037	0.4916	0.002	0.0733	0.01	0.01	0.7805	0.002	0.03697	0.0002	0.01718	3.384
<b>MW-111 GWPS</b>		NA	NA	NA	NA	NA	NA	NA	0.006	0.010	2	0.004	0.005	0.1	0.006	4.0	0.015	0.040	0.002	0.100	5
MW-111	11/9/2020	0.697	104	7.94	0.448	7.30	9.38	571	---	---	---	---	---	---	---	0.448	---	---	---	---	---
MW-111	2/2/2021	---	---	---	---	---	---	---	<0.00400	<0.00200	0.451	<0.00200	<0.00100	<0.0100	<0.00200	0.530	<0.00200	0.0257	<0.000200	0.00944	2.11
MW-111	5/20/2021	0.720	114	7.45	0.423	7.52	32.9	546	---	<0.00200	0.474	---	---	---	---	0.423	---	0.0257	---	0.00916	1.55

\* EPA Action Level  
\*\* Groundwater Protection Standard Based on Background Level  
CCR - Coal Combustion Residuals  
GWPS - Groundwater Protection Standard  
MCL - Maximum Contaminant Level  
PL/BG - Prediction Limit / Background Level  
mg/L - Milligrams per Liter  
pCi/L - Picocuries per Liter  
"---" - Not Analyzed

## APPENDIX C

### ALTERNATIVE SOURCE DEMONSTRATION

#### C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2020 Groundwater Monitoring Event, Ash Impoundment, Iatan Generating Station (December 28, 2020)

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

**ASH IMPOUNDMENT  
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 Ash Impoundment 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.

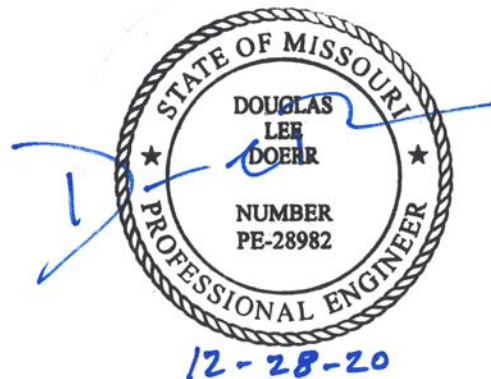


---

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 Ash Impoundment at the Iatan Generating Station. The Alternative Source Demonstration was prepared by me or under my direct supervision in accordance with generally accepted engineering practices and the local standard of care.



---

Douglas L. Doerr, P.E.

SCS Engineers

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## Appendices

- Appendix A Box and Whiskers Plots**
- Appendix B Time Series Plots**
- Appendix C Boron and Stable Isotope Plots and Laboratory Results**

# 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 Ash Impoundment at the Iatan Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated April 16, 2019. 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 three Appendix III constituents above the prediction limits established for monitoring wells MW-104, MW-109, and MW-110.

Constituent/Monitoring Well	*UPL	Observation May 20, 2020	1st Verification July 13, 2020	2nd Verification August 25, 2020
<b>Boron</b>				
MW-109	0.8503	1.35	1.34	1.51
MW-110	3.13	3.96	3.71	4.13
<b>Calcium</b>				
MW-104	54.12	55.5	59.7	61.9

\*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 SSIs above the background prediction limit for boron in monitoring wells MW-109 and MW-110, and calcium in monitoring well MW-104.**

### 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 SSIs for the Ash Impoundment at the Iatan Generating Station, there are multiple lines of supporting evidence to indicate that some of the above SSIs were not caused by a release from the Ash Impoundment. The data evaluation for the ASD is described below.

#### 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, 25<sup>th</sup> and 75<sup>th</sup> 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.

A calcium SSI was identified in monitoring well MW-104. Box and whiskers plots for calcium were prepared for monitoring well MW-104, the other impoundment monitoring wells, the Station's collector well, and an upland storm water sample to allow comparison of the concentrations. The comparison indicates the calcium concentrations in MW-104 are relatively consistent and less than the calcium concentrations in the other monitoring wells, the Station's collector well, and upland storm water. This demonstrates that a source other than the Ash Impoundment could have 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 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.

Time series plots for calcium were prepared for monitoring well MW-104, the other impoundment monitoring wells, the Station's collector well, and an upland storm water sample to allow comparison of

the concentrations. The comparison indicates the calcium concentrations in MW-104 are relatively consistent and near the lower range of calcium concentrations in the other monitoring wells, the Station's collector well, and upland storm water. This demonstrates that a source other than the Ash Impoundment could have 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 B**.

### 3.3 BORON STABLE ISOTOPE RATIO EVALUATION

The boron stable isotope ratio in coal and coal ash generally vary significantly from the boron stable isotope ratio found in naturally occurring groundwater. The National Bureau of Standards standard reference material 951 (NBS SRM-951), which is a boric acid, is used as the isotopic standard for boron. Boron has two stable isotopes,  $^{10}\text{B}$  and  $^{11}\text{B}$ . Isotopic ratios of samples are reported as per mil (‰) differences from NBS SRM-951. The delta value for  $^{11}\text{B}/^{10}\text{B}$  is expressed as  $\delta^{11}\text{B}$ , ‰. Previous studies have found  $\delta^{11}\text{B}$  values for coal ash and coal ash leachate samples between -40 ‰ and +6.6 ‰ and most meteoric groundwaters have  $\delta^{11}\text{B}$  values between +10 ‰ and +30 ‰ (Refs. 1, 2, and 3).

Groundwater samples were collected from MW-108, MW-109, and MW-110 for boron and for  $\delta^{11}\text{B}$  analysis on October 23, 2020. Additionally, an ash pore water sample (002) was collected from a Geotube<sup>®</sup> filled with ash from the impoundment on the same day and for the same analysis. The laboratory reports for the analysis are provided in **Appendix C**.

Boron concentration plotted against  $\delta^{11}\text{B}$ , ‰ for each of the samples are provided in **Appendix C**. The boron concentration in the ash pore water was 3.64 mg/ and the boron concentrations in MW-108, MW-109, and MW-110 were 2.04 mg/L, 1.74 mg/L, and 3.12 mg/L, respectively. The  $\delta^{11}\text{B}$  for the boron from the ash pore water was -3.33 ‰ and the  $\delta^{11}\text{B}$  values for the boron from MW-108, MW-109, and MW-110 were 13.87 ‰, 12.82 ‰, and -2.95 ‰, respectively. The significantly higher  $\delta^{11}\text{B}$  for groundwater from MW-108 and MW-109 compared to the ash pore water demonstrates an alternative source of boron at the site other than the Ash Impoundment. However, the negative and similar  $\delta^{11}\text{B}$  values for the boron from MW-110 compared to ash pore water do not demonstrate an alternative source for boron in MW-110.

Below the boron vs  $\delta^{11}\text{B}$  plot in **Appendix C**, is a figure (Ref. 4) showing  $\delta^{11}\text{B}$  ranges for meteoric waters from various natural materials and waters impacted by anthropogenic sources. The figure further demonstrates, based on  $\delta^{11}\text{B}$  values for MW-108 and MW-109, that there is an alternative source of boron at the site other than the Fly Ash Impoundment.

## 4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the Ash Impoundment caused the SSI over background levels for calcium in MW-104 and boron in MW-109, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. However, the evidence currently available does not support an alternative source for the elevated boron in MW-110.



## 5 REFERENCES

1. **Buska, Paul M., Fitzpatrick, John and Watson, Lee R. and Kay, Robert T.** *Evaluation of Ground-Water and Boron Sources by Use of Boron Stable-Isotope Ratios, Tritium, and Selected Water Chemistry Constituents near Beverly Shores, Northwestern Indiana*, 2004. U.S. Geological Survey Scientific Investigations Report 2007-5166. (2007).
2. **Ruhl, Laura S. and Vengosh, Avner and Dwyer, Gary S. and Hsu-Kim, Heileen and Deonarine, Amrika.** *A Twenty-Month Geochemical and Isotopic Investigation into Environmental Impacts of the 2008 TVA Coal Ash Spill*, - May. Denver, CO, USA : s.n., 2011. 2011 World of Coal Ash (WOCA) Conference - May 9-12, 2011.
3. **Ruhl, Laura.** *Boron and Strontium Isotopic Characterization of Coal Combustion Residuals: Validation of Novel Environmental Tracers*, Paper No. 30616-208920. Charlotte, NC : s.n., 2012. 2012 Geological Society of America Annual Meeting and Exposition, 4-7 November.
4. **Ruhl, Laura.** *Geochemical and Isotopic Characterization of Coal Combustion Residuals: Implications for Potential Environmental Impacts.* Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Earth and Ocean Sciences in the Graduate School of Duke University, 2012.

## 6 GENERAL COMMENTS

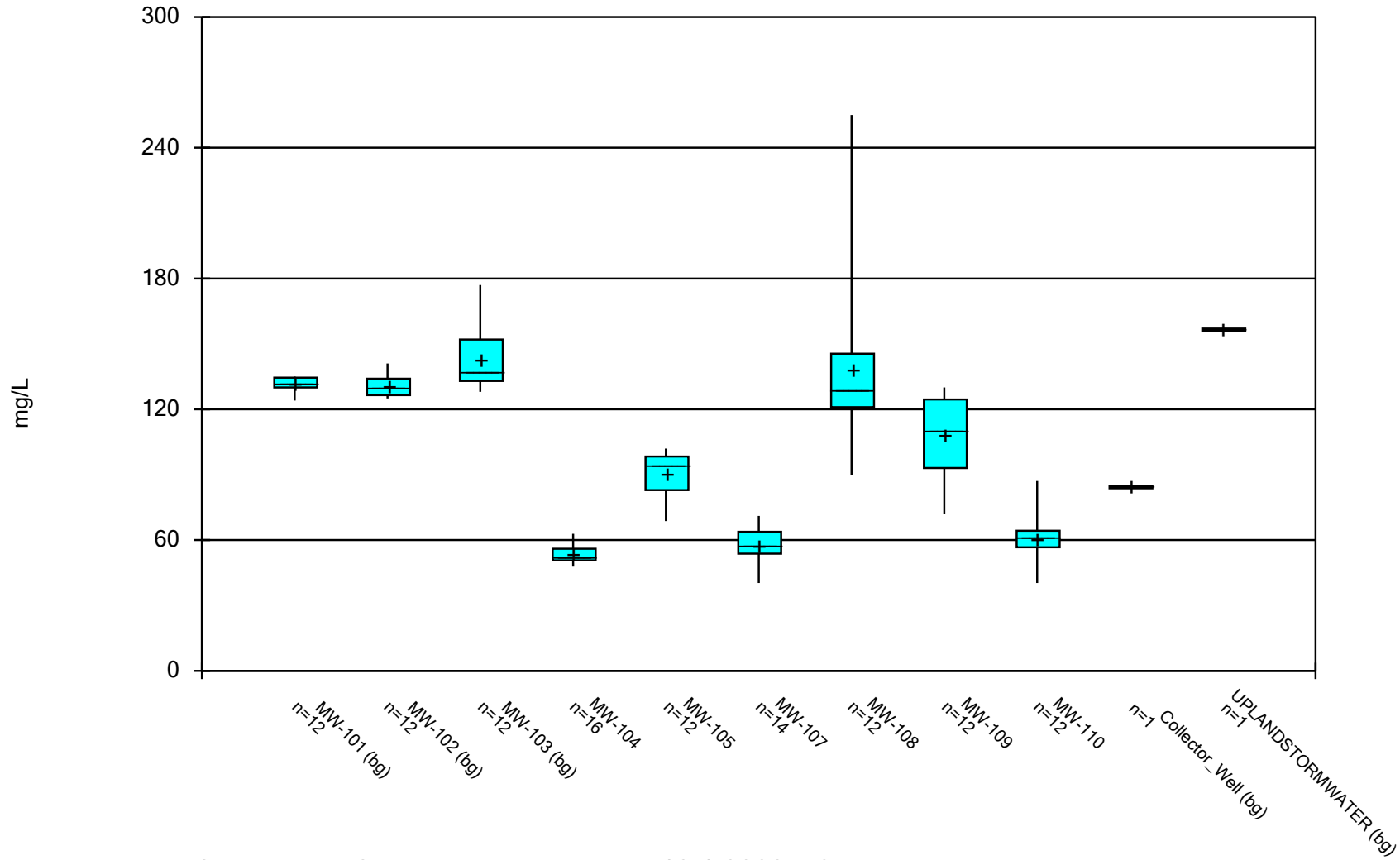
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report.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

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

## **Appendix A**

### **Box and Whiskers Plots**

### Box & Whiskers Plot



Constituent: Calcium    Analysis Run 12/1/2020 5:35 PM    View: Ash Impound III  
latan Utility Waste LF    Client: SCS Engineers    Data: latan jrr

# Box & Whiskers Plot

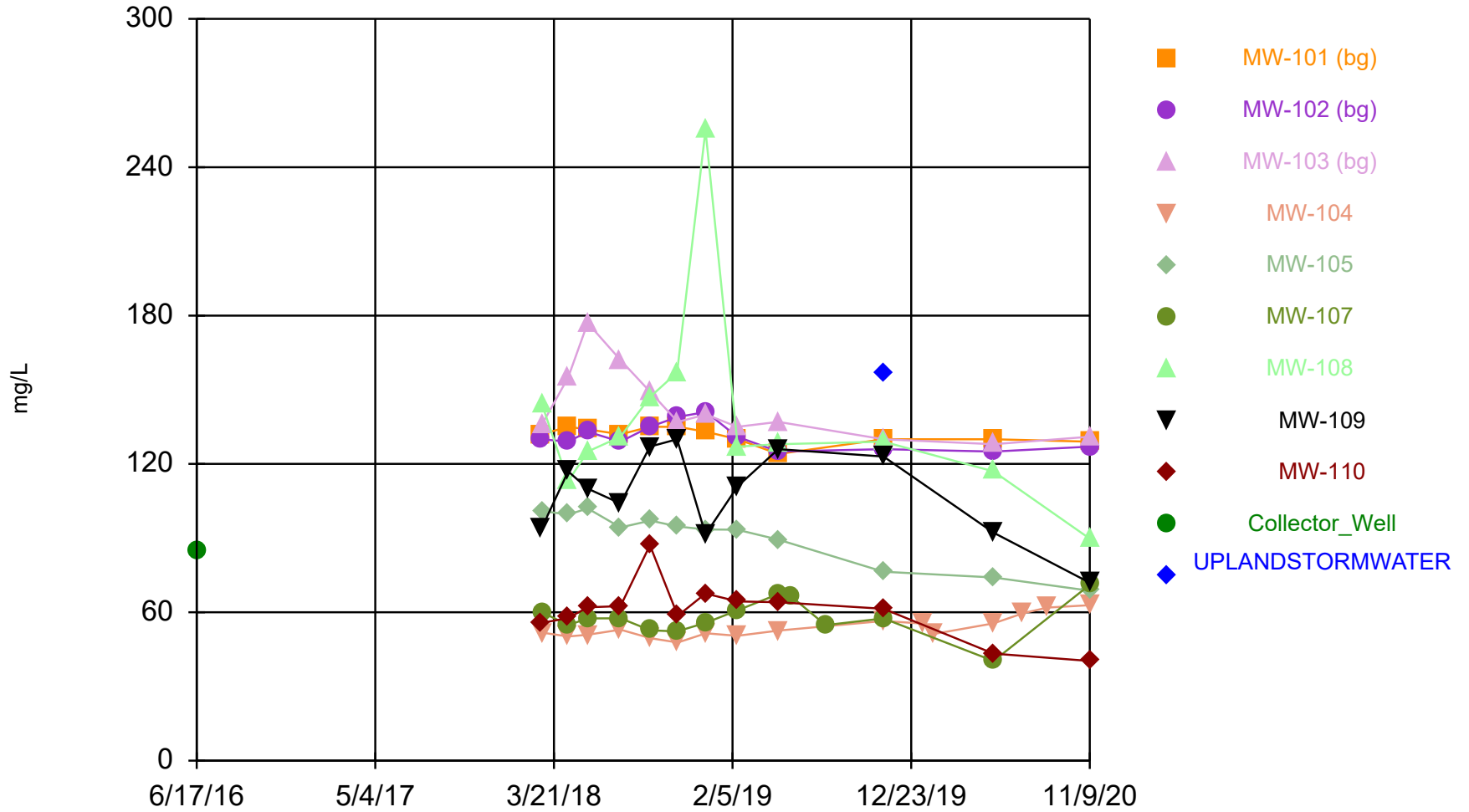
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 12/1/2020, 5:36 PM

<u>Constituent</u>	<u>Well</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Std. Err.</u>	<u>Median</u>	<u>Min.</u>	<u>Max.</u>	<u>%NDs</u>
Calcium (mg/L)	MW-101 (bg)	12	131.6	3.232	0.933	132	124	135	0
Calcium (mg/L)	MW-102 (bg)	12	130.8	5.271	1.522	129.5	125	141	0
Calcium (mg/L)	MW-103 (bg)	12	143.1	14.86	4.29	137	128	177	0
Calcium (mg/L)	MW-104	16	53.81	4.475	1.119	52.2	47.8	62.9	0
Calcium (mg/L)	MW-105	12	90.34	11.12	3.21	93.9	68.7	102	0
Calcium (mg/L)	MW-107	14	57.81	7.589	2.028	57.5	40.3	71.1	0
Calcium (mg/L)	MW-108	12	138.6	40.53	11.7	128.5	89.8	255	0
Calcium (mg/L)	MW-109	12	108.1	17.89	5.164	110.5	72	130	0
Calcium (mg/L)	MW-110	12	60.39	11.8	3.406	61.7	40.3	87.1	0
Calcium (mg/L)	Collector...	1	84.7	0	0	84.7	84.7	84.7	0
Calcium (mg/L)	UPLANDSTO...	1	157	0	0	157	157	157	0

## **Appendix B**

### **Time Series Plots**

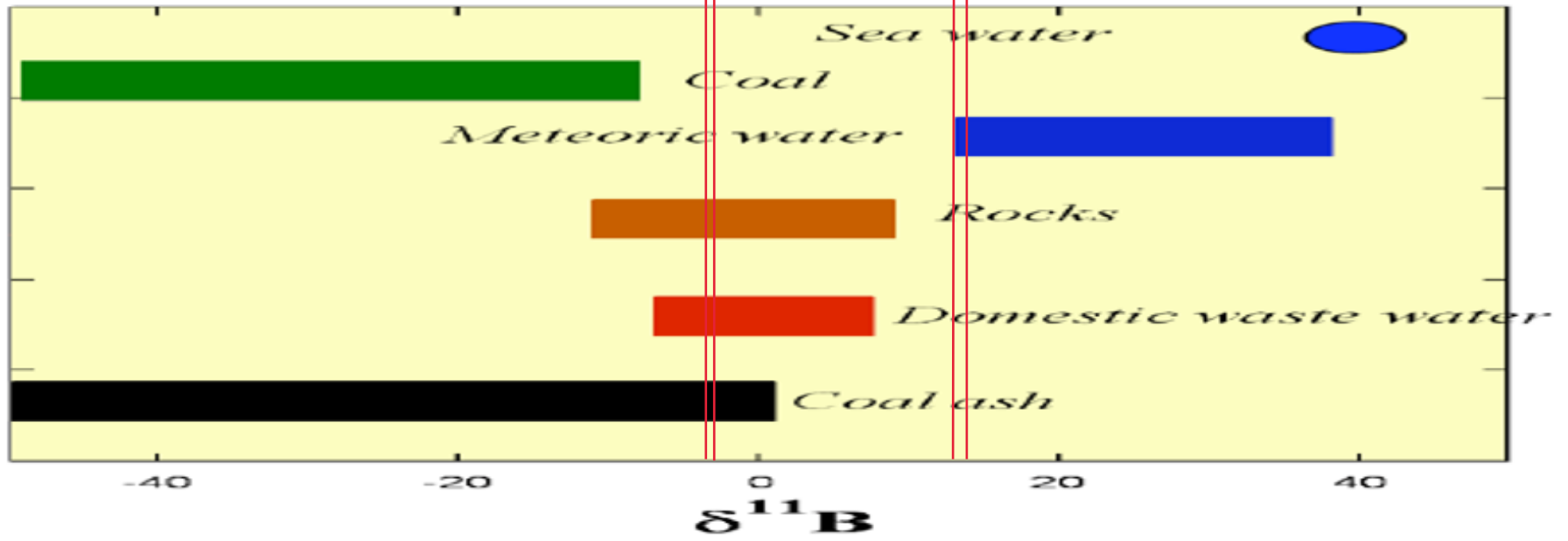
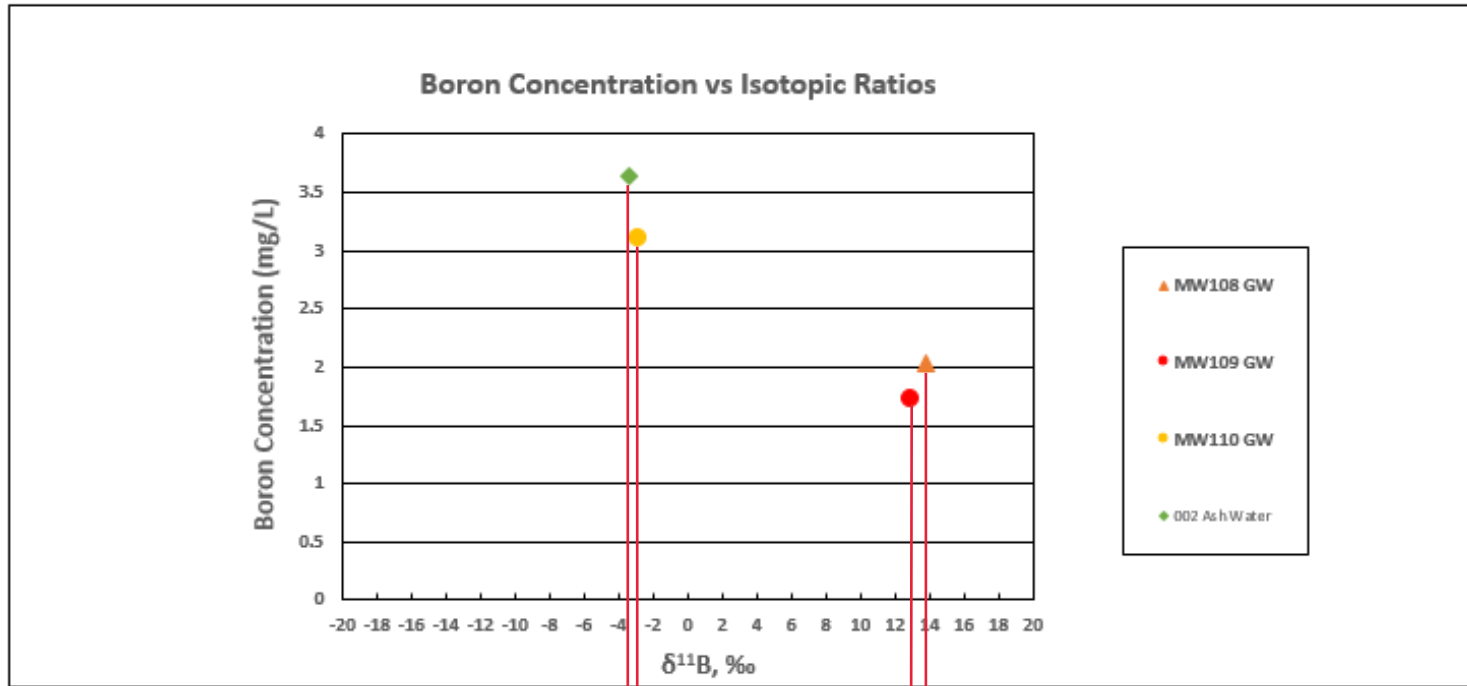
### Time Series



Constituent: Calcium Analysis Run 12/1/2020 5:38 PM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

## **Appendix C**

### **Boron and Stable Isotope Plots and Laboratory Results**





# Report

# L2022811



Page 1 (3)

4F850R52KQ

Date received **2020-10-30**  
Issued **2020-11-04**

**SCS Engineers**  
**Jason R. Franks**

**8575 West 110 Street Suit 100**  
**Overland Park, Kansas 66210**  
**United States**

Project **N/A**

## Analysis: IR

Your ID	<b>MW104 102320:1250</b>				
Sampled	<b>2020-10-23</b>				
LabID	U11773463				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
<b>Report in Excel *</b>	<b>yes</b>		1	I	IR

Your ID	<b>MW108 102320:1110</b>				
Sampled	<b>2020-10-23</b>				
LabID	U11773464				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
<b>Report in Excel *</b>	<b>yes</b>		1	I	IR

Your ID	<b>MW109 102320:1140</b>				
Sampled	<b>2020-10-23</b>				
LabID	U11773465				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
<b>Report in Excel *</b>	<b>yes</b>		1	I	IR

Your ID	<b>MW110 102320:1210</b>				
Sampled	<b>2020-10-23</b>				
LabID	U11773466				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
<b>Report in Excel *</b>	<b>yes</b>		1	I	IR

Your ID	<b>002 102320:1100</b>				
Sampled	<b>2020-10-23</b>				
LabID	U11773467				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
<b>Report in Excel *</b>	<b>yes</b>		1	I	IR



Your ID	004 102320:1200				
Sampled	2020-10-23				
LabID	U11773468				
<b>Analysis</b>	<b>Results</b>	<b>Unit</b>	<b>Method</b>	<b>Issuer</b>	<b>Sign</b>
Report in Excel*	yes		1	I	IR



Method specification	
1	Analysed according to see separate report in excel.

Approver	
IR	Iliia Rodushkin

Issuer <sup>1</sup>	
I	Man.Inm.

\* indicates unaccredited analysis.

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The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

---

<sup>1</sup> The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

# REPORT OF ANALYSIS



Issued by: ALS Scandinavia AB, Aurorum 10, S-977 75 Luleå, Sweden  
Client: SCS Engineers  
Date of receipt: 2020-10-30  
Date of analysis: 2018-11-04  
Order number (our): L2022811  
Your reference: Jason R. Franks  
Our reference: Ilia Rodushkin

Sample ID	Lab ID	$\delta^{11}\text{B}$ , ‰	2 SD	
MW104 102320:1250	U11773463	0.45	0.62	
MW104 102320:1250, r.2	U11773463	0.25	0.44	
MW108 102320:1110	U11773464	13.87	0.65	
MW109 102320:1140	U11773465	12.82	0.68	
MW110 102320:1210	U11773466	-2.95	0.71	
002 102320:1100	U11773467	-3.33	0.67	
002 102320:1100, r.2	U11773467	-3.27	0.74	
004 102320:1200	U11773468	7.10	0.81	
004 102320:1200, r.2	U11773468	7.04	0.75	

## Comments

The analysis is carried out by MC-ICP-MS (MEPTUNE PLUS, ThermoScientific) and MC-ICP-MS (NEPTUNE PLUS) using internal standardization and external calibration with bracketing isotope SRMs

Analysis is carried out after ion exchange separation

Delta 11B values calculated to NIST SRM 951

SD calculated from two independent consecutive measurements

  
Signature

**Ilia Rodushkin**  
Associate Professor  
LABORATORY MANAGER  
ALS Scandinavia AB

## SCS Engineers - KS

Sample Delivery Group: L1277600  
Samples Received: 10/24/2020  
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

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



<b>Cp: Cover Page</b>	<b>1</b>	<b>1</b> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b>2</b> Tc
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Sr: Sample Results</b>	<b>6</b>	<b>3</b> Ss
MW-104 L1277600-01	6	
MW-108 L1277600-02	7	<b>4</b> Cn
MW-109 L1277600-03	8	<b>5</b> Sr
MW-110 L1277600-04	9	
001 L1277600-05	10	<b>6</b> Qc
002 L1277600-06	11	
003 L1277600-07	12	<b>7</b> Gl
004 L1277600-08	13	<b>8</b> Al
<b>Qc: Quality Control Summary</b>	<b>14</b>	
Metals (ICP) by Method 6010B	14	<b>9</b> Sc
<b>Gl: Glossary of Terms</b>	<b>17</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>18</b>	
<b>Sc: Sample Chain of Custody</b>	<b>19</b>	

# SAMPLE SUMMARY



## MW-104 L1277600-01 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 12:50  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:16	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566839	1	10/28/20 21:54	10/29/20 13:03	EL	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-108 L1277600-02 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 11:10  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:19	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566839	1	10/28/20 21:54	10/29/20 13:05	EL	Mt. Juliet, TN

## MW-109 L1277600-03 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 11:40  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:22	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566839	1	10/28/20 21:54	10/29/20 20:05	TRB	Mt. Juliet, TN

## MW-110 L1277600-04 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 12:10  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:25	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566842	1	10/30/20 16:33	10/31/20 09:42	TRB	Mt. Juliet, TN

## 001 L1277600-05 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 10:30  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:28	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566842	1	10/30/20 16:33	10/31/20 09:52	TRB	Mt. Juliet, TN

## 002 L1277600-06 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 11:00  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:36	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566842	1	10/30/20 16:33	10/31/20 09:55	TRB	Mt. Juliet, TN

## 003 L1277600-07 GW

Collected by Jason R Franks  
Collected date/time 10/23/20 11:30  
Received date/time 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:39	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566842	1	10/30/20 16:33	10/31/20 09:58	TRB	Mt. Juliet, TN

# SAMPLE SUMMARY



004 L1277600-08 GW

Collected by: Jason R Franks  
 Collected date/time: 10/23/20 12:00  
 Received date/time: 10/24/20 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1565894	1	10/30/20 00:43	10/30/20 09:42	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1566842	1	10/30/20 16:33	10/31/20 10:00	TRB	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc





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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1210		200	1	10/29/2020 13:03	<a href="#">WG1566839</a>
Boron,Dissolved	1200		200	1	10/30/2020 09:16	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	2040		200	1	10/29/2020 13:05	<a href="#">WG1566839</a>
Boron,Dissolved	2000		200	1	10/30/2020 09:19	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1740		200	1	10/29/2020 20:05	<a href="#">WG1566839</a>
Boron,Dissolved	1690		200	1	10/30/2020 09:22	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	3120		200	1	10/31/2020 09:42	<a href="#">WG1566842</a>
Boron,Dissolved	3160		200	1	10/30/2020 09:25	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/31/2020 09:52	<a href="#">WG1566842</a>
Boron,Dissolved	ND		200	1	10/30/2020 09:28	<a href="#">WG1565894</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	3640		200	1	10/31/2020 09:55	<a href="#">WG1566842</a>
Boron,Dissolved	3290		200	1	10/30/2020 09:36	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/31/2020 09:58	<a href="#">WG1566842</a>
Boron,Dissolved	ND		200	1	10/30/2020 09:39	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	293		200	1	10/31/2020 10:00	<a href="#">WG1566842</a>
Boron,Dissolved	292		200	1	10/30/2020 09:42	<a href="#">WG1565894</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3587535-1 10/30/20 08:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron,Dissolved	U		20.0	200

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

Laboratory Control Sample (LCS)

(LCS) R3587535-2 10/30/20 08:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron,Dissolved	1000	980	98.0	80.0-120	

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1277522-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1277522-10 10/30/20 08:34 • (MS) R3587535-4 10/30/20 08:40 • (MSD) R3587535-5 10/30/20 08:42

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,Dissolved	1000	ND	1010	1000	97.9	96.5	1	75.0-125			1.32	20



Method Blank (MB)

(MB) R3587293-1 10/29/20 12:07

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

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R3587293-2 10/29/20 12:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	977	97.7	80.0-120	

4 Cn

5 Sr

L1277522-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1277522-10 10/29/20 12:12 • (MS) R3587293-4 10/29/20 12:18 • (MSD) R3587293-5 10/29/20 12:20

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	1000	1010	97.9	99.0	1	75.0-125			1.11	20

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3587896-1 10/31/20 09:37

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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3587896-2 10/31/20 09:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	979	97.9	80.0-120	

L1277600-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1277600-04 10/31/20 09:42 • (MS) R3587896-4 10/31/20 09:47 • (MSD) R3587896-5 10/31/20 09:50

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	3120	4060	4050	93.7	93.1	1	75.0-125			0.153	20

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>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.

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

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 <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	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

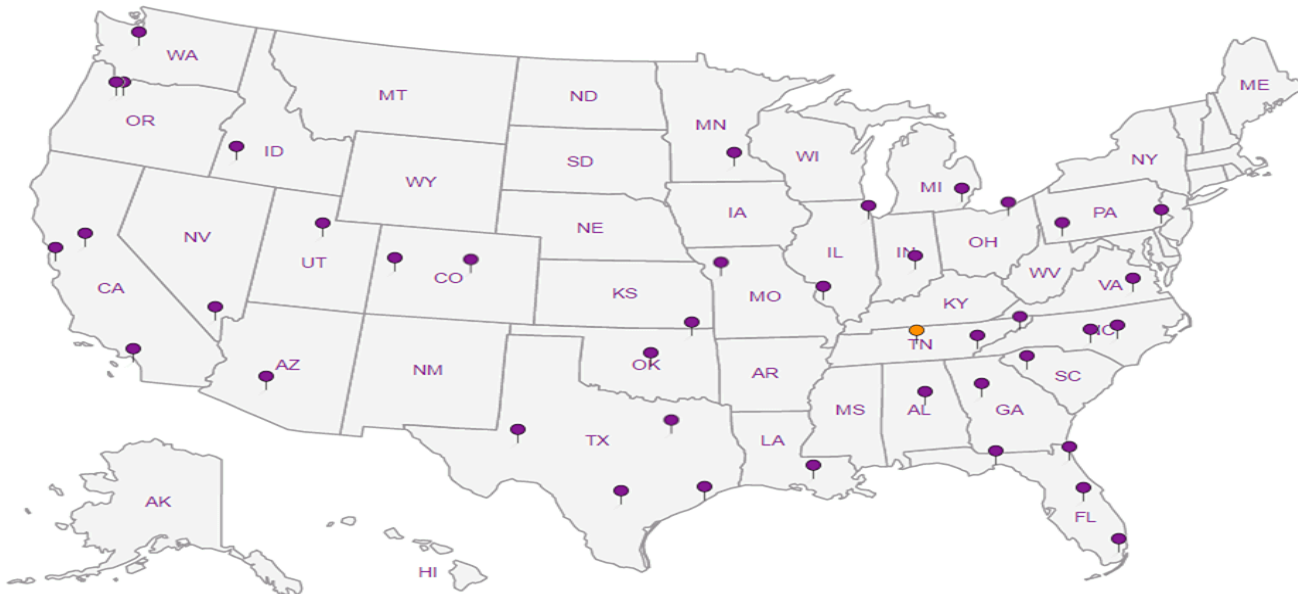
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

**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

<2 <2

Analysis / Container / Preservative



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 CP ET

Phone: 913-681-0030

Client Project #

27213167.18

Lab Project #

AQUAOPKS-IATAN

Collected by (print):

JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):

*[Signature]*

Rush? (Lab MUST Be Notified)

Same Day  Five Day   
Next Day  5 Day (Rad Only)   
Two Day  10 Day (Rad Only)   
 Three Day

Quote #

Date Results Needed

Immediately

Packed on Ice N  Y

No.  
of  
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Diss. Boron - 6010 250mlHDPE-HNO3	Total Boron - 6010 250mlHDPE-HNO3										
MW-104	GRAB	GW	-	10/23/20	1250	2	X	X										-01
MW-108		GW	-		1110	2	X	X										-02
MW-109		GW	-		1140	2	X	X										-03
MW-110		GW	-		1210	2	X	X										-04
001		GW	-		1030	2	X	X										-05
002		GW	-		1100	2	X	X										-06
003		GW	-		1130	2	X	X										-07
004		GW	-		1200	2	X	X										-08
		GW	-			2	X	X										
		GW	-			2	X	X										

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

Remarks: Dissolved Boron Field Filtered.

pH \_\_\_\_\_ Temp \_\_\_\_\_  
Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Samples returned via: SWA  
UPS FedEx Courier

Tracking #

Relinquished by: (Signature) <i>[Signature]</i>	Date: 10/23/20	Time: 1500	Received by: (Signature) <i>[Signature]</i>	Date: 10-23-20	Time: 1505	Trip Blank Received: (Yes/No) HCL / MeOH TBR	Temp: 21.1 °C	Bottles Received: 16	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:				
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 10/24	Time: 1030	Hold:	Condition: NCF / <u>OK</u>		

# ADDENDUM 1

## 2020-2021 Annual Groundwater Monitoring and Corrective Action Addendum 1



December 16, 2022  
File No. 27213167.21

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: 2020-2021 Annual Groundwater Monitoring and Corrective Action Report Addendum 1  
Evergy Metro, Inc.  
Ash Impoundment  
Iatan Generating Station – Platte County, Missouri



The Ash Impoundment 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 40 257.100. An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting activities completed from July 2020 through June 2021 for the Ash Impoundment was completed and placed in the facility’s operating record on July 23, 2021 as required by the Rule. 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:



- July 2020 – First verification sampling for Spring 2020 detection monitoring sampling event.
- August 2020 – Second verification sampling for Spring 2020 detection monitoring sampling event.
- November 2020 – Fall 2020 semiannual detection monitoring sampling event.
- February 2021 – Initial assessment monitoring sampling event.
- May 2021 – Spring 2021 semiannual assessment 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 July 2020 through June 2021 included the following:

- 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:

- November 2020 - Fall 2020 semiannual detection monitoring sampling event.
- February 2021 – Initial assessment monitoring sampling event.
- May 2021 – Spring 2021 semiannual assessment monitoring sampling event.

Jared Morrison  
December 16, 2022

**ATTACHMENT 1**  
**Laboratory Analytical Reports**

Jared Morrison  
December 16, 2022

**ATTACHMENT 1-1**  
**July 2020 Sampling Event Laboratory Report**

July 22, 2020

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## 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

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



<b>Cp: Cover Page</b>	<b>1</b>	<b><sup>1</sup>Cp</b>
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b><sup>2</sup>Tc</b>
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Sr: Sample Results</b>	<b>6</b>	<b><sup>3</sup>Ss</b>
MW-10 L1239953-01	6	
MW-104 L1239953-02	7	<b><sup>4</sup>Cn</b>
DUPLICATE 1 L1239953-03	8	<b><sup>5</sup>Sr</b>
MW-105 L1239953-04	9	
DUPLICATE 2 L1239953-05	10	<b><sup>6</sup>Qc</b>
MW-109 L1239953-06	11	
DUPLICATE 3 L1239953-07	12	<b><sup>7</sup>Gl</b>
MW-110 L1239953-08	13	<b><sup>8</sup>Al</b>
DUPLICATE 4 L1239953-09	14	
<b>Qc: Quality Control Summary</b>	<b>15</b>	<b><sup>9</sup>Sc</b>
Gravimetric Analysis by Method 2540 C-2011	15	
Wet Chemistry by Method 9056A	16	
Metals (ICP) by Method 6010B	19	
<b>Gl: Glossary of Terms</b>	<b>21</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>22</b>	
<b>Sc: Sample Chain of Custody</b>	<b>23</b>	

# SAMPLE SUMMARY



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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# SAMPLE SUMMARY



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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	47700		5000	1	07/16/2020 23:29	<a href="#">WG1510013</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	59700		1000	1	07/18/2020 07:45	<a href="#">WG1510363</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	61100		1000	1	07/18/2020 08:03	<a href="#">WG1510363</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	711000		13300	1	07/18/2020 08:14	<a href="#">WG1511173</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	715000		13300	1	07/18/2020 08:14	<a href="#">WG1511173</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	281000		50000	10	07/17/2020 20:59	<a href="#">WG1510009</a>

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1340		200	1	07/18/2020 07:55	<a href="#">WG1510363</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	294000		25000	5	07/17/2020 12:57	<a href="#">WG1510013</a>

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1350		200	1	07/18/2020 08:11	<a href="#">WG1510363</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	23200		1000	1	07/17/2020 00:02	<a href="#">WG1510013</a>

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3710		200	1	07/20/2020 13:54	<a href="#">WG1510364</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	23400		1000	1	07/17/2020 00:51	<a href="#">WG1510013</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3790		200	1	07/18/2020 08:13	<a href="#">WG1510363</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3550836-1 07/18/20 08:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		2820	10000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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	DUP Result	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	DUP Result	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	LCS Result	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
Sulfate	U		594	5000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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
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
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
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
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	MB Qualifier	MB MDL	MB RDL
Chloride	ug/l		ug/l	ug/l
Chloride	U		379	1000
Sulfate	U		594	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%			%
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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%			%
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	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	ug/l	ug/l	%	%	
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	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	ug/l	ug/l	ug/l	%		%	
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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3550923-1 07/18/20 07:39

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

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R3550923-2 07/18/20 07:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	991	99.1	80.0-120	
Calcium	10000	10500	105	80.0-120	

4 Cn

5 Sr

6 Qc

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	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	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

7 Gl

8 Al

9 Sc

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	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	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 ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

Laboratory Control Sample (LCS)

(LCS) R3551331-2 07/20/20 13:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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 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	3710	4670	4570	96.3	85.8	1	75.0-125			2.28	20

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> 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.

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

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 <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	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

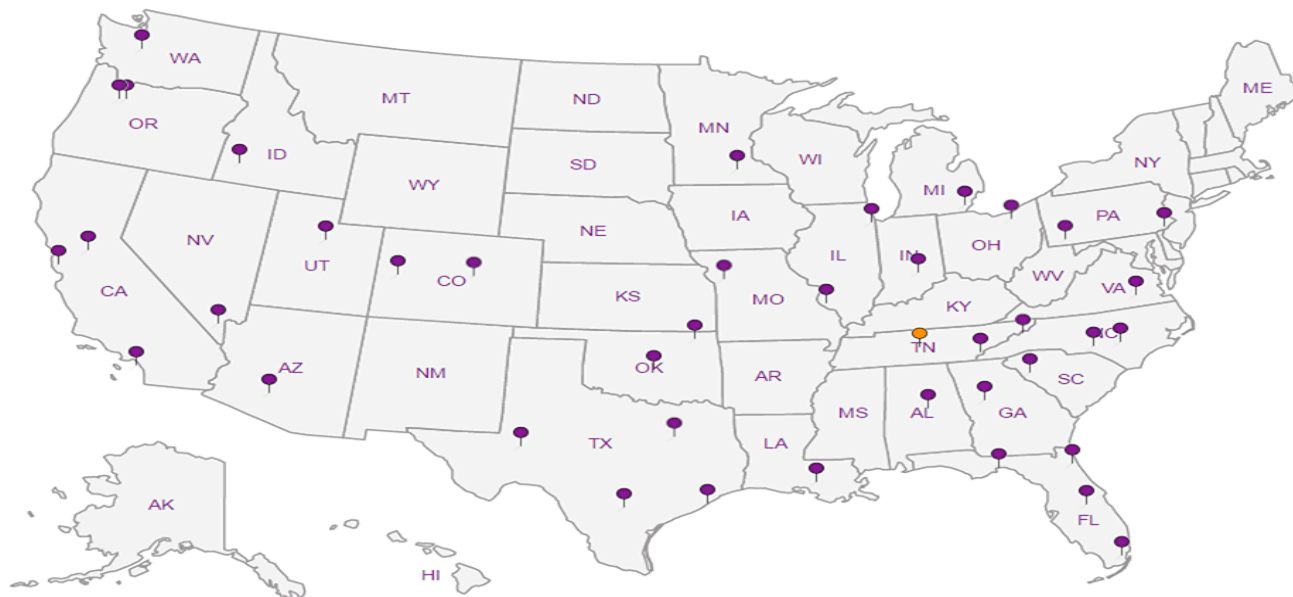
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

**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 1 of 2



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:  
Energy 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):  
Whit Martin

**Rush?** (Lab MUST Be Notified)

Quote #

\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day

Date Results Needed  
Std

No.  
of  
Cnts

Immediately  
Packed on Ice N \_\_\_ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	Boron - 6010	Calcium 250ml	Chloride 125ml	Sulfate 125ml	TDS 250ml	Other	Other
MW-10	Grab	GW		7/13/20	0935	1				X			
MW-104	Grab	GW		7/13/20	1300	1		X					
MW-104 MS/MSD	Grab	GW		7/13/20	1300	1		X					
DUPLICATE 1	Grab	GW		7/13/20	1300	1		X					
MW-105	Grab	GW		7/13/20	1340	1				X			
DUPLICATE 2	Grab	GW		7/13/20	1340	1				X			
MW-109	Grab	GW		7/13/20	1125	2	X			X			
MW-109 MS/MSD	Grab	GW		7/13/20	1130	2	X			X			
DUPLICATE 3	Grab	GW		7/13/20	1125	2	X			X			
MW-110	Grab	GW		7/13/20	1205	2	X		X				

SDG # L1239953  
**J139**

Acctnum: AQUAOPKS

Template: T136056

Prelogin: P784702

PM: 206 - Jeff Carr

PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_  
Flow \_\_\_\_\_ Other \_\_\_\_\_

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

Samples returned via:  
\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking # 1845 4330 1989

Relinquished by: (Signature)

Date: 7-14-20  
Time: 1323

Received by: (Signature)

Trip Blank Received: Yes/No  
\_\_\_ Yes \_\_\_ No  
\_\_\_ MeOH \_\_\_ TBR

Relinquished by: (Signature)

Date: 7-14-20  
Time: 1800

Received by: (Signature)  
FedEx

Temp: 12.1 C  
Bottles Received: 19

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received for lab by: (Signature)

Date: 07/15/2020  
Time: 5:30

If preservation required by login: Date/Time  
Hold: \_\_\_\_\_  
Condition: NCF 1 OK





Jared Morrison  
December 16, 2022

**ATTACHMENT 1-2**  
**August 2020 Sampling Event Laboratory Report**

September 02, 2020

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## 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

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



<b>Cp: Cover Page</b>	<b>1</b>	
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	
<b>Cn: Case Narrative</b>	<b>4</b>	
<b>Sr: Sample Results</b>	<b>5</b>	
MW-10 L1255433-01	5	
DUPLICATE 1 L1255433-02	6	
MW-104 L1255433-03	7	
DUPLICATE 2 L1255433-04	8	
MW-109 L1255433-05	9	
MW-110 L1255433-06	10	
DUPLICATE 3 L1255433-07	11	
<b>Qc: Quality Control Summary</b>	<b>12</b>	
Wet Chemistry by Method 9056A	12	
Metals (ICP) by Method 6010B	14	
<b>Gl: Glossary of Terms</b>	<b>16</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>17</b>	
<b>Sc: Sample Chain of Custody</b>	<b>18</b>	

# SAMPLE SUMMARY



## MW-10 L1255433-01 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 12:45  
 Received date/time 08/27/20 09:30

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## DUPLICATE 1 L1255433-02 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 12:45  
 Received date/time 08/27/20 09:30

## MW-104 L1255433-03 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 14:15  
 Received date/time 08/27/20 09:30

## DUPLICATE 2 L1255433-04 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 14:15  
 Received date/time 08/27/20 09:30

## MW-109 L1255433-05 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 15:05  
 Received date/time 08/27/20 09:30

## MW-110 L1255433-06 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 15:50  
 Received date/time 08/27/20 09:30

## DUPLICATE 3 L1255433-07 GW

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

Collected by Whit Martin  
 Collected date/time 08/25/20 15:50  
 Received date/time 08/27/20 09:30





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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	47900		5000	1	08/28/2020 07:07	<a href="#">WG1533924</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	47800		5000	1	08/28/2020 07:39	<a href="#">WG1533924</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	61900		1000	1	09/02/2020 02:50	<a href="#">WG1535076</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	62200		1000	1	09/02/2020 03:08	<a href="#">WG1535076</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	183000		50000	10	08/28/2020 08:12	<a href="#">WG1533924</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1510		200	1	09/02/2020 03:16	<a href="#">WG1535076</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	20000		1000	1	08/28/2020 08:23	<a href="#">WG1533924</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4130	<u>O1</u>	200	1	09/01/2020 14:26	<a href="#">WG1535077</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	18200		5000	5	08/28/2020 09:06	<a href="#">WG1533924</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4100		200	1	09/02/2020 03:19	<a href="#">WG1535076</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





Method Blank (MB)

(MB) R3565005-1 08/28/20 05:09

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%	%		%
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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%	%		%
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	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	ug/l	ug/l	%	%	
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	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3566413-1 09/02/20 02:45

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3566413-2 09/02/20 02:47

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	981	98.1	80.0-120	
Calcium	10000	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	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	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 ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

Laboratory Control Sample (LCS)

(LCS) R3566148-2 09/01/20 14:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	974	97.4	80.0-120	

<sup>6</sup> Qc

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 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	4130	5040	5050	91.5	92.0	1	75.0-125			0.0974	20

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> 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).
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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 <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	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

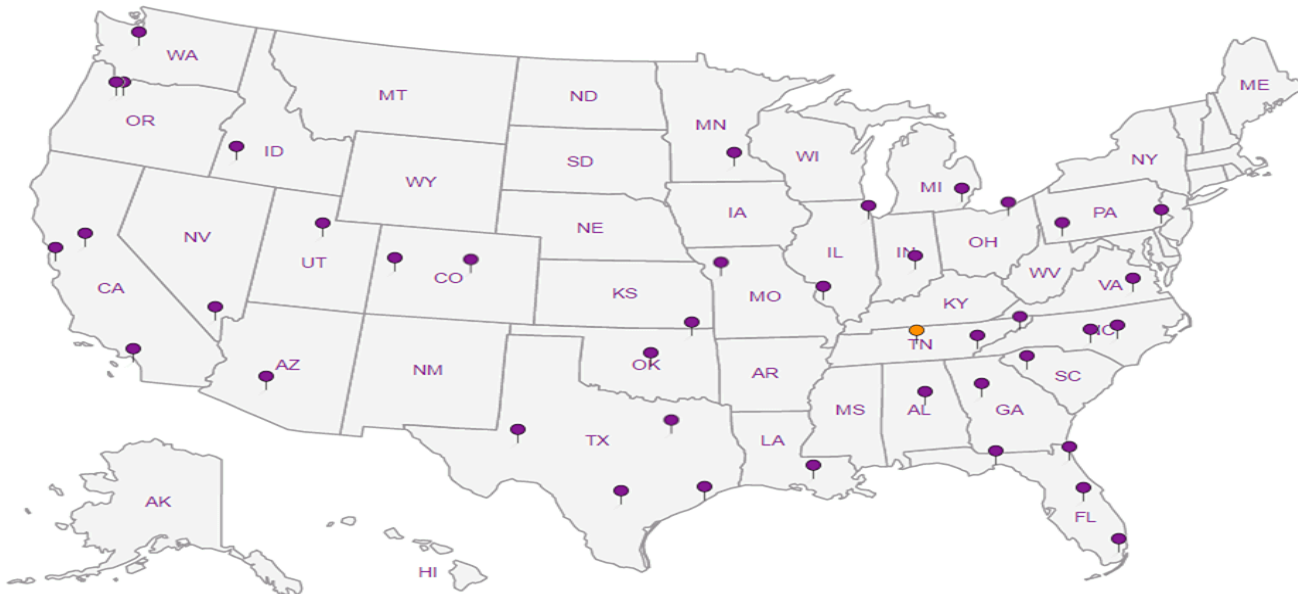
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

**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 1 of 1



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.com

Project Description:  
**Energy - 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*

**Rush?** (Lab MUST Be Notified)

Same Day  Five Day   
Next Day  5 Day (Rad Only)   
Two Day  10 Day (Rad Only)   
Three Day

Quote #

Date Results Needed

**Std**

Immediately  
Packed on Ice **N Y X**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	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			1509	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:	<input type="checkbox"/> N <input type="checkbox"/> Y <input type="checkbox"/> N
COC signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Relinquished by: (Signature) <i>Whit Martin</i>	Date: <b>8/26/20</b>	Time: <b>1240</b>	Received by: (Signature) <i>Alan Nelson</i>	8-26-20 <b>1240</b>	Trip Blank Received: Yes/No <input checked="" type="checkbox"/> No HCL / MeOH TBR		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <b>4.3-5.38</b> °C <b>14</b>	Bottles Received:		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>R R</i>	Date: <b>8-27-20</b>	Time: <b>930</b>	Hold:	Condition: NCF / <input checked="" type="checkbox"/> OK

pm 8/27



## 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

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





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<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	
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# SAMPLE SUMMARY

## 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

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

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Sc

## 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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	589000		20000	1	08/29/2020 23:39	<a href="#">WG1534047</a>
Alkalinity,Carbonate	ND		20000	1	08/29/2020 23:39	<a href="#">WG1534047</a>

Sample Narrative:

L1255449-01 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16400		1000	1	08/28/2020 09:17	<a href="#">WG1533924</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	163000	<a href="#">O1 V</a>	1000	1	09/02/2020 12:22	<a href="#">WG1536087</a>
Magnesium	59100	<a href="#">O1</a>	1000	1	09/02/2020 12:22	<a href="#">WG1536087</a>
Potassium	4510		2000	1	09/02/2020 12:22	<a href="#">WG1536087</a>
Sodium	11900		3000	1	09/02/2020 12:22	<a href="#">WG1536087</a>

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



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	223000		20000	1	08/29/2020 23:55	<a href="#">WG1534047</a>
Alkalinity,Carbonate	ND		20000	1	08/29/2020 23:55	<a href="#">WG1534047</a>

Sample Narrative:

L1255449-02 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	22800		1000	1	08/28/2020 09:28	<a href="#">WG1533924</a>
Sulfate	126000		50000	10	08/28/2020 09:39	<a href="#">WG1533924</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Magnesium	13000		1000	1	09/02/2020 12:37	<a href="#">WG1536087</a>
Potassium	3760		2000	1	09/02/2020 12:37	<a href="#">WG1536087</a>
Sodium	79600		3000	1	09/02/2020 12:37	<a href="#">WG1536087</a>

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



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	197000		20000	1	08/30/2020 00:05	<a href="#">WG1534047</a>
Alkalinity,Carbonate	ND		20000	1	08/30/2020 00:05	<a href="#">WG1534047</a>

Sample Narrative:

L1255449-03 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	25200		1000	1	08/28/2020 09:50	<a href="#">WG1533924</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	62300		1000	1	09/02/2020 12:40	<a href="#">WG1536087</a>
Magnesium	12900		1000	1	09/02/2020 12:40	<a href="#">WG1536087</a>
Potassium	5780		2000	1	09/02/2020 12:40	<a href="#">WG1536087</a>
Sodium	96000		3000	1	09/02/2020 12:40	<a href="#">WG1536087</a>

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



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	293000		20000	1	08/30/2020 00:16	<a href="#">WG1534047</a>
Alkalinity,Carbonate	ND		20000	1	08/30/2020 00:16	<a href="#">WG1534047</a>

Sample Narrative:

L1255449-04 WG1534047: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	179000		50000	10	08/29/2020 12:52	<a href="#">WG1534488</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	37000		1000	1	09/02/2020 14:44	<a href="#">WG1536087</a>
Magnesium	6680		1000	1	09/02/2020 14:44	<a href="#">WG1536087</a>
Potassium	6050		2000	1	09/02/2020 14:44	<a href="#">WG1536087</a>
Sodium	176000		3000	1	09/02/2020 14:44	<a href="#">WG1536087</a>

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



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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc





Method Blank (MB)

(MB) R3565005-1 08/28/20 05:09

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%			%
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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ug/l	ug/l	%			%
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	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	ug/l	ug/l	%	%	
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	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3565413-1 08/29/20 09:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		594	5000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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
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
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
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
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
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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> 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.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

### 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 <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	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

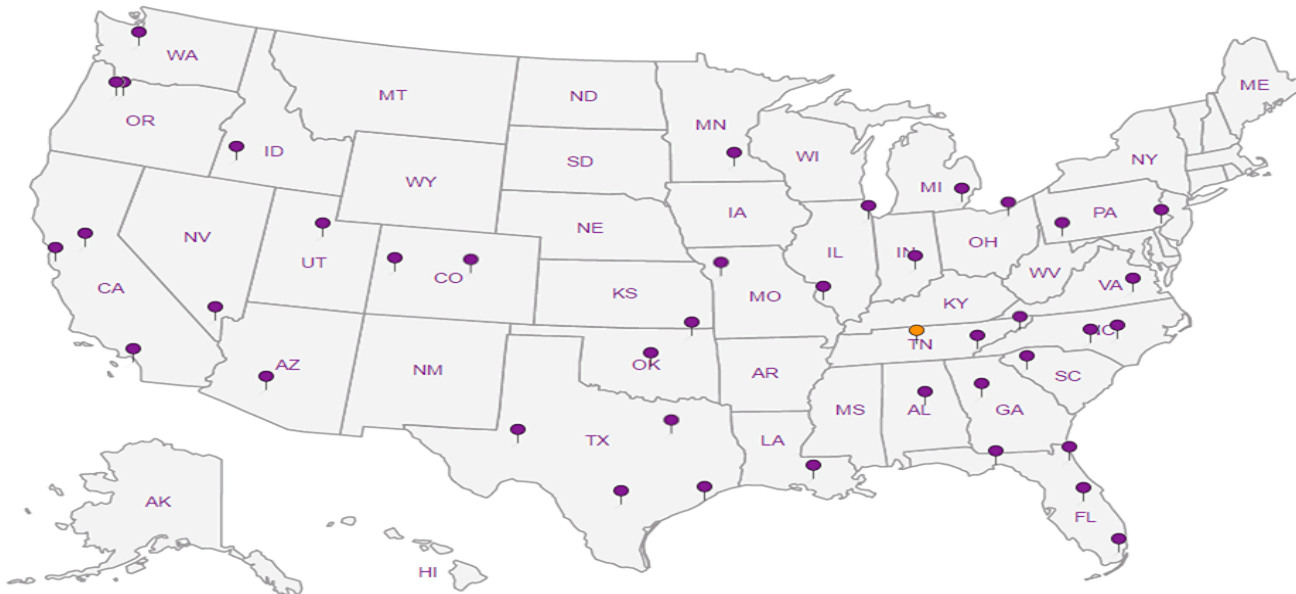
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

**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.com

Project Description:  
**Energylan Generating Station**

City/State Collected: **Weston, MO**

Please Circle:  
 PT MT **ET**

Chain of Custody Page 1 of 1

Pres Chk **L2**

Analysis / Container / Preservative



Client Project # **27213167.20**

Lab Project # **AQUAOPKS-IATAN**

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 **Std**

No. of Cntrs

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

SDG # **L1255449**

**1123**

Acctnum: **AQUAOPKS**

Template: **T152879**

Prelogin: **P789896**

PM: **206 - Jeff Carr**

Shipped Via:

Remarks

Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mHDPE-NoPres	Ca, K, Mg, Na - 6010 250mHDPE-HNO3	Chloride - 9056 125mHDPE-NoPres	K, Mg, Na - 6010 250mHDPE-HNO3	SO4 - 9056 125mHDPE-NoPres	SO4, Chloride - 9056 125mHDPE-NoPres
MW-10	Grab	GW		8/25/20	1245	3	X	X	X			
MW-104	Grab	GW		8/25/20	1415	3	X			X		X
MW-109	Grab	GW		8/25/20	1505	3	X	X	X			
MW-110	Grab	GW		8/25/20	1550	3	X	X			X	

\* 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**

Relinquished by: (Signature) **Jay Martin** Date: **8/26/20** Time: **1240**

Received by: (Signature) **Alan K...** Date: **8-26-20** Time: **1240**

Trip Blank Received: Yes/No **(No)**  
 HCL / MeOH  
 TBR

Temp: **43.5-38** °C Bottles Received: **12**

If preservation required by Login: Date/Time

Relinquished by: (Signature) Date: Time: Received for lab by: (Signature) 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

Jared Morrison  
December 16, 2022

**ATTACHMENT 1-3**  
**November 2020 Sampling Event Laboratory Report**



## SCS Engineers - KS

Sample Delivery Group: L1284270  
Samples Received: 11/11/2020  
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:



Jeff Carr  
Project Manager

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



<b>Cp: Cover Page</b>	<b>1</b>	
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Sr: Sample Results</b>	<b>6</b>	
MW-101 L1284270-01	6	
MW-102 L1284270-02	7	
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MW-104 L1284270-04	9	
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<b>Qc: Quality Control Summary</b>	<b>17</b>	
Gravimetric Analysis by Method 2540 C-2011	17	
Wet Chemistry by Method 9056A	18	
Metals (ICP) by Method 6010B	20	
<b>Gl: Glossary of Terms</b>	<b>22</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>23</b>	
<b>Sc: Sample Chain of Custody</b>	<b>24</b>	

# SAMPLE SUMMARY



## MW-101 L1284270-01 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 11:05  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 16:54	11/18/20 16:54	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:12	CCE	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-102 L1284270-02 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 11:40  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 17:19	11/18/20 17:19	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:19	CCE	Mt. Juliet, TN

## MW-103 L1284270-03 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 11:50  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 17:45	11/18/20 17:45	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:22	CCE	Mt. Juliet, TN

## MW-104 L1284270-04 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 11:15  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 18:10	11/18/20 18:10	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 18:49	11/18/20 18:49	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:25	CCE	Mt. Juliet, TN

## MW-105 L1284270-05 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 10:35  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 19:02	11/18/20 19:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 19:15	11/18/20 19:15	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:27	CCE	Mt. Juliet, TN

## MW-107 L1284270-06 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 09:40  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 19:29	11/18/20 19:29	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 19:42	11/18/20 19:42	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:30	CCE	Mt. Juliet, TN

# SAMPLE SUMMARY



## MW-108 L1284270-07 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 10:25  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 19:55	11/18/20 19:55	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 20:08	11/18/20 20:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:33	CCE	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-109 L1284270-08 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 11:15  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 20:21	11/18/20 20:21	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 20:34	11/18/20 20:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:35	CCE	Mt. Juliet, TN

## MW-110 L1284270-09 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 09:45  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 20:47	11/18/20 20:47	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 21:53	11/18/20 21:53	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576874	1	11/16/20 21:39	11/17/20 06:25	CCE	Mt. Juliet, TN

## MW-111 L1284270-10 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 10:30  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 22:06	11/18/20 22:06	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:38	CCE	Mt. Juliet, TN

## DUPLICATE L1284270-11 GW

Collected by Jason R Franks  
Collected date/time 11/09/20 09:45  
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	WG1576583	1	11/14/20 13:17	11/15/20 09:11	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	1	11/18/20 22:58	11/18/20 22:58	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1578073	10	11/18/20 23:11	11/18/20 23:11	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1576873	1	11/16/20 21:09	11/17/20 11:41	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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	518000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6040		1000	1	11/18/2020 16:54	<a href="#">WG1578073</a>
Fluoride	330		150	1	11/18/2020 16:54	<a href="#">WG1578073</a>
Sulfate	ND		5000	1	11/18/2020 16:54	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/17/2020 11:12	<a href="#">WG1576873</a>
Calcium	129000		1000	1	11/17/2020 11:12	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	475000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	5730		1000	1	11/18/2020 17:19	<a href="#">WG1578073</a>
Fluoride	238		150	1	11/18/2020 17:19	<a href="#">WG1578073</a>
Sulfate	ND		5000	1	11/18/2020 17:19	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/17/2020 11:19	<a href="#">WG1576873</a>
Calcium	127000		1000	1	11/17/2020 11:19	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	463000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	4370		1000	1	11/18/2020 17:45	<a href="#">WG1578073</a>
Fluoride	218		150	1	11/18/2020 17:45	<a href="#">WG1578073</a>
Sulfate	ND		5000	1	11/18/2020 17:45	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	11/17/2020 11:22	<a href="#">WG1576873</a>
Calcium	131000		1000	1	11/17/2020 11:22	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc





Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	454000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	22300		1000	1	11/18/2020 18:10	<a href="#">WG1578073</a>
Fluoride	518		150	1	11/18/2020 18:10	<a href="#">WG1578073</a>
Sulfate	122000		50000	10	11/18/2020 18:49	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1220		200	1	11/17/2020 11:25	<a href="#">WG1576873</a>
Calcium	62900		1000	1	11/17/2020 11:25	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	686000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	20200		1000	1	11/18/2020 19:02	<a href="#">WG1578073</a>
Fluoride	842		150	1	11/18/2020 19:02	<a href="#">WG1578073</a>
Sulfate	271000		50000	10	11/18/2020 19:15	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1830		200	1	11/17/2020 11:27	<a href="#">WG1576873</a>
Calcium	68700		1000	1	11/17/2020 11:27	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	473000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	24900		1000	1	11/18/2020 19:29	<a href="#">WG1578073</a>
Fluoride	279		150	1	11/18/2020 19:29	<a href="#">WG1578073</a>
Sulfate	192000		50000	10	11/18/2020 19:42	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	410		200	1	11/17/2020 11:30	<a href="#">WG1576873</a>
Calcium	71100		1000	1	11/17/2020 11:30	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	706000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	17300		1000	1	11/18/2020 19:55	<a href="#">WG1578073</a>
Fluoride	532		150	1	11/18/2020 19:55	<a href="#">WG1578073</a>
Sulfate	219000		50000	10	11/18/2020 20:08	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2080		200	1	11/17/2020 11:33	<a href="#">WG1576873</a>
Calcium	89800		1000	1	11/17/2020 11:33	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	630000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	21900		1000	1	11/18/2020 20:21	<a href="#">WG1578073</a>
Fluoride	598		150	1	11/18/2020 20:21	<a href="#">WG1578073</a>
Sulfate	213000		50000	10	11/18/2020 20:34	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1780		200	1	11/17/2020 11:35	<a href="#">WG1576873</a>
Calcium	72000		1000	1	11/17/2020 11:35	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	656000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19800		1000	1	11/18/2020 20:47	<a href="#">WG1578073</a>
Fluoride	704		150	1	11/18/2020 20:47	<a href="#">WG1578073</a>
Sulfate	223000		50000	10	11/18/2020 21:53	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3060		200	1	11/17/2020 06:25	<a href="#">WG1576874</a>
Calcium	40300		1000	1	11/17/2020 06:25	<a href="#">WG1576874</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	571000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	7940		1000	1	11/18/2020 22:06	<a href="#">WG1578073</a>
Fluoride	448		150	1	11/18/2020 22:06	<a href="#">WG1578073</a>
Sulfate	9380		5000	1	11/18/2020 22:06	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	697		200	1	11/17/2020 11:38	<a href="#">WG1576873</a>
Calcium	104000		1000	1	11/17/2020 11:38	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	665000		10000	1	11/15/2020 09:11	<a href="#">WG1576583</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19700		1000	1	11/18/2020 22:58	<a href="#">WG1578073</a>
Fluoride	663		150	1	11/18/2020 22:58	<a href="#">WG1578073</a>
Sulfate	210000		50000	10	11/18/2020 23:11	<a href="#">WG1578073</a>

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3080		200	1	11/17/2020 11:41	<a href="#">WG1576873</a>
Calcium	40800		1000	1	11/17/2020 11:41	<a href="#">WG1576873</a>

6 Qc

7 Gl

8 Al

9 Sc





Method Blank (MB)

(MB) R3593455-1 11/15/20 09:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		2820	10000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1284270-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284270-01 11/15/20 09:11 • (DUP) R3593455-3 11/16/20 00:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	518000	527000	1	1.72		5

L1284270-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1284270-11 11/15/20 09:11 • (DUP) R3593455-4 11/16/20 00:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	665000	655000	1	1.52		5

Laboratory Control Sample (LCS)

(LCS) R3593455-2 11/15/20 09:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800000	8430000	95.8	77.4-123	



Method Blank (MB)

(MB) R3595133-1 11/18/20 11:37

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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1284253-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1284253-01 11/18/20 14:07 • (DUP) R3595133-3 11/18/20 14:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	ND	ND	5	0.000		15
Fluoride	ND	ND	5	0.000		15
Sulfate	305000	307000	5	0.832		15

L1284270-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1284270-10 11/18/20 22:06 • (DUP) R3595133-7 11/18/20 22:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	7940	7750	1	2.48		15
Fluoride	448	443	1	1.10		15
Sulfate	9380	8590	1	8.77		15

Laboratory Control Sample (LCS)

(LCS) R3595133-2 11/18/20 11:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39500	98.9	80.0-120	
Fluoride	8000	8000	100	80.0-120	
Sulfate	40000	40300	101	80.0-120	



L1284253-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1284253-02 11/18/20 14:33 • (MS) R3595133-4 11/18/20 14:46

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	ND	52500	103	1	80.0-120	
Fluoride	5000	ND	5210	104	1	80.0-120	
Sulfate	50000	58200	106000	96.0	1	80.0-120	<u>E</u>

L1284270-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284270-09 11/18/20 20:47 • (MS) R3595133-5 11/18/20 21:26 • (MSD) R3595133-6 11/18/20 21:39

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	19800	70100	70400	101	101	1	80.0-120			0.450	15
Fluoride	5000	704	5830	6020	103	106	1	80.0-120			3.21	15
Sulfate	50000	218000	242000	243000	48.4	50.5	1	80.0-120	<u>E V</u>	<u>E V</u>	0.439	15

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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	<u>V</u>	<u>V</u>	0.201	20



Method Blank (MB)

(MB) R3594032-1 11/17/20 06:20

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

Laboratory Control Sample (LCS)

(LCS) R3594032-2 11/17/20 06:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	966	96.6	80.0-120	
Calcium	10000	10200	102	80.0-120	

<sup>5</sup> Sr

<sup>6</sup> Qc

L1284270-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1284270-09 11/17/20 06:25 • (MS) R3594032-4 11/17/20 06:30 • (MSD) R3594032-5 11/17/20 06:33

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	3060	3970	3960	91.2	89.6	1	75.0-125			0.406	20
Calcium	10000	40300	49600	49600	93.5	93.1	1	75.0-125			0.0759	20

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> 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).
V	The sample concentration is too high to evaluate accurate spike recoveries.

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



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 <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	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

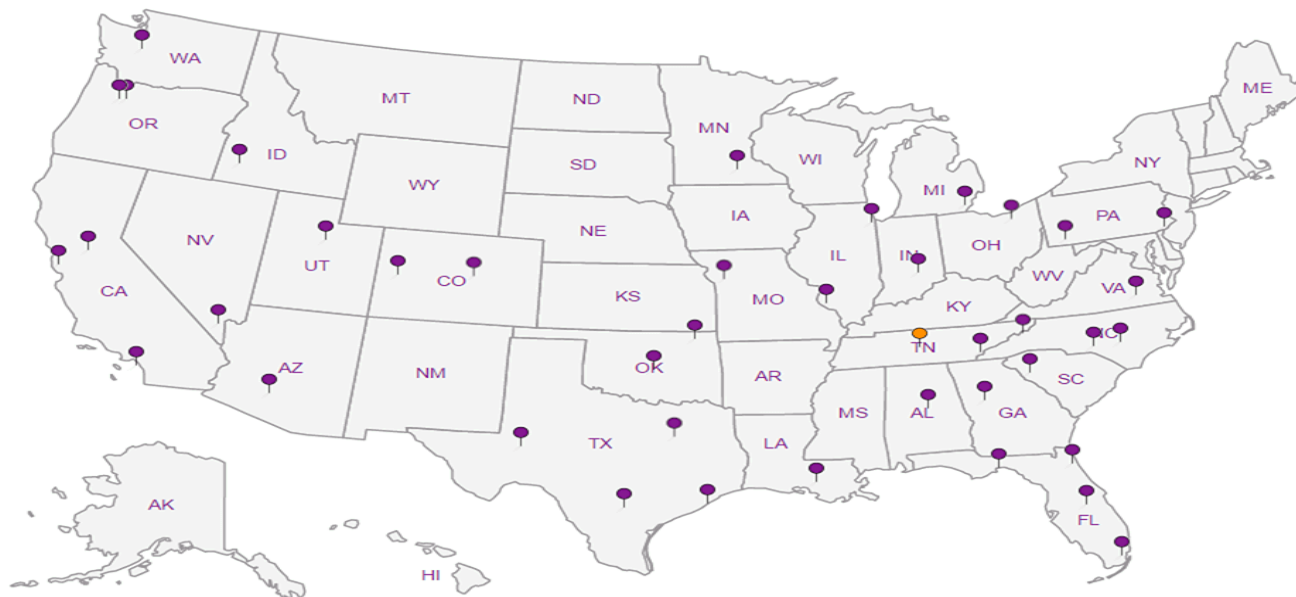
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





**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



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:  
**Evergry - Iatan Gen. 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):  
*[Signature]*

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

Quote #

Date Results Needed  
**STD**

Immediately Packed on Ice N  Y

No.  
of  
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	125mIHDPE-NoPres	B, Ca - 6010	250mIHDPE-HNO3	TDS	250mIHDPE-NoPres	Remarks	Sample # (lab only)
DUPLICATE	GRAB	GW	-	11/9/20	0945	3	X	X	X					11
110 MS/MSD	GRAB	GW	-	11/9/20	0945	2	X	X						09

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

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Samples returned via:  
 UPS  FedEx  Courier

Tracking #

Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/10/20	Time: 1628	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes/No HCL/Mech TBR	Bottles Received: 35	If preservation required by Login: Date/Time
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/10/20	Time: 1800	Received by: (Signature) <i>[Signature]</i>	Temp: °C 3.2-0.1:3.1 m		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 11/11/20	Time: 1240	Hold: Condition: NCF / <input checked="" type="checkbox"/> OK

Jared Morrison  
December 16, 2022

**ATTACHMENT 1-4**  
**February 2021 Sampling Event Laboratory Report**

February 11, 2021

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## SCS Engineers - KS

Sample Delivery Group: L1313811  
Samples Received: 02/04/2021  
Project Number: 27213167.21  
Description: Evergy - Iatan Gen. Stat - Ash Wells

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

Entire Report Reviewed By:












Jeff Carr  
Project Manager

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

**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	
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# SAMPLE SUMMARY



## MW-101 L1313811-01 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 10:20

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 01:40	02/10/21 01:40	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 12:58	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:06	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 12:48	LAT	Mt. Juliet, TN

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

## MW-102 L1313811-02 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 11:05

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 01:53	02/10/21 01:53	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:00	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:08	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 13:02	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 14:35	LAT	Mt. Juliet, TN

## MW-103 L1313811-03 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 11:50

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 02:06	02/10/21 02:06	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:02	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:11	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 13:05	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 14:39	LAT	Mt. Juliet, TN

## MW-104 L1313811-04 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 12:30

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 02:19	02/10/21 02:19	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:04	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:19	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 13:15	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617847	1	02/08/21 01:52	02/08/21 14:42	LAT	Mt. Juliet, TN

## MW-105 L1313811-05 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 13:10

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 02:32	02/10/21 02:32	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:06	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:21	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 13:04	LAT	Mt. Juliet, TN

## MW-107 L1313811-06 GW

Collected by  
G. Panaflor

Collected date/time  
02/02/21 10:30

Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 02:45	02/10/21 02:45	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:08	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:24	EL	Mt. Juliet, TN

# SAMPLE SUMMARY



## MW-107 L1313811-06 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 10:30  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 14:15	LAT	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-108 L1313811-07 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 11:20  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 02:58	02/10/21 02:58	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:14	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:27	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 14:18	LAT	Mt. Juliet, TN

## MW-109 L1313811-08 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 12:00  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 03:11	02/10/21 03:11	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:16	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 14:21	LAT	Mt. Juliet, TN

## MW-110 L1313811-09 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 12:45  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 03:50	02/10/21 03:50	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 12:31	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 11:53	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 12:41	RDS	Mt. Juliet, TN

## MW-111 L1313811-10 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 13:45  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 04:42	02/10/21 04:42	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:18	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:32	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 14:25	LAT	Mt. Juliet, TN

## DUPLICATE L1313811-11 GW

Collected by  
G. Panaflor  
Collected date/time  
02/02/21 12:50  
Received date/time  
02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618259	1	02/10/21 04:55	02/10/21 04:55	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1616848	1	02/05/21 10:51	02/07/21 13:20	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1617900	1	02/10/21 00:38	02/10/21 12:35	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1617892	1	02/08/21 23:48	02/09/21 14:28	LAT	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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	290		150	1	02/10/2021 01:40	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 12:58	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	652		5.00	1	02/10/2021 12:06	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:06	<a href="#">WG1617900</a>
Lithium	31.9		15.0	1	02/10/2021 12:06	<a href="#">WG1617900</a>
Molybdenum	ND		5.00	1	02/10/2021 12:06	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Arsenic	ND		2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Beryllium	ND		2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Cadmium	ND		1.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Cobalt	ND		2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Lead	2.07	<u>B</u>	2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Selenium	ND		2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>
Thallium	ND		2.00	1	02/08/2021 12:48	<a href="#">WG1617847</a>

<sup>8</sup> Al

<sup>9</sup> Sc





Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	260		150	1	02/10/2021 01:53	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:00	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	615		5.00	1	02/10/2021 12:08	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:08	<a href="#">WG1617900</a>
Lithium	31.9		15.0	1	02/10/2021 12:08	<a href="#">WG1617900</a>
Molybdenum	ND		5.00	1	02/10/2021 12:08	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Arsenic	11.1		2.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Beryllium	ND		2.00	1	02/08/2021 14:35	<a href="#">WG1617847</a>
Cadmium	ND		1.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Cobalt	ND		2.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Lead	ND		2.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Selenium	ND		2.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>
Thallium	ND		2.00	1	02/08/2021 13:02	<a href="#">WG1617847</a>

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	259		150	1	02/10/2021 02:06	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:02	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	658		5.00	1	02/10/2021 12:11	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:11	<a href="#">WG1617900</a>
Lithium	45.2		15.0	1	02/10/2021 12:11	<a href="#">WG1617900</a>
Molybdenum	ND		5.00	1	02/10/2021 12:11	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Arsenic	ND		2.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Beryllium	ND		2.00	1	02/08/2021 14:39	<a href="#">WG1617847</a>
Cadmium	ND		1.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Cobalt	ND		2.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Lead	ND		2.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Selenium	ND		2.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>
Thallium	ND		2.00	1	02/08/2021 13:05	<a href="#">WG1617847</a>

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	445		150	1	02/10/2021 02:19	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:04	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	197		5.00	1	02/10/2021 12:19	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:19	<a href="#">WG1617900</a>
Lithium	16.3		15.0	1	02/10/2021 12:19	<a href="#">WG1617900</a>
Molybdenum	28.3		5.00	1	02/10/2021 12:19	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Arsenic	ND		2.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Beryllium	ND		2.00	1	02/08/2021 14:42	<a href="#">WG1617847</a>
Cadmium	ND		1.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Cobalt	ND		2.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Lead	ND		2.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Selenium	ND		2.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>
Thallium	ND		2.00	1	02/08/2021 13:15	<a href="#">WG1617847</a>

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	790		150	1	02/10/2021 02:32	<a href="#">WG1618259</a>

1 Cp

2 Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:06	<a href="#">WG1616848</a>

3 Ss

4 Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	210		5.00	1	02/10/2021 12:21	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:21	<a href="#">WG1617900</a>
Lithium	21.1		15.0	1	02/10/2021 12:21	<a href="#">WG1617900</a>
Molybdenum	29.9		5.00	1	02/10/2021 12:21	<a href="#">WG1617900</a>

5 Sr

6 Qc

7 Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Arsenic	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 13:04	<a href="#">WG1617892</a>

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	371		150	1	02/10/2021 02:45	<a href="#">WG1618259</a>

1 Cp

2 Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:08	<a href="#">WG1616848</a>

3 Ss

4 Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	102		5.00	1	02/10/2021 12:24	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:24	<a href="#">WG1617900</a>
Lithium	17.6		15.0	1	02/10/2021 12:24	<a href="#">WG1617900</a>
Molybdenum	37.9		5.00	1	02/10/2021 12:24	<a href="#">WG1617900</a>

5 Sr

6 Qc

7 Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Arsenic	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 14:15	<a href="#">WG1617892</a>

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	571		150	1	02/10/2021 02:58	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:14	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	88.7		5.00	1	02/10/2021 12:27	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:27	<a href="#">WG1617900</a>
Lithium	25.0		15.0	1	02/10/2021 12:27	<a href="#">WG1617900</a>
Molybdenum	33.6		5.00	1	02/10/2021 12:27	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Arsenic	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 14:18	<a href="#">WG1617892</a>

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	603		150	1	02/10/2021 03:11	<a href="#">WG1618259</a>

1 Cp

2 Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:16	<a href="#">WG1616848</a>

3 Ss

4 Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	139		5.00	1	02/10/2021 12:29	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:29	<a href="#">WG1617900</a>
Lithium	19.4		15.0	1	02/10/2021 12:29	<a href="#">WG1617900</a>
Molybdenum	37.1		5.00	1	02/10/2021 12:29	<a href="#">WG1617900</a>

5 Sr

6 Qc

7 Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Arsenic	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 14:21	<a href="#">WG1617892</a>

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	708		150	1	02/10/2021 03:50	<a href="#">WG1618259</a>

1 Cp

2 Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 12:31	<a href="#">WG1616848</a>

3 Ss

4 Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	77.6		5.00	1	02/10/2021 11:53	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 11:53	<a href="#">WG1617900</a>
Lithium	ND		15.0	1	02/10/2021 11:53	<a href="#">WG1617900</a>
Molybdenum	96.8		5.00	1	02/10/2021 11:53	<a href="#">WG1617900</a>

5 Sr

6 Qc

7 Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Arsenic	3.19		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 12:41	<a href="#">WG1617892</a>

8 Al

9 Sc





Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	530		150	1	02/10/2021 04:42	<a href="#">WG1618259</a>

1 Cp

2 Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:18	<a href="#">WG1616848</a>

3 Ss

4 Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	451		5.00	1	02/10/2021 12:32	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:32	<a href="#">WG1617900</a>
Lithium	25.7		15.0	1	02/10/2021 12:32	<a href="#">WG1617900</a>
Molybdenum	9.44		5.00	1	02/10/2021 12:32	<a href="#">WG1617900</a>

5 Sr

6 Qc

7 Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Arsenic	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 14:25	<a href="#">WG1617892</a>

8 Al

9 Sc



Collected date/time: 02/02/21 12:50

L1313811

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	730		150	1	02/10/2021 04:55	<a href="#">WG1618259</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/07/2021 13:20	<a href="#">WG1616848</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	77.2		5.00	1	02/10/2021 12:35	<a href="#">WG1617900</a>
Chromium	ND		10.0	1	02/10/2021 12:35	<a href="#">WG1617900</a>
Lithium	ND		15.0	1	02/10/2021 12:35	<a href="#">WG1617900</a>
Molybdenum	97.8		5.00	1	02/10/2021 12:35	<a href="#">WG1617900</a>

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Arsenic	2.95		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Beryllium	ND		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Cadmium	ND		1.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Cobalt	ND		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Lead	ND		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Selenium	ND		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>
Thallium	ND		2.00	1	02/09/2021 14:28	<a href="#">WG1617892</a>

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3621110-1 02/10/21 01:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Fluoride	U		64.0	150

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1313811-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1313811-09 02/10/21 03:50 • (DUP) R3621110-3 02/10/21 04:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	708	711	1	0.536		15

L1314166-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1314166-01 02/10/21 07:19 • (DUP) R3621110-7 02/10/21 09:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	ND	ND	1	9.06		15

Laboratory Control Sample (LCS)

(LCS) R3621110-2 02/10/21 01:24

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Fluoride	8000	8180	102	80.0-120	

L1313811-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313811-09 02/10/21 03:50 • (MS) R3621110-4 02/10/21 04:16 • (MSD) R3621110-5 02/10/21 04:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Fluoride	5000	708	5280	6080	91.4	107	1	80.0-120			14.1	15



Method Blank (MB)

(MB) R3620218-1 02/07/21 12:27

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

Laboratory Control Sample (LCS)

(LCS) R3620218-2 02/07/21 12:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.85	95.1	80.0-120	

<sup>7</sup> Gl

<sup>8</sup> Al

L1313811-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313811-09 02/07/21 12:31 • (MS) R3620218-3 02/07/21 12:33 • (MSD) R3620218-4 02/07/21 12:35

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	3.00	3.02	100	101	1	75.0-125			0.714	20

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3621348-1 02/10/21 11:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Barium	U		0.736	5.00
Chromium	U		1.40	10.0
Lithium	U		4.85	15.0
Molybdenum	U		1.16	5.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3621348-2 02/10/21 11:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1000	979	97.9	80.0-120	
Chromium	1000	975	97.5	80.0-120	
Lithium	1000	944	94.4	80.0-120	
Molybdenum	1000	1010	101	80.0-120	

L1313811-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313811-09 02/10/21 11:53 • (MS) R3621348-4 02/10/21 11:58 • (MSD) R3621348-5 02/10/21 12:00

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 %
Barium	1000	77.6	1040	1050	96.6	97.4	1	75.0-125			0.767	20
Chromium	1000	ND	970	988	97.0	98.8	1	75.0-125			1.80	20
Lithium	1000	ND	932	945	92.2	93.6	1	75.0-125			1.43	20
Molybdenum	1000	96.8	1110	1120	101	103	1	75.0-125			1.40	20



Method Blank (MB)

(MB) R3620423-1 02/08/21 11:03

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		1.03	4.00
Arsenic	U		0.180	2.00
Beryllium	U		0.190	2.00
Cadmium	U		0.150	1.00
Cobalt	U		0.0596	2.00
Lead	1.05	J	0.849	2.00
Selenium	U		0.300	2.00
Thallium	U		0.121	2.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3620423-2 02/08/21 11:07

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Antimony	50.0	53.9	108	80.0-120	
Arsenic	50.0	49.2	98.3	80.0-120	
Beryllium	50.0	44.8	89.7	80.0-120	
Cadmium	50.0	51.6	103	80.0-120	
Cobalt	50.0	49.9	99.8	80.0-120	
Lead	50.0	49.7	99.4	80.0-120	
Selenium	50.0	49.4	98.8	80.0-120	
Thallium	50.0	48.4	96.9	80.0-120	

L1312821-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1312821-01 02/08/21 11:10 • (MS) R3620423-4 02/08/21 11:17 • (MSD) R3620423-5 02/08/21 11:20

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	%	%		%			%	%
Antimony	50.0	ND	57.7	58.0	113	113	1	75.0-125			0.395	20
Arsenic	50.0	4.69	53.5	52.7	97.5	96.0	1	75.0-125			1.40	20
Beryllium	50.0	ND	42.8	44.3	85.7	88.6	1	75.0-125			3.34	20
Cadmium	50.0	ND	51.0	52.4	102	105	1	75.0-125			2.74	20
Cobalt	50.0	ND	48.3	48.0	96.5	95.7	1	75.0-125			0.794	20
Lead	50.0	ND	50.6	50.7	99.5	99.7	1	75.0-125			0.170	20
Selenium	50.0	5.41	58.3	59.7	106	108	1	75.0-125			2.32	20
Thallium	50.0	ND	48.1	48.8	96.2	97.7	1	75.0-125			1.54	20



Method Blank (MB)

(MB) R3620826-1 02/09/21 12:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		1.03	4.00
Arsenic	U		0.180	2.00
Beryllium	U		0.190	2.00
Cadmium	U		0.150	1.00
Cobalt	U		0.0596	2.00
Lead	U		0.849	2.00
Selenium	U		0.300	2.00
Thallium	U		0.121	2.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

Laboratory Control Sample (LCS)

(LCS) R3620826-2 02/09/21 12:38

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Antimony	50.0	50.4	101	80.0-120	
Arsenic	50.0	45.6	91.2	80.0-120	
Beryllium	50.0	45.3	90.6	80.0-120	
Cadmium	50.0	48.3	96.6	80.0-120	
Cobalt	50.0	48.3	96.5	80.0-120	
Lead	50.0	47.3	94.6	80.0-120	
Selenium	50.0	49.0	98.1	80.0-120	
Thallium	50.0	45.7	91.4	80.0-120	

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1313811-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313811-09 02/09/21 12:41 • (MS) R3620826-4 02/09/21 12:48 • (MSD) R3620826-5 02/09/21 12:51

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	%	%		%			%	%
Antimony	50.0	ND	52.3	50.5	105	101	1	75.0-125			3.58	20
Arsenic	50.0	3.19	49.6	50.2	92.8	94.1	1	75.0-125			1.32	20
Beryllium	50.0	ND	46.8	45.8	93.6	91.6	1	75.0-125			2.18	20
Cadmium	50.0	ND	49.1	49.0	98.2	97.9	1	75.0-125			0.234	20
Cobalt	50.0	ND	47.5	48.2	95.0	96.3	1	75.0-125			1.42	20
Lead	50.0	ND	47.5	46.2	94.9	92.4	1	75.0-125			2.70	20
Selenium	50.0	ND	50.4	50.1	101	100	1	75.0-125			0.644	20
Thallium	50.0	ND	45.4	44.5	90.9	88.9	1	75.0-125			2.14	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.
J	The identification of the analyte is acceptable; the reported value is an estimate.

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





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.

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	AZLA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

## Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

## Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

## Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1
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## Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18
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<sup>1</sup> Drinking Water   <sup>2</sup> Underground Storage Tanks   <sup>3</sup> Aquatic Toxicity   <sup>4</sup> Chemical/Microbiological   <sup>5</sup> Mold   <sup>6</sup> Wastewater   n/a Accreditation not applicable

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al


9 Sc

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

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

Pres  
 Chk

Analysis / Container / Preservative									

Chain of Custody Page 1 of 2  
  
 Pace Analytical®  
 National Center for Testing & Innovation

Report to:  
**Jason Franks**

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

Project Description:  
**Evergy - Iatan Gen. Stat - Ash Wells**

City/State  
 Collected:

Please Circle:  
 PT MT CT ET

Phone: **913-681-0030**

Client Project #  
**27213167.20**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
*G. Penaflores*

Site/Facility ID #

P.O. #

Collected by (signature):  
*G. Penaflores*  
 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	CCR Metals 250miHDPE-HNO3	FLUORIDE 125miHDPE-NoPres
MW-101	<b>GRAB</b>	GW		<b>2/2/21</b>	<b>1020</b>	2	X	X
MW-102		GW			<b>1100</b>	2	X	X
MW-103		GW			<b>1150</b>	2	X	X
MW-104		GW			<b>1230</b>	2	X	X
MW-105		GW			<b>1310</b>	2	X	X
MW-107		GW			<b>1030</b>	2	X	X
MW-108		GW			<b>1120</b>	2	X	X
MW-109		GW			<b>1200</b>	2	X	X
MW-110		GW			<b>1245</b>	2	X	X
MW-111		GW			<b>1345</b>	2	X	X

CCR Metals 250miHDPE-HNO3

FLUORIDE 125miHDPE-NoPres

12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **L1313811**  
**B108**  
 Tab  
 Acctnum: **AQUAOPKS**  
 Template: **T166952**  
 Prelogin: **P825365**  
 PM: **206 - Jeff Carr**  
 PB:  
 Shipped Via:

Remarks	Sample # (lab only)
	<b>-01</b>
	<b>02</b>
	<b>03</b>
	<b>04</b>
	<b>05</b>
	<b>06</b>
	<b>07</b>
	<b>08</b>
	<b>09</b>
	<b>10</b>

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

Remarks: 6010 Metals-BA,CR,LI,MO, 6020 Metals-SB,AS,BE,CD,CO,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 Y \_\_\_ N \_\_\_  
 Bottles arrive intact: Y Y \_\_\_ N \_\_\_  
 Correct bottles used: Y Y \_\_\_ N \_\_\_  
 Sufficient volume sent: Y Y \_\_\_ N \_\_\_  
 If Applicable  
 VOA Zero Headspace: \_\_\_ Y \_\_\_ N \_\_\_  
 Preservation Correct/Checked: Y Y \_\_\_ N \_\_\_  
 RAD Screen <0.5 mR/hr: Y Y \_\_\_ N \_\_\_

Relinquished by: (Signature)  
*G. K. K.*

Date: **02/03/21**  
 Time: **1400**

Received by: (Signature)  
*Alan Helton*

Trip Blank Received: Yes/No  
 (HCL/ MeOH TBR)  
 Temp: **20.7/21.0** °C  
 Bottles Received: **24**

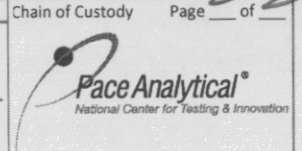
If preservation required by Login: Date/Time  
 Hold:  
 Condition: **OK**

Relinquished by: (Signature)  
 Date: **2/14/21**  
 Time: **13:00**  
 Received for lab by: (Signature)  
*P. Holder*  
 Date: **2/14/21**  
 Time: **13:00**  
 Hold:  
 Condition: **OK**  
 A2163.2-2-3.0

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

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

Pres Chk																				
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to:  
**Jason Franks**

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

Project Description:  
**Evergy - Iatan Gen. Stat - Ash Wells**

City/State Collected:

Please Circle:  
 PT MT ST ET

Phone: **913-681-0030**

Client Project #  
**27213167.20**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
**G. Penafior**

Site/Facility ID #

P.O. #

Collected by (signature):  
*[Signature]*  
 Immediately Packed on Ice N IX

**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  
**5/21**

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

No. of Cntrs

CCR Metals 250miHDPE-HNO3

FLUORIDE 125miHDPE-NoPres

Chain of Custody Page 2 of 2  
 SDG # **L1313811**  
 Table #  
 Acctnum: **AQUAOPKS**  
 Template: **T166952**  
 Prelogin: **P825365**  
 PM: **206 - Jeff Carr**  
 PB:  
 Shipped Via:  
 Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250miHDPE-HNO3	FLUORIDE 125miHDPE-NoPres														
DUPLICATE	GRAB	GW		2/2/21	1250	2	X	X														- 11
MW110 MS/MSD	GRAB	GW		2/2/21	1250	2	X	X														09

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

Remarks:6010 Metals-BA,CR,LI,MO, 6020 Metals-SB,AS,BE,CD,CO,PB,SE,TL, 7470 Metals-HG.

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

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

Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Relinquished by: (Signature)  
*[Signature]*  
 Date: **02/03/21**

Date: **02/03/21**  
 Time: **1400**

Received by: (Signature)  
*[Signature]*  
 Date: **2-3-21**  
 Time: **1403**

Trip Blank Received: Yes/No  
 HCL/MeOH  
 TBR  
 Temp: **12.2** °C  
 Bottles Received: **24**

If preservation required by Login: Date/Time  
 Hold:  
 Condition: **NCF / OK**

AR/LH 3-2-18-3.0



**SCS Engineers - KS**

Sample Delivery Group: L1324247  
Samples Received: 02/04/2021  
Project Number: 27213167.21  
Description: Evergy - Iatan Gen. Stat - Ash Wells

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

Entire Report Reviewed By:



Jeff Carr  
Project Manager

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

**Pace Analytical National**

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

# TABLE OF CONTENTS

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		<sup>8</sup> Al
		<sup>9</sup> Sc

# SAMPLE SUMMARY

MW-101 L1324247-01 GW

Collected by: G. Panaflor  
Collected date/time: 02/02/21 10:20  
Received date/time: 02/04/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1631335	1	03/09/21 21:44	03/10/21 09:50	JPD	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# CASE NARRATIVE

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



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	03/10/2021 09:50	<a href="#">WG1631335</a>

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc



Method Blank (MB)

(MB) R3629119-1 03/10/21 08:07

Analyte	MB Result ug/l	<u>MB Qualifier</u>	MB MDL ug/l	MB RDL ug/l
Lead	U		0.849	2.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R3629119-2 03/10/21 08:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Lead	50.0	48.9	97.9	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# GLOSSARY OF TERMS

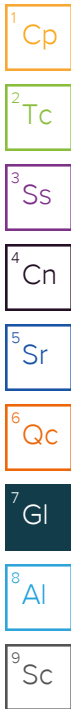
## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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.

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

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

Pres Chk  
 Analysis / Container / Preservative

Chain of Custody Page 1 of 2  
  
 Pace Analytical  
 National Center for Testing & Innovation

Report to:  
**Jason Franks**

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

Project Description:  
**Energy - Iatan Gen. Stat - Ash Wells**

City/State Collected:

Please Circle:  
 PT MT **CT** ET

Phone: **913-681-0030**

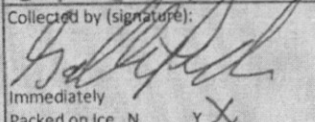
Client Project #  
**27213167.20**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
**G. Penaflores**

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	CCR Metals 250mIHDPE-HNO3	FLUORIDE 125mIHDPE-NoPres
MW-101	<b>GRAB</b>	GW		<b>2/2/21</b>	<b>1020</b>	2	X	X
MW-102		GW			<b>1100</b>	2	X	X
MW-103		GW			<b>1150</b>	2	X	X
MW-104		GW			<b>1230</b>	2	X	X
MW-105		GW			<b>1310</b>	2	X	X
MW-107		GW			<b>1030</b>	2	X	X
MW-108		GW			<b>1120</b>	2	X	X
MW-109		GW			<b>1200</b>	2	X	X
MW-110		GW			<b>1245</b>	2	X	X
MW-111		GW			<b>1345</b>	2	X	X

12965 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-756-5858 Alt: 800-767-8859  
 Submitting a sample via this chain of custody constitutes acknowledgement and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

SDG # **L1313011**  
**B108**  
 Tab **L132V2V7**  
 Acctnum: **AQUAOPKS**  
 Template: **T166952**  
 Prelogin: **P825365**  
 PM: **206 - Jeff Carr**  
 PB:

Shipped Via:

Remarks	Sample # (lab only)
	<b>01</b>
	<b>02</b>
	<b>03</b>
	<b>04</b>
	<b>05</b>
	<b>06</b>
	<b>07</b>
	<b>08</b>
	<b>09</b>
	<b>10</b>

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

Remarks: 6010 Metals-BA,CR,LI,MO, 6020 Metals-SB,AS,BE,CD,CO,PB,SE,TL, 7470 Metals-HG.

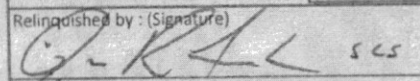
pH \_\_\_ Temp \_\_\_  
 Flow \_\_\_ Other \_\_\_

Sample Receipt Checklist

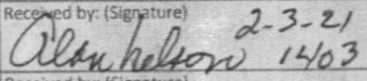
COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
if Applicable		
VCA Zero Headpace:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Relinquished by: (Signature)  


Date: **02/03/21**  
 Time: **1700**

Received by: (Signature)  
  
 Date: **2-3-21**  
 Time: **1403**

Trip Blank Received: Yes/No  
 Yes  
 No  
 (HCL/MeOH TBR)

Relinquished by: (Signature)

Date: Time:

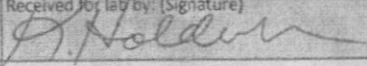
Received by: (Signature)

Temp: **22.2/0** °C  
 Bottles Received: **24**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)  


Date: **2/4/21**  
 Time: **13:00**

Hold: Condition: **NCF**  **OK**

A2163.2-2-2-3.0

R3/R4/RX/EX

### AQUAOPKS L1313811-01 Relog for PBG

Please relog AQUAOPKS sample L1313811-01 for PBG.

R3 Due 3/11/21

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P Please consider the environment before printing this email

**Time estimate:** 0h

**Time spent:** 0h

#### Members

 JAC Jeffrey A. Carr (responsible)



## SCS Engineers - KS

Sample Delivery Group: L1313778  
Samples Received: 02/04/2021  
Project Number: 27213167.21  
Description: KCPL Iatan Gen Stat - Ash Imp CCR GW BG

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

Entire Report Reviewed By:












Jeff Carr  
Project Manager

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**Pace Analytical National**

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<b>Cp: Cover Page</b>	<b>1</b>	
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<b>Ss: Sample Summary</b>	<b>3</b>	
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MW-104 L1313778-04	9	
MW-105 L1313778-05	10	
MW-107 L1313778-06	11	
MW-108 L1313778-07	12	
MW-109 L1313778-08	13	
MW-110 L1313778-09	14	
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<b>Gl: Glossary of Terms</b>	<b>19</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>20</b>	
<b>Sc: Sample Chain of Custody</b>	<b>21</b>	

# SAMPLE SUMMARY



## MW-101 L1313778-01 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 10:20  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-102 L1313778-02 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 11:05  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-103 L1313778-03 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 11:50  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-104 L1313778-04 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 12:30  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-105 L1313778-05 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 13:10  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-107 L1313778-06 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 10:30  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN



# SAMPLE SUMMARY



## MW-108 L1313778-07 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 11:20  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW-109 L1313778-08 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 12:00  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-110 L1313778-09 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 12:45  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## MW-111 L1313778-10 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 13:45  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN

## DUPLICATE L1313778-11 Non-Potable Water

Collected by  
G. Penaflor  
Collected date/time  
02/02/21 00:00  
Received date/time  
02/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1619949	1	02/12/21 12:59	02/22/21 09:30	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1624685	1	02/24/21 10:04	02/26/21 12:18	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1624685	1	02/24/21 10:04	02/26/21 12:18	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.

Jeff Carr  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.166	<u>U</u>	0.473	0.846	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	109			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	112			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.287	<u>U</u>	0.676	1.16	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup> Cn

<sup>5</sup> Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.120	<u>J</u>	0.203	0.312	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.38		0.494	0.85	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	113			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	100			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.51		0.646	1.05	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup> Cn

<sup>5</sup> Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.133	J	0.152	0.195	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.84		0.527	0.873	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	109			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	100			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.27		0.781	1.1	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup> Cn

<sup>5</sup> Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.425		0.254	0.231	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.286	<u>U</u>	0.479	0.853	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	112			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	97.3			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.637	<u>J</u>	0.717	1.07	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.351		0.238	0.216	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.539	J	0.459	0.812	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	110			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	103			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.976	J	0.739	1.06	02/26/2021 12:18	<a href="#">WG1624685</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.437		0.280	0.243	02/26/2021 12:18	<a href="#">WG1624685</a>

6 Qc

7 Gl

8 Al

9 Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0385	<u>U</u>	0.457	0.823	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	110			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	97.5			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0385	<u>U</u>	0.656	1.21	02/26/2021 12:18	<a href="#">WG1624685</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0810	<u>U</u>	0.199	0.382	02/26/2021 12:18	<a href="#">WG1624685</a>





Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-1.11	<u>U</u>	0.430	0.807	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	115			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	100			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.216	<u>U</u>	0.622	1.01	02/26/2021 12:18	<a href="#">WG1624685</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.216		0.192	0.204	02/26/2021 12:18	<a href="#">WG1624685</a>



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.473	<u>U</u>	0.451	0.823	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	117			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	104			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.137	<u>U</u>	0.705	1.2	02/26/2021 12:18	<a href="#">WG1624685</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.137	<u>J</u>	0.254	0.381	02/26/2021 12:18	<a href="#">WG1624685</a>

6 Qc

7 Gl

8 Al

9 Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.151	<u>U</u>	0.440	0.797	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	115			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	99.3			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.209	<u>U</u>	0.615	0.963	02/26/2021 12:18	<a href="#">WG1624685</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.209		0.175	0.166	02/26/2021 12:18	<a href="#">WG1624685</a>

6 Qc

7 Gl

8 Al

9 Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.60		0.496	0.849	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	112			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	104			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.11		0.804	1.13	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.505		0.308	0.278	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Collected date/time: 02/02/21 00:00

L1313778

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.43		0.446	0.763	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Barium	112			62.0-143	02/22/2021 09:30	<a href="#">WG1619949</a>
(T) Yttrium	98.7			79.0-136	02/22/2021 09:30	<a href="#">WG1619949</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.49		0.562	0.965	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0612	<u>U</u>	0.116	0.202	02/26/2021 12:18	<a href="#">WG1624685</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3624197-1 02/22/21 09:30

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.139	<u>U</u>	0.501
(T) Barium	104		
(T) Yttrium	102		

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1316231-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1316231-01 02/22/21 09:30 • (DUP) R3624197-5 02/22/21 09:30

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.332	0.755	1	77.8	0.723		20	3
(T) Barium	105	103						
(T) Yttrium	112	120						

Laboratory Control Sample (LCS)

(LCS) R3624197-2 02/22/21 09:30

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.44	109	80.0-120	
(T) Barium			107		
(T) Yttrium			109		

L1313778-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313778-09 02/22/21 09:30 • (MS) R3624197-3 02/22/21 09:30 • (MSD) R3624197-4 02/22/21 09:30

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	-0.151	12.2	12.3	122	123	1	70.0-130			0.408		20
(T) Barium		115			112	108							
(T) Yttrium		99.3			110	102							



Method Blank (MB)

(MB) R3626142-1 02/26/21 12:18

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.0116	U	0.0601

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1313778-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1313778-01 02/26/21 12:18 • (DUP) R3626142-5 02/26/21 12:18

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	0.120	0.163	1	30.3	0.152	J	20	2

Laboratory Control Sample (LCS)

(LCS) R3626142-2 02/26/21 12:18

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.26	105	90.0-110	

L1313778-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1313778-09 02/26/21 12:18 • (MS) R3626142-6 03/01/21 10:01 • (MSD) R3626142-7 03/01/21 10:01

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	0.209	20.9	18.8	103	92.6	1	80.0-120			10.6		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

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.

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.





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.

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>16</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>14</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	AZLA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

## Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

## Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

## Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1
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## Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18
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<sup>1</sup> Drinking Water   <sup>2</sup> Underground Storage Tanks   <sup>3</sup> Aquatic Toxicity   <sup>4</sup> Chemical/Microbiological   <sup>5</sup> Mold   <sup>6</sup> Wastewater   n/a Accreditation not applicable

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

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

Pres  
 Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



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 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # 131377Y  
**B110**  
 Account: **AQUAOPKS**  
 Template: **T132737**  
 Prelogin: **P825362**  
 PM: **206 - Jeff Carr**  
 PB:  
 Shipped Via:  
 Remarks Sample # (lab only)

Report to:  
**Jason Franks**

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

Project Description:  
**KCPL Iatan Gen Stat - Ash Imp CCR GW BG**

City/State Collected:

Please Circle  
 PT MT CT ET

Phone: **913-681-0030**

Client Project #  
**27217413.00**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
*G. Penation*

Site/Facility ID #

P.O. #

Collected by (signature):  
*G. Penation*  
 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  
5/24

No. of  
 Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Pres	Chk	Remarks	Sample # (lab only)
MW-101	<u>GAPB</u>	NPW		<u>2/2/21</u>	<u>1020</u>	<u>2</u>	X			<u>01</u>
MW-102		NPW			<u>1105</u>	<u>2</u>	X			<u>02</u>
MW-103		NPW			<u>1150</u>	<u>2</u>	X			<u>03</u>
MW-104		NPW			<u>1230</u>	<u>2</u>	X			<u>04</u>
MW-105		NPW			<u>1310</u>	<u>2</u>	X			<u>05</u>
MW-107		NPW			<u>1030</u>	<u>2</u>	X			<u>06</u>
MW-108		NPW			<u>1120</u>	<u>2</u>	X			<u>07</u>
MW-109		NPW			<u>1200</u>	<u>2</u>	X			<u>08</u>
MW-110		NPW			<u>1245</u>	<u>2</u>	X			<u>09</u>
MW-111		NPW			<u>1345</u>	<u>2</u>	X			<u>10</u>

\* 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 \_\_\_\_\_

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

Samples returned via: SWA Tracking # \_\_\_\_\_  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Relinquished by: (Signature)  
*[Signature]*  
 Date: 02/03/21 Time: 1400

Date: 02/03/21 Time: 1400

Received by: (Signature)  
*[Signature]* 2-3-21  
1403

Trip Blank Received: Yes No  
 HCL / MeOH  
 TBR  
 Temp: 1.2 °C  
 Bottles Received: 24

If preservation required by Login: Date/Time  
 Hold: \_\_\_\_\_ Condition: NCF / OK

A2KLT 3.2 - .2 = 3.0  
A2KLT 4.5 - .2 = 4.3  
A2KLT 2.6 - .2 = 2.4

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

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

Report to: **Jason Franks**

Project Description: **KCPCL Iatan Gen Stat - Ash Imp CCR GW BG**

City/State Collected: \_\_\_\_\_

Please Circle: PT MT **CT** ET

Phone: **913-681-0030**

Client Project #: **27217413.00**

Lab Project #: **AQUAOPKS-IATAN**

Collected by (print): **G. Pena Flor**

Site/Facility ID #: \_\_\_\_\_

P.O. #: \_\_\_\_\_

Collected by (signature): *[Signature]*

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

Quote #: \_\_\_\_\_

Date Results Needed: **Std**

Immediately Packed on Ice N    Y X

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



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<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG #: **1313779**

Table #: \_\_\_\_\_

Acctnum: **AQUAOPKS**

Template: **T132737**

Prelogin: **P825362**

PM: **206 - Jeff Carr**

PB: \_\_\_\_\_

Shipped Via: \_\_\_\_\_

Remarks: \_\_\_\_\_

Sample # (lab only): \_\_\_\_\_

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs												
DUPLICATE																		
<b>MS 110 ms/msd</b>	<b>GRAB</b>	<b>NPW</b>		<b>2/2/21</b>	<b>-</b>	<b>2</b>	<b>X</b>											<b>11</b>
<b>MS</b>	<b>↓</b>	<b>NPW</b>		<b>↓</b>	<b>1250</b>	<b>2</b>	<b>X</b>											<b>09</b>
<b>MSD</b>	<b>↓</b>	<b>NPW</b>		<b>↓</b>	<b>1250</b>	<b>2</b>	<b>X</b>											<b>09</b>

\* 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 **SWA** Tracking # \_\_\_\_\_

Relinquished by: (Signature) *[Signature]* Date: **02/02/21** Time: **1:40**

Received by: (Signature) **Alon Wilson** Date: **2-3-21** Time: **1403**

Trip Blank Received: Yes  No   
 HCL/ MeOH  
 TBR

Temp: **1.2-2.0** °C Bottles Received: **24**

If preservation required by Login: Date/Time

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature) *[Signature]* Date: **2/4/21** Time: **13:00**

Hold: \_\_\_\_\_ Condition: **NCF 100**

Sample Receipt Checklist  
 COC Seal Present/Intact:  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

Handwritten notes at bottom: **RA 226/228 - 2-3-21**  
**RA 114 R.E. - 2-1-21**

Jared Morrison  
December 16, 2022

**ATTACHMENT 1-5**  
**May 2021 Sampling Event Laboratory Report**



## SCS Engineers - KS

Sample Delivery Group: L1356716  
Samples Received: 05/22/2021  
Project Number: 27213167.21-B  
Description: Evergy - Iatan Gen. Station

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

Entire Report Reviewed By:



Jeff Carr  
Project Manager

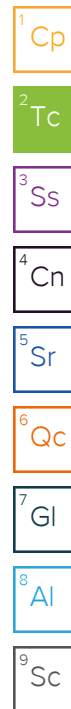
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory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

Pace Analytical National

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

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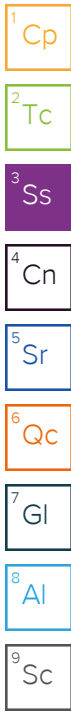


# SAMPLE SUMMARY

## MW-101 L1356716-01 GW

Collected by Whit Martin      Collected date/time 05/20/21 13:15      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 02:42	06/04/21 02:42	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:24	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:31	LAT	Mt. Juliet, TN



## MW-102 L1356716-02 GW

Collected by Whit Martin      Collected date/time 05/20/21 13:55      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 02:55	06/04/21 02:55	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:26	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:34	LAT	Mt. Juliet, TN

## MW-103 L1356716-03 GW

Collected by Whit Martin      Collected date/time 05/20/21 14:35      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 03:08	06/04/21 03:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:38	LAT	Mt. Juliet, TN

## MW-104 L1356716-04 GW

Collected by Whit Martin      Collected date/time 05/20/21 16:40      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 03:21	06/04/21 03:21	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 08:23	06/04/21 08:23	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:32	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:41	LAT	Mt. Juliet, TN

## MW-105 L1356716-05 GW

Collected by Whit Martin      Collected date/time 05/20/21 14:20      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 03:33	06/04/21 03:33	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 08:36	06/04/21 08:36	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:35	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:44	LAT	Mt. Juliet, TN

## MW-107 L1356716-06 GW

Collected by Whit Martin      Collected date/time 05/20/21 15:55      Received date/time 05/22/21 09:30

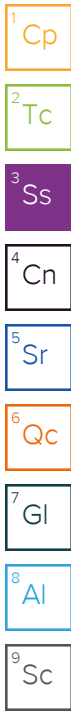
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 03:46	06/04/21 03:46	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 08:49	06/04/21 08:49	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:37	EL	Mt. Juliet, TN

# SAMPLE SUMMARY

## MW-107 L1356716-06 GW

Collected by Whit Martin      Collected date/time 05/20/21 15:55      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:48	LAT	Mt. Juliet, TN



## MW-108 L1356716-07 GW

Collected by Whit Martin      Collected date/time 05/20/21 09:45      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 03:59	06/04/21 03:59	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 04:30	06/04/21 04:30	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 18:40	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:51	LAT	Mt. Juliet, TN

## MW-109 L1356716-08 GW

Collected by Whit Martin      Collected date/time 05/20/21 10:25      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 04:43	06/04/21 04:43	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 04:56	06/04/21 04:56	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 16:59	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:54	LAT	Mt. Juliet, TN

## MW-110 L1356716-09 GW

Collected by Whit Martin      Collected date/time 05/20/21 11:05      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 05:35	06/04/21 05:35	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 06:14	06/04/21 06:14	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 17:19	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 10:17	LAT	Mt. Juliet, TN

## MW-111 L1356716-10 GW

Collected by Whit Martin      Collected date/time 05/20/21 12:20      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 06:27	06/04/21 06:27	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 17:02	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 13:58	LAT	Mt. Juliet, TN

## DUPLICATE L1356716-11 GW

Collected by Whit Martin      Collected date/time 05/20/21 11:05      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1678581	1	05/27/21 16:06	05/27/21 17:15	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	1	06/04/21 07:18	06/04/21 07:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682543	5	06/04/21 07:31	06/04/21 07:31	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1683970	1	06/09/21 01:13	06/09/21 17:05	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1684906	1	06/09/21 03:09	06/09/21 14:01	LAT	Mt. Juliet, TN



# CASE NARRATIVE

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



Jeff Carr  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	515		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6360		1000	1	06/04/2021 02:42	<a href="#">WG1682543</a>
Fluoride	317		150	1	06/04/2021 02:42	<a href="#">WG1682543</a>
Sulfate	ND		5000	1	06/04/2021 02:42	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	652		5.00	1	06/09/2021 18:24	<a href="#">WG1683970</a>
Boron	ND		200	1	06/09/2021 18:24	<a href="#">WG1683970</a>
Calcium	129000		1000	1	06/09/2021 18:24	<a href="#">WG1683970</a>
Lithium	30.6		15.0	1	06/09/2021 18:24	<a href="#">WG1683970</a>
Molybdenum	ND		5.00	1	06/09/2021 18:24	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:31	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	459		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	5760		1000	1	06/04/2021 02:55	<a href="#">WG1682543</a>
Fluoride	239		150	1	06/04/2021 02:55	<a href="#">WG1682543</a>
Sulfate	ND		5000	1	06/04/2021 02:55	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	659		5.00	1	06/09/2021 18:26	<a href="#">WG1683970</a>
Boron	ND		200	1	06/09/2021 18:26	<a href="#">WG1683970</a>
Calcium	121000		1000	1	06/09/2021 18:26	<a href="#">WG1683970</a>
Lithium	33.3		15.0	1	06/09/2021 18:26	<a href="#">WG1683970</a>
Molybdenum	ND		5.00	1	06/09/2021 18:26	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	7.13		2.00	1	06/09/2021 13:34	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	483		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	4220		1000	1	06/04/2021 03:08	<a href="#">WG1682543</a>
Fluoride	228		150	1	06/04/2021 03:08	<a href="#">WG1682543</a>
Sulfate	ND		5000	1	06/04/2021 03:08	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	660		5.00	1	06/09/2021 18:29	<a href="#">WG1683970</a>
Boron	ND		200	1	06/09/2021 18:29	<a href="#">WG1683970</a>
Calcium	135000		1000	1	06/09/2021 18:29	<a href="#">WG1683970</a>
Lithium	46.7		15.0	1	06/09/2021 18:29	<a href="#">WG1683970</a>
Molybdenum	ND		5.00	1	06/09/2021 18:29	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:38	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	119		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	13700		1000	1	06/04/2021 03:21	<a href="#">WG1682543</a>
Fluoride	491		150	1	06/04/2021 03:21	<a href="#">WG1682543</a>
Sulfate	103000		25000	5	06/04/2021 08:23	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	240		5.00	1	06/09/2021 18:32	<a href="#">WG1683970</a>
Boron	1500		200	1	06/09/2021 18:32	<a href="#">WG1683970</a>
Calcium	74600		1000	1	06/09/2021 18:32	<a href="#">WG1683970</a>
Lithium	21.9		15.0	1	06/09/2021 18:32	<a href="#">WG1683970</a>
Molybdenum	28.0		5.00	1	06/09/2021 18:32	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:41	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	664		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19500		1000	1	06/04/2021 03:33	<a href="#">WG1682543</a>
Fluoride	652		150	1	06/04/2021 03:33	<a href="#">WG1682543</a>
Sulfate	246000		25000	5	06/04/2021 08:36	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	236		5.00	1	06/09/2021 18:35	<a href="#">WG1683970</a>
Boron	1630		200	1	06/09/2021 18:35	<a href="#">WG1683970</a>
Calcium	75500		1000	1	06/09/2021 18:35	<a href="#">WG1683970</a>
Lithium	21.5		15.0	1	06/09/2021 18:35	<a href="#">WG1683970</a>
Molybdenum	26.3		5.00	1	06/09/2021 18:35	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:44	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	509		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	26100		1000	1	06/04/2021 03:46	<a href="#">WG1682543</a>
Fluoride	459		150	1	06/04/2021 03:46	<a href="#">WG1682543</a>
Sulfate	187000		25000	5	06/04/2021 08:49	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	106		5.00	1	06/09/2021 18:37	<a href="#">WG1683970</a>
Boron	1090		200	1	06/09/2021 18:37	<a href="#">WG1683970</a>
Calcium	66400		1000	1	06/09/2021 18:37	<a href="#">WG1683970</a>
Lithium	17.7		15.0	1	06/09/2021 18:37	<a href="#">WG1683970</a>
Molybdenum	48.9		5.00	1	06/09/2021 18:37	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:48	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	756		13.3	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	23200		1000	1	06/04/2021 03:59	<a href="#">WG1682543</a>
Fluoride	473		150	1	06/04/2021 03:59	<a href="#">WG1682543</a>
Sulfate	155000		25000	5	06/04/2021 04:30	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	98.9		5.00	1	06/09/2021 18:40	<a href="#">WG1683970</a>
Boron	2260		200	1	06/09/2021 18:40	<a href="#">WG1683970</a>
Calcium	92600		1000	1	06/09/2021 18:40	<a href="#">WG1683970</a>
Lithium	23.9		15.0	1	06/09/2021 18:40	<a href="#">WG1683970</a>
Molybdenum	18.5		5.00	1	06/09/2021 18:40	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:51	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	573		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	23500		1000	1	06/04/2021 04:43	<a href="#">WG1682543</a>
Fluoride	592		150	1	06/04/2021 04:43	<a href="#">WG1682543</a>
Sulfate	203000		25000	5	06/04/2021 04:56	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	132		5.00	1	06/09/2021 16:59	<a href="#">WG1683970</a>
Boron	1640		200	1	06/09/2021 16:59	<a href="#">WG1683970</a>
Calcium	60400		1000	1	06/09/2021 16:59	<a href="#">WG1683970</a>
Lithium	18.2		15.0	1	06/09/2021 16:59	<a href="#">WG1683970</a>
Molybdenum	40.7		5.00	1	06/09/2021 16:59	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:54	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	574		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16700		1000	1	06/04/2021 05:35	<a href="#">WG1682543</a>
Fluoride	573		150	1	06/04/2021 05:35	<a href="#">WG1682543</a>
Sulfate	260000		25000	5	06/04/2021 06:14	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	75.9		5.00	1	06/09/2021 17:19	<a href="#">WG1683970</a>
Boron	2980		200	1	06/09/2021 17:19	<a href="#">WG1683970</a>
Calcium	32500		1000	1	06/09/2021 17:19	<a href="#">WG1683970</a>
Lithium	ND		15.0	1	06/09/2021 17:19	<a href="#">WG1683970</a>
Molybdenum	113		5.00	1	06/09/2021 17:19	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 10:17	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	546		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	7450		1000	1	06/04/2021 06:27	<a href="#">WG1682543</a>
Fluoride	423		150	1	06/04/2021 06:27	<a href="#">WG1682543</a>
Sulfate	32900		5000	1	06/04/2021 06:27	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	474		5.00	1	06/09/2021 17:02	<a href="#">WG1683970</a>
Boron	720		200	1	06/09/2021 17:02	<a href="#">WG1683970</a>
Calcium	114000		1000	1	06/09/2021 17:02	<a href="#">WG1683970</a>
Lithium	25.7		15.0	1	06/09/2021 17:02	<a href="#">WG1683970</a>
Molybdenum	9.16		5.00	1	06/09/2021 17:02	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 13:58	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	586		10.0	1	05/27/2021 17:15	<a href="#">WG1678581</a>

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16700		1000	1	06/04/2021 07:18	<a href="#">WG1682543</a>
Fluoride	564		150	1	06/04/2021 07:18	<a href="#">WG1682543</a>
Sulfate	261000		25000	5	06/04/2021 07:31	<a href="#">WG1682543</a>

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	74.3		5.00	1	06/09/2021 17:05	<a href="#">WG1683970</a>
Boron	2990		200	1	06/09/2021 17:05	<a href="#">WG1683970</a>
Calcium	32700		1000	1	06/09/2021 17:05	<a href="#">WG1683970</a>
Lithium	ND		15.0	1	06/09/2021 17:05	<a href="#">WG1683970</a>
Molybdenum	111		5.00	1	06/09/2021 17:05	<a href="#">WG1683970</a>

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	06/09/2021 14:01	<a href="#">WG1684906</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3661351-1 05/27/21 17:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		10.0	10.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1356716-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1356716-07 05/27/21 17:15 • (DUP) R3661351-3 05/27/21 17:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	756	757	1	0.176		5

L1356716-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1356716-08 05/27/21 17:15 • (DUP) R3661351-4 05/27/21 17:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	573	585	1	2.07		5

Laboratory Control Sample (LCS)

(LCS) R3661351-2 05/27/21 17:15

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	7950	90.3	77.4-123	

Method Blank (MB)

(MB) R3663194-1 06/03/21 10:09

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

L1356423-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1356423-06 06/04/21 00:58 • (DUP) R3663194-3 06/04/21 01:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	1200	1190	1	0.831		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1356716-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1356716-10 06/04/21 06:27 • (DUP) R3663194-7 06/04/21 06:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7450	7510	1	0.752		15
Fluoride	423	421	1	0.521		15
Sulfate	32900	33200	1	0.876		15

Laboratory Control Sample (LCS)

(LCS) R3663194-2 06/03/21 10:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	38300	95.8	80.0-120	
Fluoride	8000	7650	95.6	80.0-120	
Sulfate	40000	38600	96.4	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1356423-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1356423-07 06/04/21 01:24 • (MS) R3663194-4 06/04/21 01:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	7710	58600	102	1	80.0-120	
Fluoride	5000	ND	5100	100	1	80.0-120	
Sulfate	50000	ND	53300	102	1	80.0-120	

L1356716-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356716-09 06/04/21 05:35 • (MS) R3663194-5 06/04/21 05:48 • (MSD) R3663194-6 06/04/21 06:01

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 %
Chloride	50000	16700	67300	67100	101	101	1	80.0-120			0.350	15
Fluoride	5000	573	5630	5620	101	101	1	80.0-120			0.204	15
Sulfate	50000	251000	264000	264000	25.6	24.9	1	80.0-120	<u>EV</u>	<u>EV</u>	0.127	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3665416-1 06/09/21 17:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		0.736	5.00
Boron	U		20.0	200
Calcium	U		79.3	1000
Lithium	U		4.85	15.0
Molybdenum	U		1.16	5.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3665416-2 06/09/21 17:16

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Barium	1000	1000	100	80.0-120	
Boron	1000	970	97.0	80.0-120	
Calcium	10000	9930	99.3	80.0-120	
Lithium	1000	957	95.7	80.0-120	
Molybdenum	1000	1030	103	80.0-120	

L1356716-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356716-09 06/09/21 17:19 • (MS) R3665416-4 06/09/21 17:24 • (MSD) R3665416-5 06/09/21 17:27

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	%	%		%			%	%
Barium	1000	75.9	1060	1070	98.9	99.2	1	75.0-125			0.326	20
Boron	1000	2980	3920	3930	93.6	95.2	1	75.0-125			0.405	20
Calcium	10000	32500	42300	42300	97.4	97.8	1	75.0-125			0.0827	20
Lithium	1000	ND	949	956	94.0	94.7	1	75.0-125			0.660	20
Molybdenum	1000	113	1150	1150	103	104	1	75.0-125			0.185	20



Method Blank (MB)

(MB) R3665011-1 06/09/21 10:10

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R3665011-2 06/09/21 10:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	47.4	94.7	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1356716-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356716-09 06/09/21 10:17 • (MS) R3665011-4 06/09/21 10:24 • (MSD) R3665011-5 06/09/21 10:27

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 %
Arsenic	50.0	ND	48.7	48.8	95.1	95.3	1	75.0-125			0.190	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# GLOSSARY OF TERMS

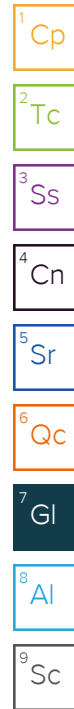
## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

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



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

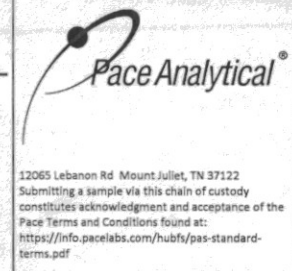
<sup>8</sup> Al

<sup>9</sup> Sc

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

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

Pres. Chk  
 Analysis / Container / Preservative



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 **(C)** ET

Phone: **913-681-0030**

Client Project #  
**27213167.21-B**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
**Whit Martin**

Site/Facility ID #

P.O. #

Collected by (signature):  
*Whit Martin*

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

Immediately Packed on Ice N \_\_\_ Y **X**

Date Results Needed  
**Std**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Clid, F, SO4	125mlHDPE-NoPres	As,B,Ba,Ca,Li, Mo	250mlHDPE-HNO3	TDS	250mlHDPE-NoPres
MW-101	Grab	GW		5/20/21	1315	3	X	X	X			
MW-102	Grab	GW		5/20/21	1355	3	X	X	X			
MW-103	Grab	GW		5/20/21	1435	3	X	X	X			
MW-104	Grab	GW		5/20/21	1640	3	X	X	X			
MW-105	Grab	GW		5/20/21	1420	3	X	X	X			
MW-107	Grab	GW		5/20/21	1555	3	X	X	X			
MW-108	Grab	GW		5/20/21	0945	3	X	X	X			
MW-109	Grab	GW		5/20/21	1025	3	X	X	X			
MW-110	Grab	GW		5/20/21	1105	3	X	X	X			
MW-111	Grab	GW		5/20/21	1220	3	X	X	X			

SDG # **1356716**  
 Table #  
 Acctnum: **AQUAOPKS**  
 Template: **T128513**  
 Prelogin: **P846542**  
 PM: 206 - Jeff Carr  
 PB: **DW 5/18/21**  
 Shipped Via: **FedEX Ground**  
 Remarks Sample # (lab only)  
 -01  
 -02  
 -03  
 -04  
 -05  
 -06  
 -07  
 -08  
 -09  
 -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  
 Tracking # **4510 1655 8927**

Sample Receipt Checklist  
 COC Seal Present/Intact:  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)  
*Whit Martin*  
 Date: **5/20/21** Time: **1730**

Received by: (Signature)  
*[Signature]*  
 Date: **5/21/21** Time: **1800**

Received for lab by: (Signature)  
*[Signature]*  
 Date: **5/21/21** Time: **0930**

Trip Blank Received: Yes  No  
 HCL / MeOH  
 TBR  
 Temp: **22°C** Bottles Received: **38**

If preservation required by Login: Date/Time  
 Hold:  
 Condition: **(C) / OK**

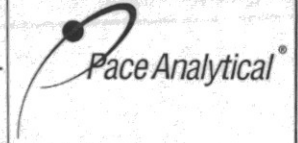


Company Name/Address:  
**SCS Engineers - KS**  
 8575 W. 110th Street  
 Overland Park, KS 66210

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

Pres  
 Chk

Analysis / Container / Preservative



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

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 #  
**27213167.21-B**

Lab Project #  
**AQUAOPKS-IATAN**

Collected by (print):  
**Whit Martin**

Site/Facility ID #

P.O. #

Collected by (signature):  
*Whit Martin*

**Rush?** (Lab MUST Be Notified)

Quote #

\_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Date Results Needed  
**Std**

Immediately Packed on Ice N \_\_\_ Y **X**

No.  
 of  
 Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	125mIHDPE-NoPres	As, B, Ba, Ca, Li, Mo	250mIHDPE-HNO3	TDS	250mIHDPE-NoPres
DUPLICATE	Grab	GW		5/20/21	1105	3	X	X	X			
MW110 MS/MSD	Grab	GW		5/20/21	1105	2	X	X				

SDG # **L1356716**

Table #

Acctnum: **AQUAOPKS**

Template: **T128513**

Prelogin: **P846542**

PM: **206 - Jeff Carr**

PB: **DM 5/18/21**

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

-11

-09

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

Remarks:

pH \_\_\_ Temp \_\_\_

Flow \_\_\_ Other \_\_\_

Sample Receipt Checklist

COC Seal Present/Intact:  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

Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes / No  
 HCL / MeOH  
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **20** C Bottles Received: **38**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **5/21/21** Time: **0930**

Hold:

Condition:  
 NCF /  OK

July 06, 2021

Revised Report

## SCS Engineers - KS

Sample Delivery Group: L1356717  
Samples Received: 05/22/2021  
Project Number: 27213167.21-B  
Description: Evergy - Iatan Gen Station

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Entire Report Reviewed By:



Jeff Carr  
Project Manager

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

Pace Analytical National

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

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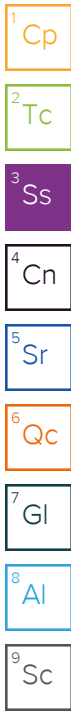
<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

## MW-101 L1356717-01 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 13:15      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN



## MW-102 L1356717-02 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 13:55      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-103 L1356717-03 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 14:35      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-104 L1356717-04 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 16:40      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-105 L1356717-05 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 14:20      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-107 L1356717-06 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 15:55      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

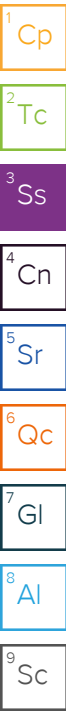


# SAMPLE SUMMARY

## MW-108 L1356717-07 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 09:45      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN



## MW-109 L1356717-08 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 10:25      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-110 L1356717-09 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 11:05      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## MW-111 L1356717-10 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 12:20      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680674	1	06/17/21 11:48	06/22/21 15:20	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680674	1	06/17/21 11:48	06/18/21 16:21	RGT	Mt. Juliet, TN

## DUPLICATE L1356717-11 Non-Potable Water

Collected by Whit Martin      Collected date/time 05/20/21 11:05      Received date/time 05/22/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1688322	1	06/16/21 14:56	06/22/21 15:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1680676	1	06/21/21 10:29	06/22/21 15:45	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1680676	1	06/21/21 10:29	06/22/21 15:45	RGT	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All 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.



Jeff Carr  
Project Manager

## Report Revision History

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Level II Report - Version 1: 06/24/21 06:45

## Project Narrative

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This report has been revised to include RA-226/228 combined.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.12		0.346	0.62	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	110			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	105			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.30		0.551	0.898	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.182	J	0.205	0.278	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	95.3			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.59		0.362	0.635	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	113			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	91.2			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.60		0.499	0.916	06/22/2021 15:20	<a href="#">WG1680674</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.00717	<u>U</u>	0.137	0.281	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	102			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.71		0.343	0.592	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	114			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	88.1			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.83		0.501	0.824	06/22/2021 15:20	<a href="#">WG1680674</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.115	J	0.158	0.232	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	98.7			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.631		0.279	0.507	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	102			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	98.2			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.988		0.502	0.685	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.357		0.223	0.178	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	97.3			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.31		0.315	0.552	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	95.6			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	108			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.89		0.586	0.751	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.574		0.271	0.199	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	98.1			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.401	J	0.346	0.64	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	108			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	90.7			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.653	J	0.550	0.858	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.253		0.204	0.218	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	92.9			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.373	J	0.281	0.519	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	96.4			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	104			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.629	J	0.461	0.692	06/22/2021 15:20	<a href="#">WG1680674</a>

4 Cn

5 Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.256		0.180	0.173	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	95.7			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.739		0.360	0.656	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	94.5			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	94.4			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.739	J	0.568	1.02	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0327	U	0.208	0.363	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	93.3			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.561	J	0.362	0.665	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	91.8			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	96.0			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.713	J	0.538	0.904	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.152	J	0.176	0.239	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	97.7			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.19		0.320	0.565	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	110			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	105			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

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

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.55		0.577	0.872	06/22/2021 15:20	<a href="#">WG1680674</a>

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.353		0.257	0.307	06/18/2021 16:21	<a href="#">WG1680674</a>
(T) Barium-133	92.7			30.0-143	06/18/2021 16:21	<a href="#">WG1680674</a>

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.123	<u>U</u>	0.320	0.61	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Barium	103			62.0-143	06/22/2021 15:20	<a href="#">WG1688322</a>
(T) Yttrium	91.0			79.0-136	06/22/2021 15:20	<a href="#">WG1688322</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0502	<u>U</u>	0.415	0.776	06/22/2021 15:45	<a href="#">WG1680676</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0502	<u>U</u>	0.0952	0.166	06/22/2021 15:45	<a href="#">WG1680676</a>
(T) Barium-133	103			30.0-143	06/22/2021 15:45	<a href="#">WG1680676</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3670867-1 06/22/21 15:20

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.404	<u>U</u>	0.439
(T) Barium	114		
(T) Yttrium	104		

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1356717-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1356717-09 06/22/21 15:20 • (DUP) R3670867-5 06/22/21 15:20

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.561	0.948	1	51.3	0.568	<u>J</u>	20	3
(T) Barium	91.8	102						
(T) Yttrium	96.0	85.0						

Laboratory Control Sample (LCS)

(LCS) R3670867-2 06/22/21 15:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.50	110	80.0-120	
(T) Barium			107		
(T) Yttrium			99.2		

L1356717-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356717-09 06/22/21 15:20 • (MS) R3670867-3 06/22/21 15:20 • (MSD) R3670867-4 06/22/21 15:20

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	0.561	9.31	8.72	87.5	81.6	1	70.0-130			6.51		20
(T) Barium		91.8			91.8	115							
(T) Yttrium		96.0			87.9	98.7							

Method Blank (MB)

(MB) R3669914-1 06/18/21 16:21

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00489	<u>U</u>	0.0615
(T) Barium-133	95.7		

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1356489-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1356489-02 06/18/21 16:21 • (DUP) R3669914-5 06/18/21 16:21

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	0.301	0.191	1	45.1	0.349	<u>J</u>	20	3
(T) Barium-133	99.2	99.3						

Laboratory Control Sample (LCS)

(LCS) R3669914-2 06/18/21 16:21

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.00	99.6	80.0-120	
(T) Barium-133			102		

L1356717-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356717-09 06/18/21 16:21 • (MS) R3669914-3 06/18/21 16:21 • (MSD) R3669914-4 06/18/21 16:21

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	0.152	19.5	18.0	96.2	88.9	1	75.0-125			7.73		20
(T) Barium-133		97.7			93.7	93.8							

Method Blank (MB)

(MB) R3670772-1 06/22/21 15:45

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.00763	<u>U</u>	0.0440
(T) Barium-133	91.2		

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1356717-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1356717-11 06/22/21 15:45 • (DUP) R3670772-5 06/22/21 15:45

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	0.0502	0.108	1	73.0	0.353	<u>J</u>	20	3
(T) Barium-133	103	104						

Laboratory Control Sample (LCS)

(LCS) R3670772-2 06/22/21 15:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.64	92.3	80.0-120	
(T) Barium-133			102		

L1357683-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1357683-07 06/22/21 15:45 • (MS) R3670772-3 06/22/21 15:45 • (MSD) R3670772-4 06/22/21 15:45

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	4.38	21.5	19.9	85.1	77.2	1	75.0-125			7.64		20
(T) Barium-133		112			103	106							



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

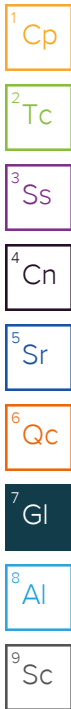
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

### Abbreviations and Definitions

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
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

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

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

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc


<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

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

Chain of Custody Page 1 of 2  


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 **C** ET

Phone: **913-681-0030** Client Project #: **27213167.21-B** Lab Project #: **AQUAOPKS-IATAN**

Collected by (print): **B. Penator** Site/Facility ID #: P.O. #

Collected by (signature): *[Signature]* **Rush?** (Lab MUST Be Notified)  
 Same Day Five Day  
 Next Day 5 Day (Rad Only) Date Results Needed  
 Two Day 10 Day (Rad Only) **Std**  
 Three Day

Immediately Packed on Ice N    Y X

Sample ID Comp/Grab Matrix \* Depth Date Time No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
MW-101	GRAB	NPW		5/20/21	1315	2	X
MW-102	↓	NPW		↓	1355	2	X
MW-103	↓	NPW		↓	1435	2	X
MW-104	↓	NPW		↓	1640	2	X
MW-105	GRAB	NPW		5/20/21	1420	2	X
MW-107	↓	NPW		↓	1555	2	X
MW-108	↓	NPW		↓	0945	2	X
MW-109	↓	NPW		↓	1025	2	X
MW-110	↓	NPW		↓	1105	2	X
MW-111	↓	NPW		↓	1220	2	X

\* 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 # **4510 16658938, 8478**

Sample Receipt Checklist

COC Seal Present/Intact:    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) *[Signature]* Date: **5/20/21** Time: **1730** Received by: (Signature) *[Signature]* Trip Blank Received: Yes/No    HCL / MeOH TBR

Relinquished by: (Signature) *[Signature]* Date: **5/21/21** Time: **1800** Received by: (Signature) *[Signature]* Temp: **33** °C Bottles Received: **20** If preservation required by Login: Date/Time

Relinquished by: (Signature) *[Signature]* Date: **5/22/21** Time: **0930** Received for lab by: (Signature) *[Signature]* Date: **5/22/21** Time: **0930** Hold: Condition: NCF / OK

RA226, RA228 1L-HDPE-Add HNO3



Jared Morrison  
December 16, 2022

**ATTACHMENT 2**  
**Statistical Analyses**

Jared Morrison  
December 16, 2022

**ATTACHMENT 2-1**  
**Spring 2020 Semiannual Detection Monitoring Statistical Analyses**



**MEMORANDUM**

**September 28, 2020**

**To: Iatan Generating Station  
20250 State Route 45 N  
Platte County, Missouri  
Evergny Metro, Inc.**



**From: SCS Engineers**

**RE: Determination of Statistically Significant Increases – Ash Impoundment  
Spring 2020 Semiannual Detection Monitoring 40 CFR 257.94**

Statistical analysis of monitoring data from the groundwater monitoring system for the Ash Impoundment at the Iatan Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated April 16, 2019. 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 three Appendix III constituent above the prediction limits established for monitoring wells MW-104, MW-109, and MW-110.

Constituent/Monitoring Well	*UPL	Observation May 20, 2020	1st Verification July 13, 2020	2nd Verification August 25, 2020
<b>Boron</b>				
MW-109	0.8503	1.35	1.34	1.51
MW-110	3.13	3.96	3.71	4.13
<b>Calcium</b>				
MW-104	54.12	55.5	59.7	61.9

\*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 SSIs above the background prediction limit for boron in monitoring wells MW-109 and MW-110, and calcium in monitoring well MW-104.**

Attached to this memorandum are the following backup information:





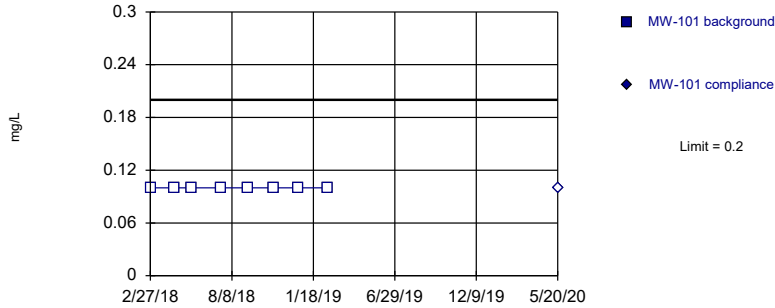
Iatan Generating Station  
Determination of Statistically Significant Increases  
Ash Impoundment  
September 28, 2020

## **ATTACHMENT 1**

**Sanitas™ Output**

Within Limit

Prediction Limit  
Intrawell Non-parametric

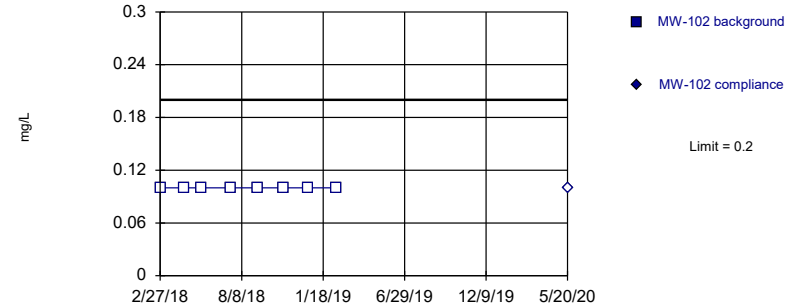


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/9/2020 11:06 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Non-parametric

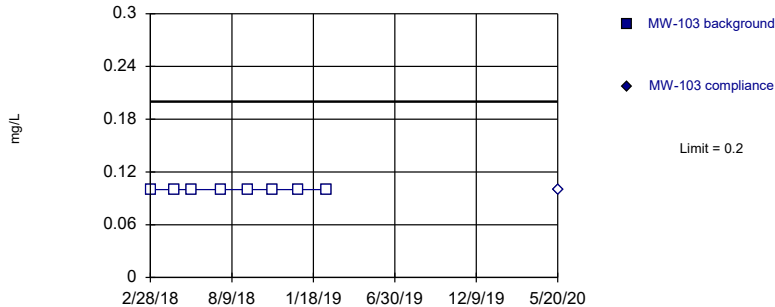


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/9/2020 11:06 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Non-parametric

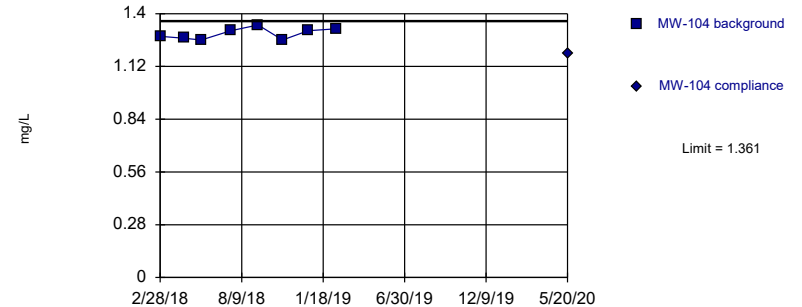


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/9/2020 11:06 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=1.294, Std. Dev.=0.03021, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9056, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

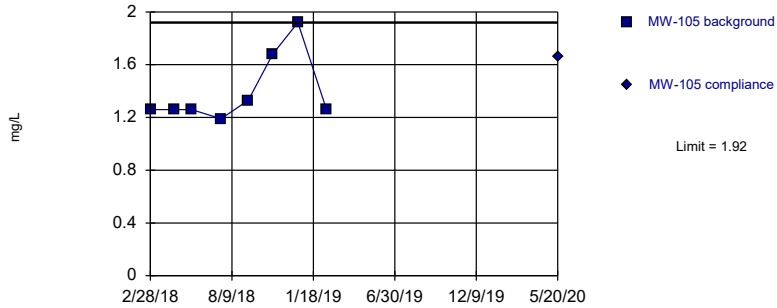
# Prediction Limit

Constituent: Boron Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-101	MW-101	MW-102	MW-102	MW-103	MW-103	MW-104	MW-104
2/27/2018	<0.2		<0.2					
2/28/2018					<0.2		1.28	
4/16/2018	<0.2		<0.2		<0.2		1.27	
5/21/2018	<0.2		<0.2		<0.2		1.26	
7/19/2018	<0.2		<0.2		<0.2		1.31	
9/10/2018	<0.2		<0.2					
9/11/2018					<0.2		1.34	
10/30/2018	<0.2		<0.2		<0.2		1.26	
12/20/2018	<0.2		<0.2		<0.2		1.31	
2/14/2019			<0.2		<0.2		1.32	
2/15/2019	<0.2							
5/20/2020		<0.2		<0.2		<0.2		1.19

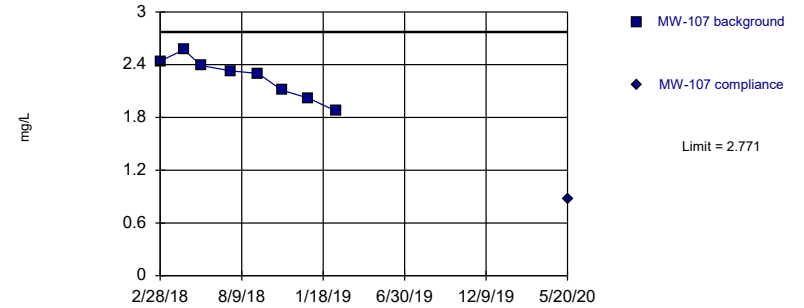
Within Limit Prediction Limit  
Intrawell Non-parametric



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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

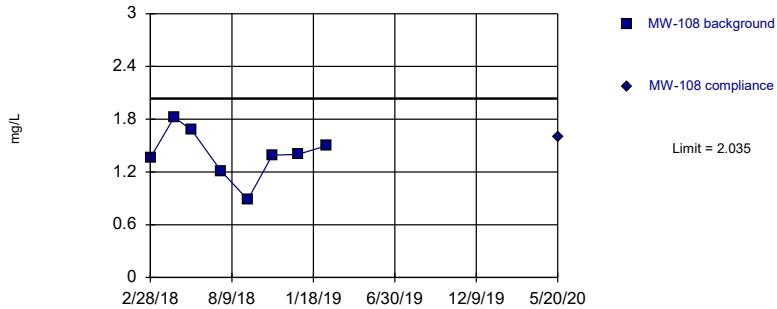
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=2.254, Std. Dev.=0.2342, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9601, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

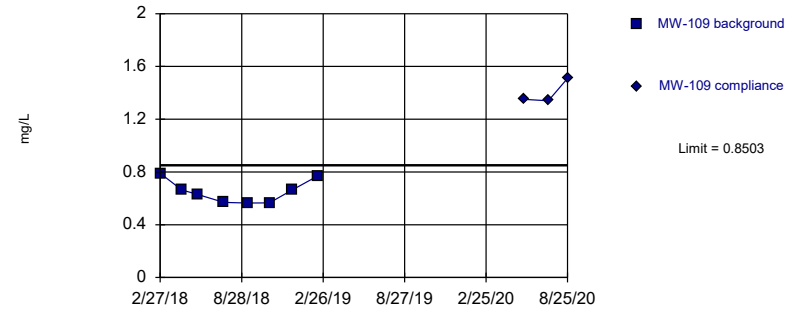
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=1.406, Std. Dev.=0.2847, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9636, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Exceeds Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.6525, Std. Dev.=0.0895, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8618, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

# Prediction Limit

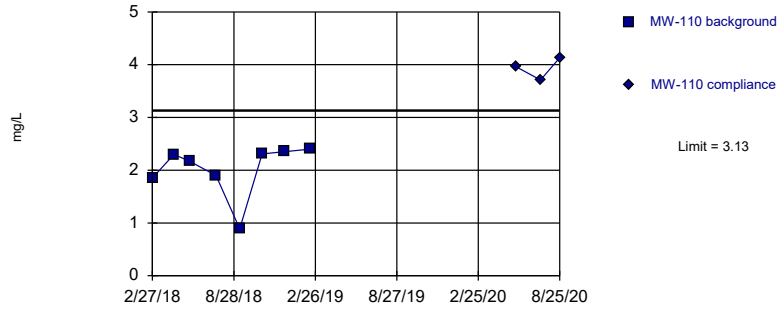
Constituent: Boron Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-105	MW-105	MW-107	MW-107	MW-108	MW-108	MW-109	MW-109
2/27/2018							0.79	
2/28/2018	1.26		2.44		1.36			
4/16/2018	1.26		2.57		1.82		0.664	
5/21/2018	1.26		2.39		1.68		0.63	
7/19/2018	1.19		2.33		1.21		0.569	
9/10/2018					0.885		0.565	
9/11/2018	1.33		2.3					
10/29/2018			2.11		1.39		0.566	
10/30/2018	1.68							
12/19/2018	1.92				1.4		0.664	
12/20/2018			2.02					
2/14/2019	1.26							
2/15/2019			1.87		1.5		0.772	
5/20/2020		1.66		0.876		1.6		1.35
7/13/2020								1.34 1st Verification Sample
8/25/2020								1.51 2nd Verification Sample

Exceeds Limit

Prediction Limit  
Intrawell Parametric

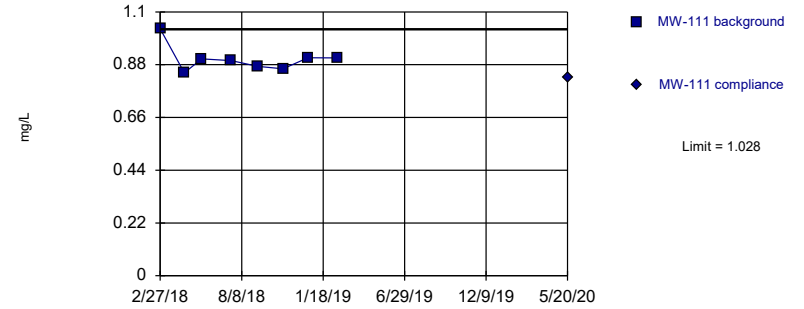


Background Data Summary: Mean=2.021, Std. Dev.=0.5019, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7528, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

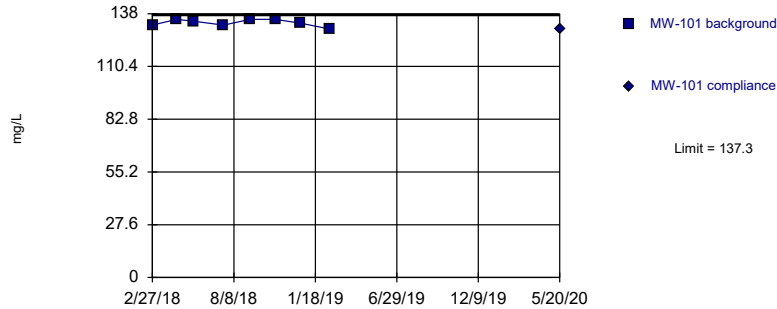


Background Data Summary: Mean=0.9038, Std. Dev.=0.05602, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7979, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Boron Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

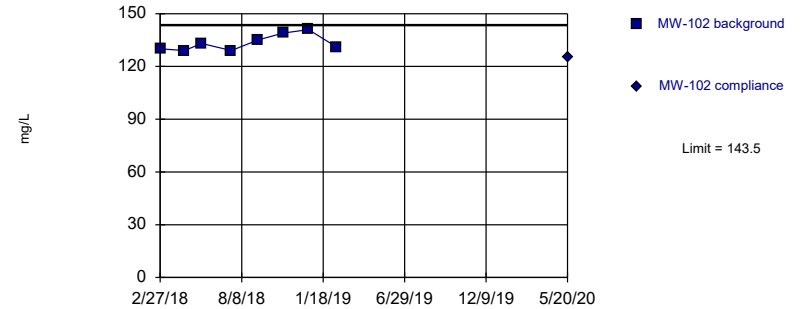


Background Data Summary: Mean=133.3, Std. Dev.=1.832, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8826, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=133.4, Std. Dev.=4.596, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8804, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

# Prediction Limit

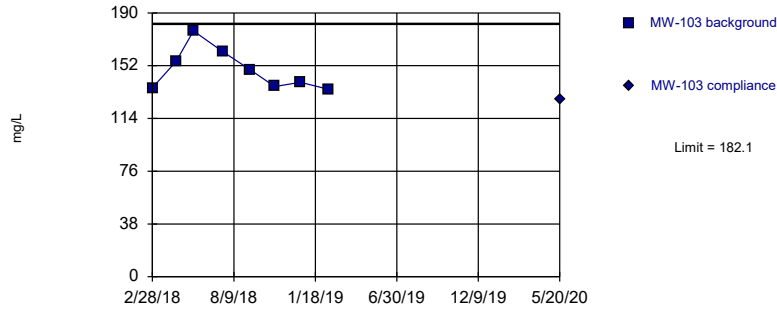
Constituent: Boron, Calcium Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-110	MW-110	MW-111	MW-111	MW-101	MW-101	MW-102	MW-102
2/27/2018	1.85		1.03		132		130	
4/16/2018	2.3		0.846		135		129	
5/21/2018	2.17		0.904		134		133	
7/19/2018	1.9		0.897		132		129	
9/10/2018	0.888		0.873		135		135	
10/30/2018	2.31		0.863		135		139	
12/19/2018	2.35		0.909					
12/20/2018					133		141	
2/14/2019							131	
2/15/2019	2.4		0.908		130			
5/20/2020		3.96		0.827		130		125
7/13/2020		3.71	1st Verification Sample					
8/25/2020		4.13	2nd Verification Sample					

Within Limit

Prediction Limit  
Intrawell Parametric

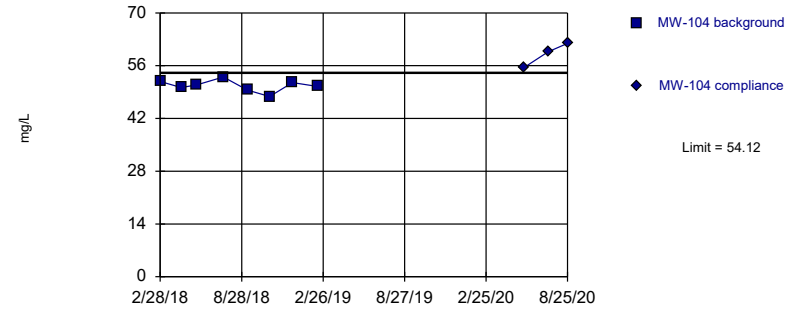


Background Data Summary: Mean=148.9, Std. Dev.=15.02, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8806, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Exceeds Limit

Prediction Limit  
Intrawell Parametric

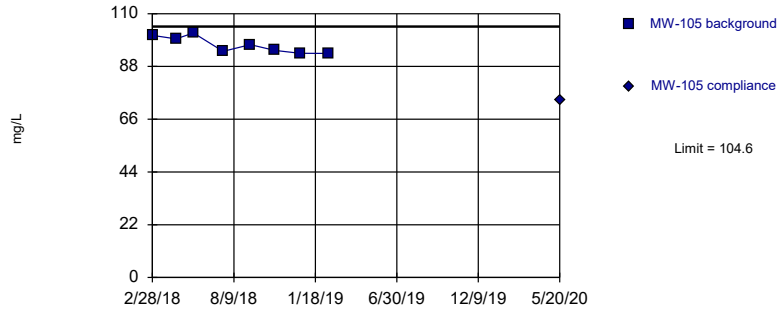


Background Data Summary: Mean=50.65, Std. Dev.=1.572, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.983, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

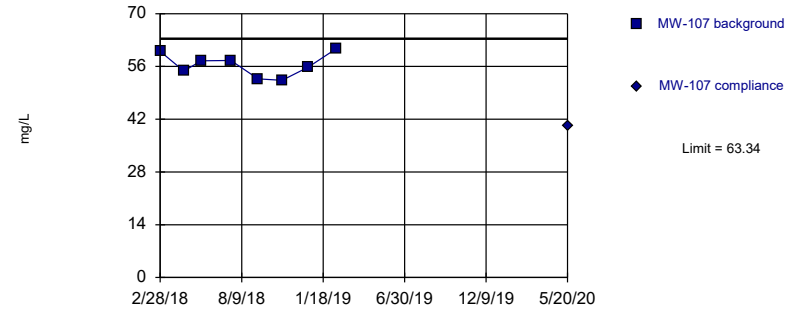


Background Data Summary: Mean=96.94, Std. Dev.=3.485, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8737, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=56.44, Std. Dev.=3.125, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9447, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr



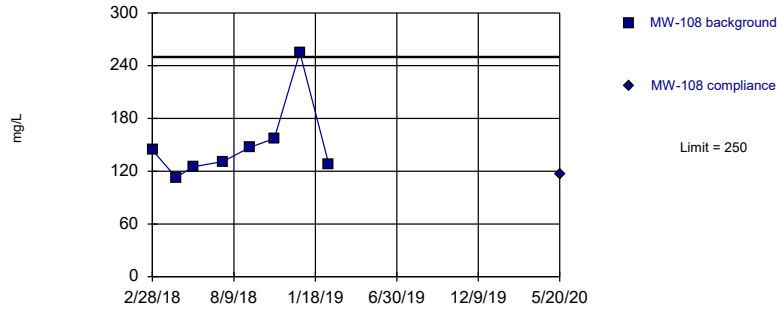
# Prediction Limit

Constituent: Calcium Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-103	MW-103	MW-104	MW-104	MW-105	MW-105	MW-107	MW-107
2/28/2018	136		51.8		101		60	
4/16/2018	155		50.2		99.5		54.8	
5/21/2018	177		50.9		102		57.5	
7/19/2018	162		53		94.3		57.6	
9/11/2018	149		49.5		97.1		52.7	
10/29/2018							52.3	
10/30/2018	137		47.8		94.7			
12/19/2018					93.5			
12/20/2018	140		51.5				55.8	
2/14/2019	135		50.5		93.4			
2/15/2019							60.8	
5/20/2020		128		55.5		74.1		40.3
7/13/2020				59.7	1st Verification Sample			
8/25/2020				61.9	2nd Verification Sample			

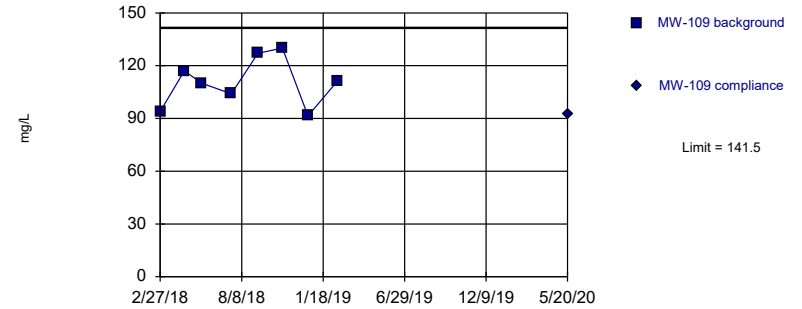
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=12.14, Std. Dev.=1.659, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7644, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

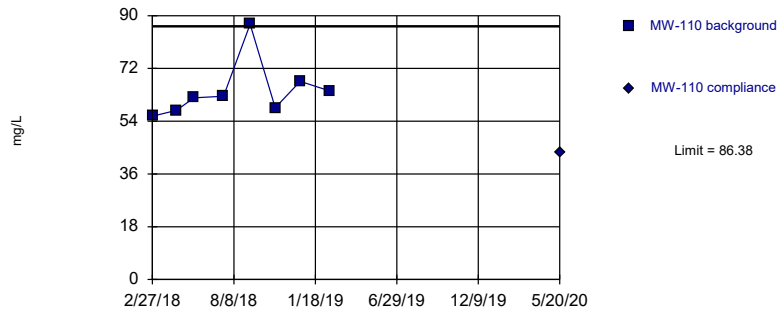
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=110.6, Std. Dev.=14.01, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9482, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

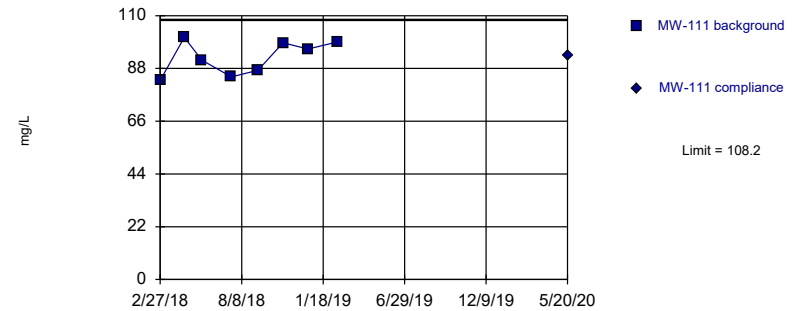
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=64.45, Std. Dev.=9.922, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7794, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=92.63, Std. Dev.=7.062, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9018, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Calcium Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

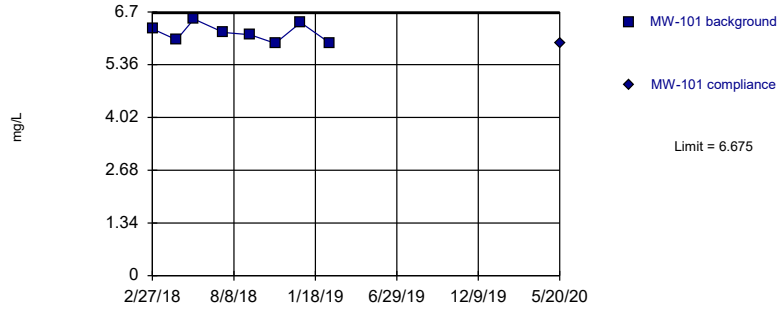
# Prediction Limit

Constituent: Calcium Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-108	MW-108	MW-109	MW-109	MW-110	MW-110	MW-111	MW-111
2/27/2018			93.9		55.7		83	
2/28/2018	144							
4/16/2018	113		117		57.7		101	
5/21/2018	125		110		62		91.5	
7/19/2018	131		104		62.5		84.5	
9/10/2018	147		127		87.1		87.2	
10/29/2018	157		130					
10/30/2018					58.6		98.7	
12/19/2018	255		91.5		67.6		96.1	
2/15/2019	127		111		64.4		99	
5/20/2020		117		92.2		43.3		93.3

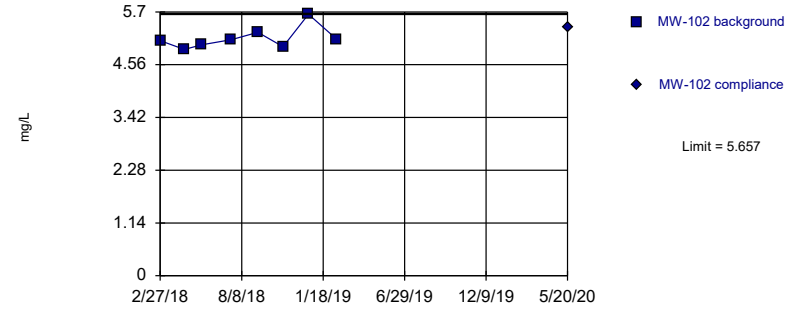
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=6.166, Std. Dev.=0.23, n=8. Insufficient data to test for seasonality; data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9359, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

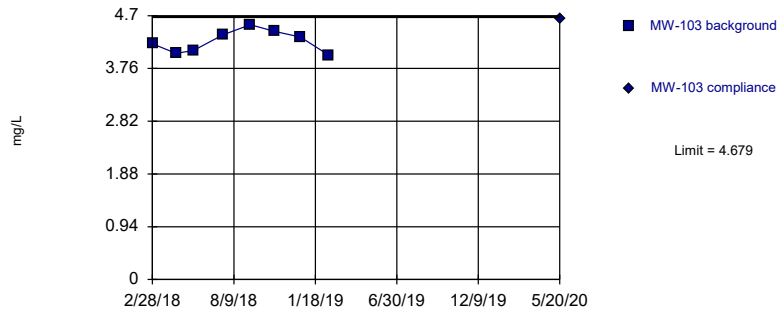
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=5.129, Std. Dev.=0.2393, n=8. Insufficient data to test for seasonality; data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8398, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

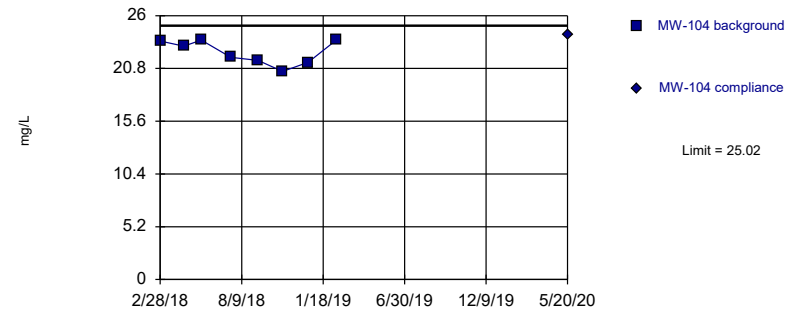
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=4.244, Std. Dev.=0.1971, n=8. Insufficient data to test for seasonality; data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9404, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=22.39, Std. Dev.=1.192, n=8. Insufficient data to test for seasonality; data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8837, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

# Prediction Limit

Constituent: Chloride Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-101	MW-101	MW-102	MW-102	MW-103	MW-103	MW-104	MW-104
2/27/2018	6.27		5.08					
2/28/2018					4.2		23.5	
4/16/2018	5.99		4.89		4.03		23	
5/21/2018	6.52		4.99		4.08		23.6	
7/19/2018	6.18		5.1		4.36		21.9	
9/10/2018	6.12		5.26					
9/11/2018					4.54		21.6	
10/30/2018	5.9		4.95		4.42		20.5	
12/20/2018	6.43		5.65		4.32		21.4	
2/14/2019			5.11		4		23.6	
2/15/2019	5.92							
5/20/2020		5.89		5.37		4.64		24.1



# Prediction Limit

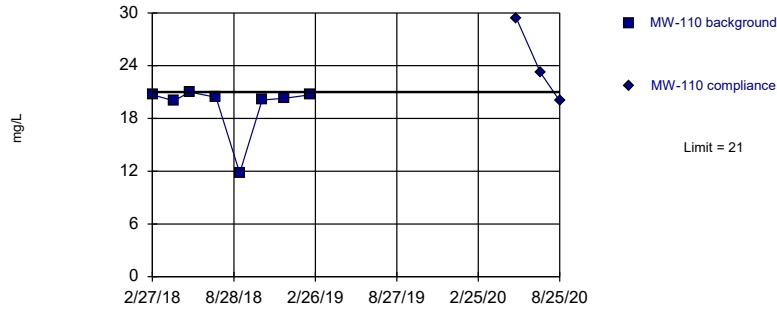
Constituent: Chloride Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-105	MW-105	MW-107	MW-107	MW-108	MW-108	MW-109	MW-109
2/27/2018							25.2	
2/28/2018	18.5		18.5		16.5			
4/16/2018	19		19.7		16		23.1	
5/21/2018	18.6		20.6		16.4		25.7	
7/19/2018	18.4		20.1		16.7		27.7	
9/10/2018					17.5		27.2	
9/11/2018	18.3		19					
10/29/2018			20.2		18.9		27.1	
10/30/2018	17.9							
12/19/2018	18.2				28.7		26.5	
12/20/2018			20.2					
2/14/2019	17.5							
2/15/2019			25.9		18.8		21.2	
5/20/2020		16.4		17		20.8		25.6

Within Limit

Prediction Limit  
Intrawell Non-parametric

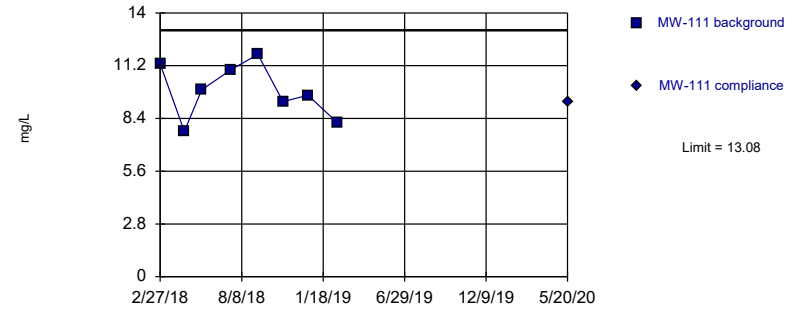


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

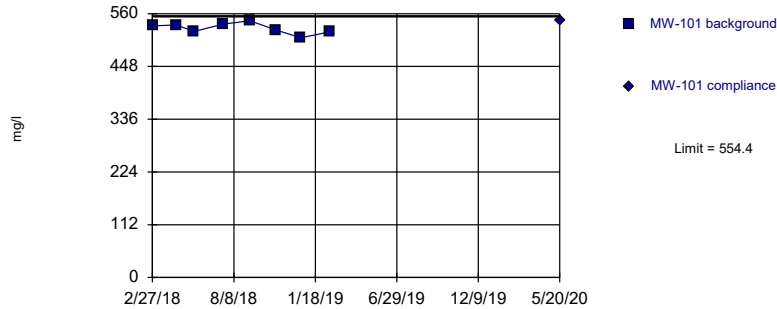


Background Data Summary: Mean=9.855, Std. Dev.=1.46, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9538, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Chloride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

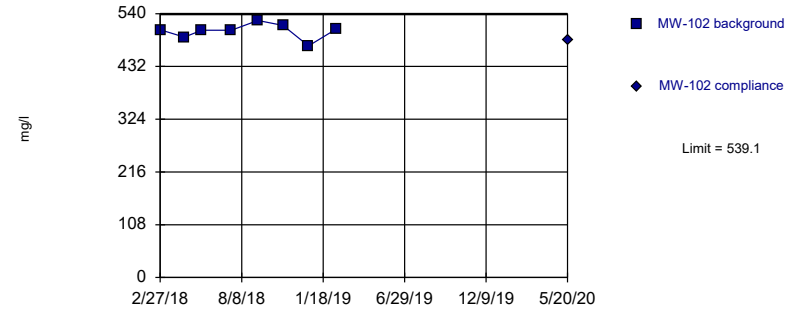


Background Data Summary: Mean=528.9, Std. Dev.=11.54, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9683, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=504.5, Std. Dev.=15.64, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.918, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr



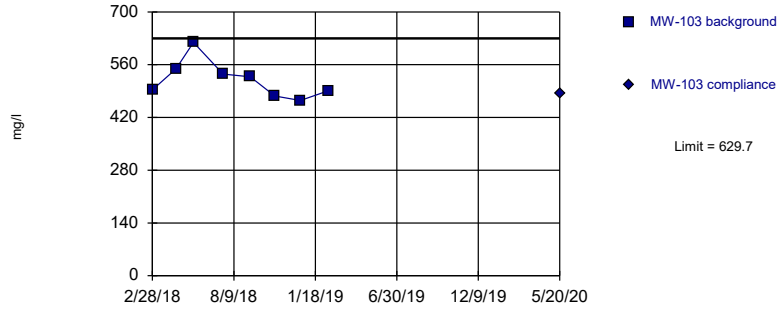
# Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-110	MW-110	MW-111	MW-111	MW-101	MW-101	MW-102	MW-102
2/27/2018	20.7		11.3		534		507	
4/16/2018	20		7.71		536		492	
5/21/2018	21		9.92		522		506	
7/19/2018	20.4		11		538		506	
9/10/2018	11.8		11.8		545		526	
10/30/2018	20.1		9.29		526		516	
12/19/2018	20.3		9.63					
12/20/2018					509		474	
2/14/2019							509	
2/15/2019	20.7		8.19		521			
5/20/2020		29.4		9.26		546		487
7/13/2020		23.2	1st Verification Sample					
8/25/2020		20	2nd Verification Sample					

Within Limit

Prediction Limit  
Intrawell Parametric

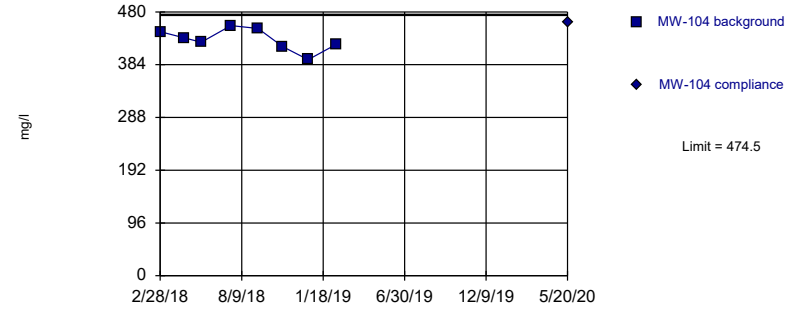


Background Data Summary: Mean=519.6, Std. Dev.=49.82, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9082, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

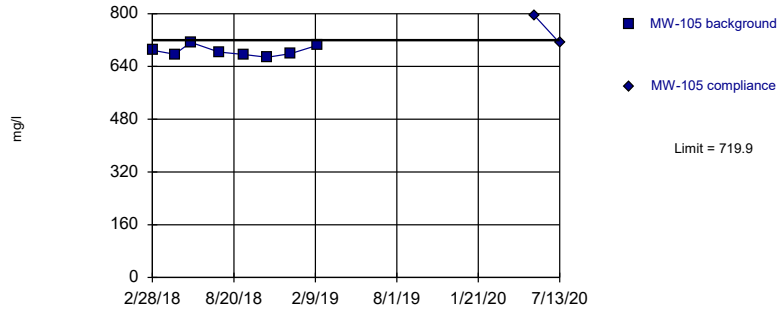


Background Data Summary: Mean=429.8, Std. Dev.=20.26, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9563, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

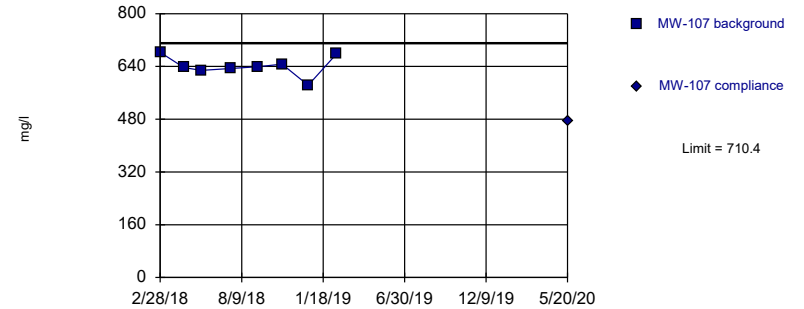


Background Data Summary: Mean=686.3, Std. Dev.=15.21, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9136, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=641.3, Std. Dev.=31.27, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9125, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

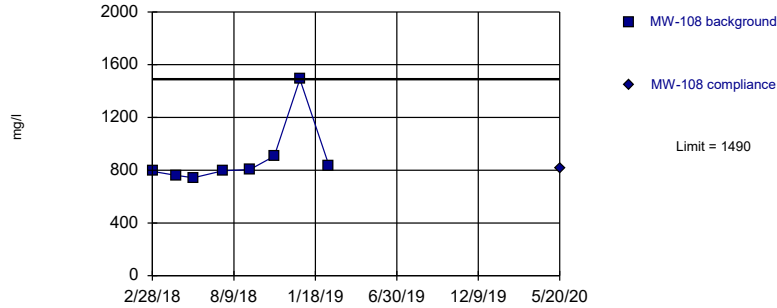
# Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-103	MW-103	MW-104	MW-104	MW-105	MW-105	MW-107	MW-107
2/28/2018	493		444		689		683	
4/16/2018	549		433		677		637	
5/21/2018	619		425		713		628	
7/19/2018	535		455		684		634	
9/11/2018	528		450		676		639	
10/29/2018							647	
10/30/2018	477		417		668			
12/19/2018					679			
12/20/2018	465		393				583	
2/14/2019	491		421		704			
2/15/2019							679	
5/20/2020		482		460		795		475
7/13/2020						711		1st Verification Sample

Within Limit

Prediction Limit  
Intrawell Non-parametric

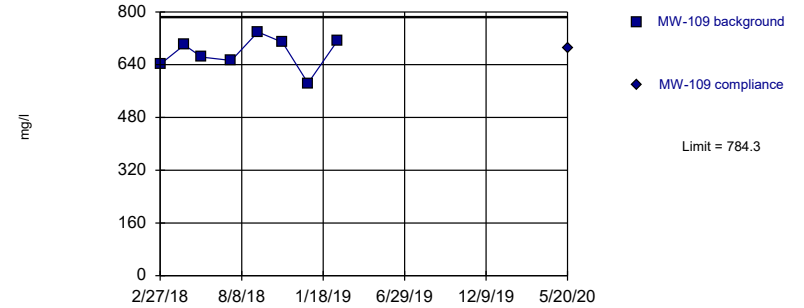


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

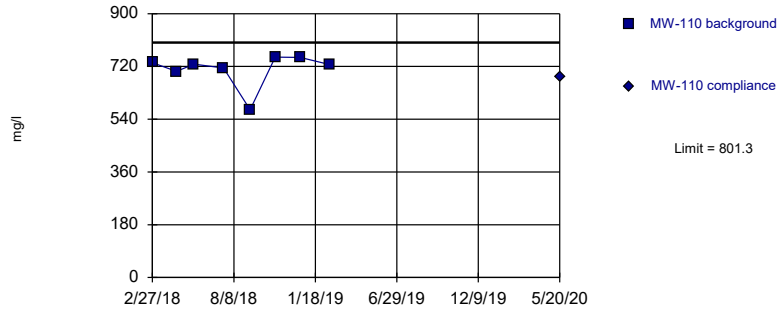


Background Data Summary: Mean=674.9, Std. Dev.=49.53, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9485, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

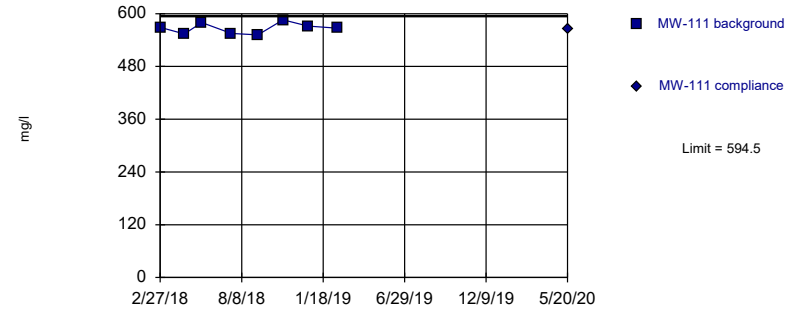


Background Data Summary (based on x^4 transformation): Mean=2.6e11, Std. Dev.=6.8e10, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7657, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=566.9, Std. Dev.=12.52, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9265, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

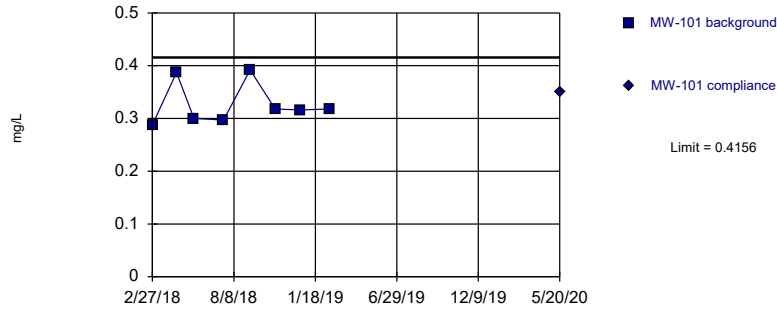
Constituent: Dissolved Solids Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

# Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-108	MW-108	MW-109	MW-109	MW-110	MW-110	MW-111	MW-111
2/27/2018			641		733		569	
2/28/2018	791							
4/16/2018	761		700		703		554	
5/21/2018	743		663		728		580	
7/19/2018	796		653		715		555	
9/10/2018	805		739		572		552	
10/29/2018	906		708					
10/30/2018					752		586	
12/19/2018	1490		584		751		572	
2/15/2019	835		711		727		567	
5/20/2020		813		691		684		564

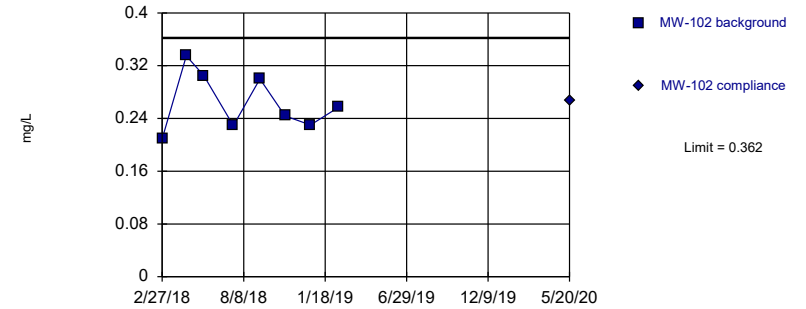
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.327, Std. Dev.=0.0401, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.796, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

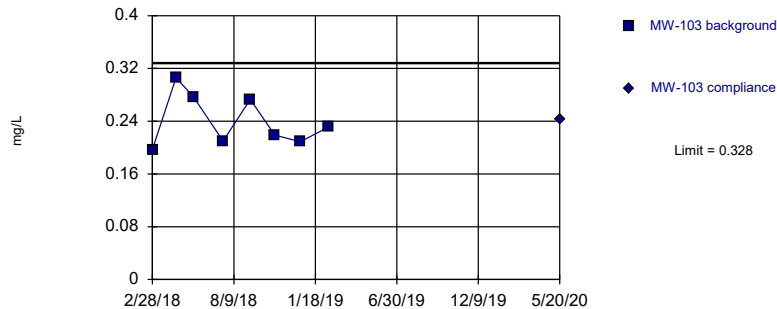
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.2636, Std. Dev.=0.04452, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9243, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

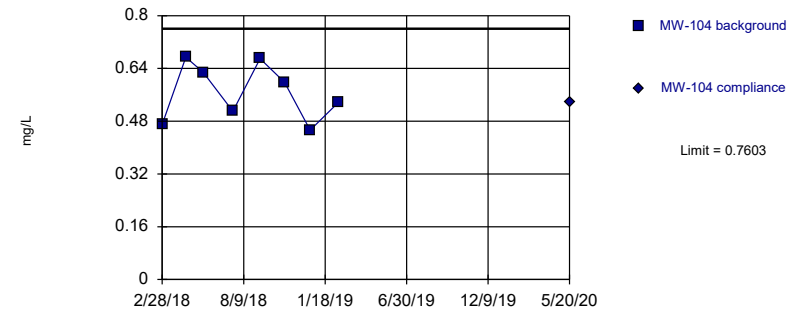
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.2403, Std. Dev.=0.03972, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8898, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.5675, Std. Dev.=0.08725, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9166, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

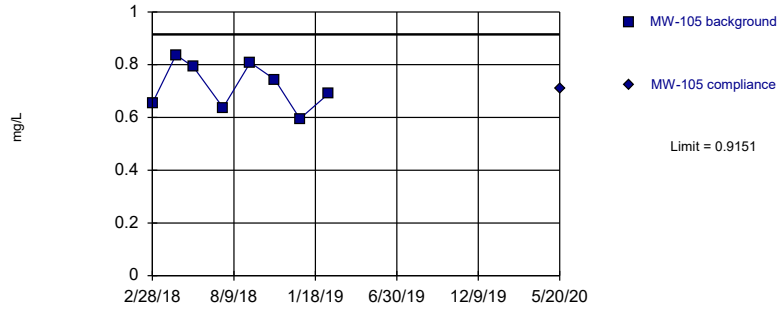
# Prediction Limit

Constituent: Fluoride Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-101	MW-101	MW-102	MW-102	MW-103	MW-103	MW-104	MW-104
2/27/2018	0.288		0.209					
2/28/2018					0.197		0.47	
4/16/2018	0.387		0.335		0.306		0.674	
5/21/2018	0.3		0.305		0.277		0.628	
7/19/2018	0.297		0.229		0.21		0.51	
9/10/2018	0.392		0.3					
9/11/2018					0.273		0.67	
10/30/2018	0.318		0.244		0.219		0.598	
12/20/2018	0.316		0.23		0.209		0.453	
2/14/2019			0.257		0.231		0.537	
2/15/2019	0.318							
5/20/2020		0.35		0.267		0.243		0.539

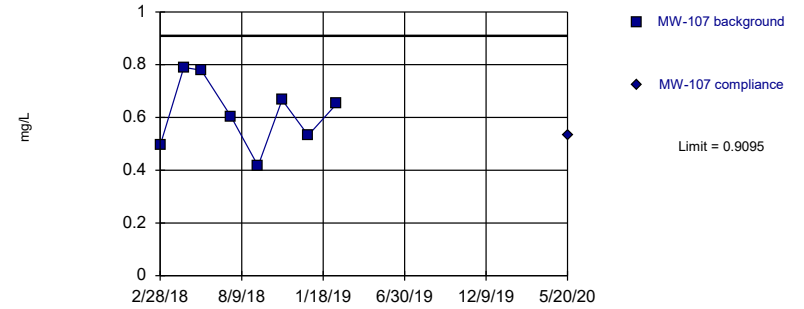
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.7195, Std. Dev.=0.08849, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9439, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

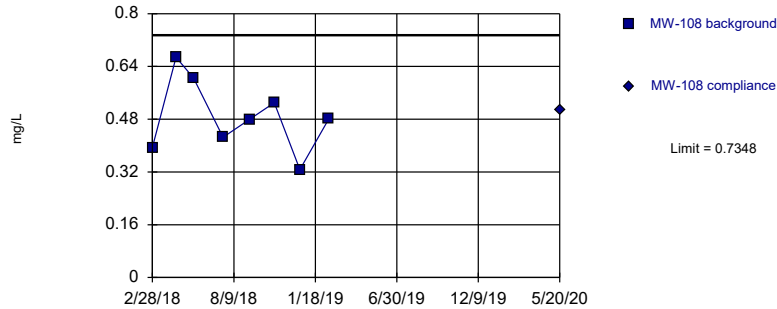
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.6168, Std. Dev.=0.1325, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9564, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

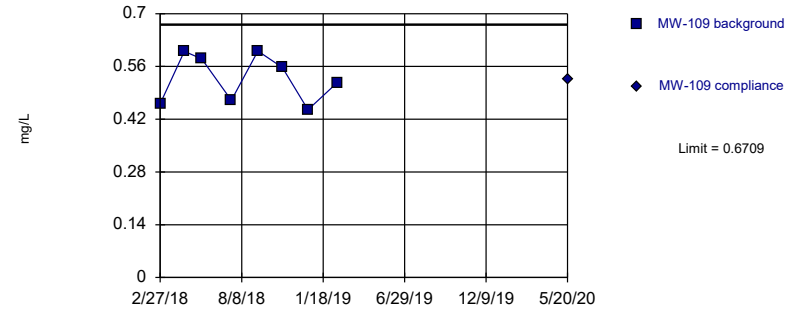
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.4889, Std. Dev.=0.1113, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9807, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=0.5289, Std. Dev.=0.06427, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8832, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr



# Prediction Limit

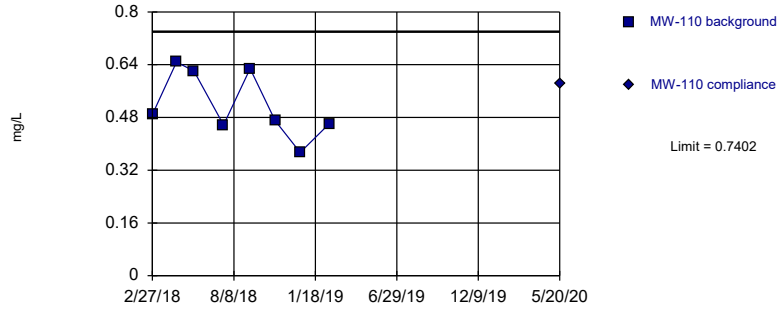
Constituent: Fluoride Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-105	MW-105	MW-107	MW-107	MW-108	MW-108	MW-109	MW-109
2/27/2018							0.461	
2/28/2018	0.654		0.494		0.394			
4/16/2018	0.837		0.79		0.668		0.6	
5/21/2018	0.791		0.779		0.605		0.58	
7/19/2018	0.637		0.604		0.425		0.47	
9/10/2018					0.48		0.601	
9/11/2018	0.808		0.416					
10/29/2018			0.667		0.53		0.557	
10/30/2018	0.744							
12/19/2018	0.595				0.327		0.445	
12/20/2018			0.532					
2/14/2019	0.69							
2/15/2019			0.652		0.482		0.517	
5/20/2020		0.707		0.533		0.509		0.525

Within Limit

Prediction Limit  
Intrawell Parametric

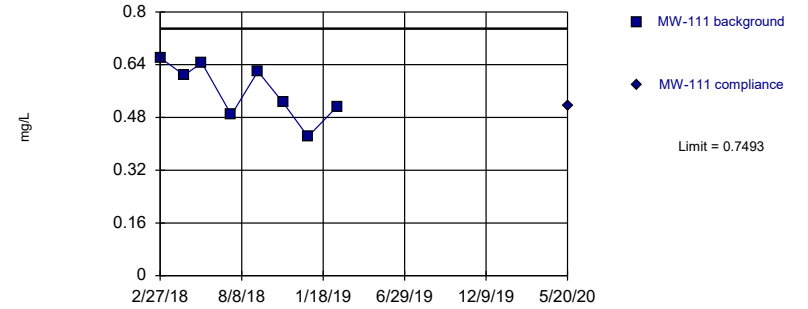


Background Data Summary: Mean=0.5185, Std. Dev.=0.1003, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8791, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limit

Prediction Limit  
Intrawell Parametric

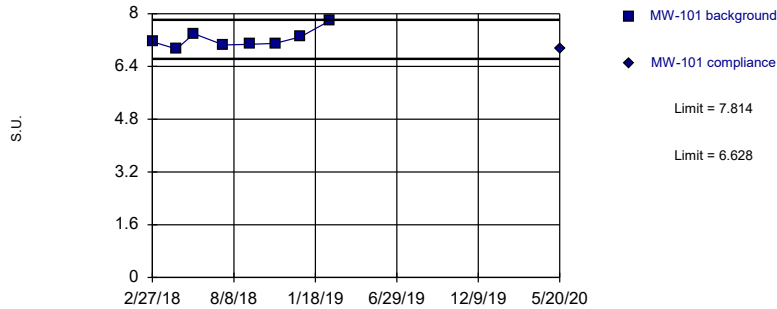


Background Data Summary: Mean=0.5604, Std. Dev.=0.08549, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9284, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Fluoride Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limits

Prediction Limit  
Intrawell Parametric

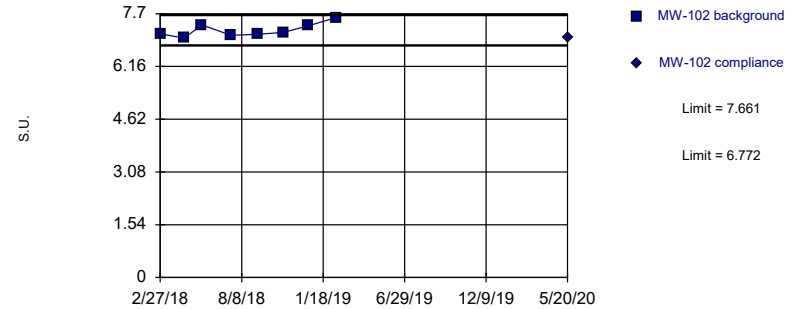


Background Data Summary: Mean=7.221, Std. Dev.=0.2682, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8777, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: pH Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

Within Limits

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=7.216, Std. Dev.=0.2011, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8971, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: pH Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

# Prediction Limit

Constituent: Fluoride, pH Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-110	MW-110	MW-111	MW-111	MW-101	MW-101	MW-102	MW-102
2/27/2018	0.489		0.661		7.15		7.11	
4/16/2018	0.648		0.608		6.93		6.99	
5/21/2018	0.621		0.646		7.39		7.37	
7/19/2018	0.457		0.488		7.05		7.07	
9/10/2018	0.628		0.62		7.07		7.1	
10/30/2018	0.47		0.525		7.1		7.15	
12/19/2018	0.374		0.422					
12/20/2018					7.3		7.35	
2/14/2019							7.59	
2/15/2019	0.461		0.513		7.78			
5/20/2020		0.583		0.517		6.93		6.99



# Prediction Limit

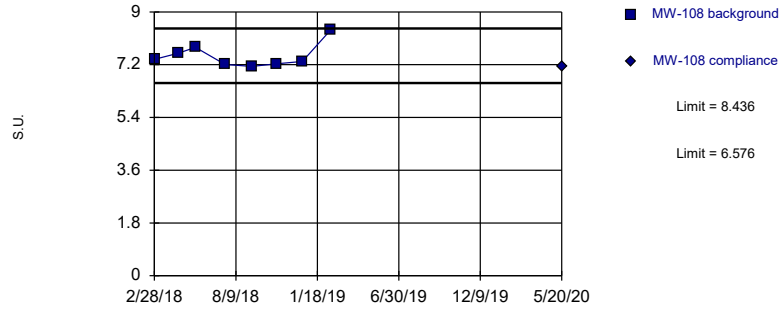
Constituent: pH Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-103	MW-103	MW-104	MW-104	MW-105	MW-105	MW-107	MW-107
2/28/2018	7.24		7.5		7.05		7.94	
4/16/2018	6.96		7.29		7.23		7.76	
5/21/2018	7.24		7.64		7.39		7.54	
7/19/2018	7.39		7.86		7.58		7.58	
9/11/2018	7.02		7.45		7.23		7.51	
10/29/2018							7.47	
10/30/2018	7.16		7.45		7.3			
12/20/2018	7.27		7.62		7.37		7.75	
2/14/2019	7.04		7.3		7.76			
2/15/2019							7.35	
5/20/2020		7.05		7.37		7.12		7.4
7/13/2020				7.38 Extra Sample		7.25 Extra Sample		
8/25/2020				7.5 Extra Sample				

Within Limits

Prediction Limit  
Intrawell Parametric

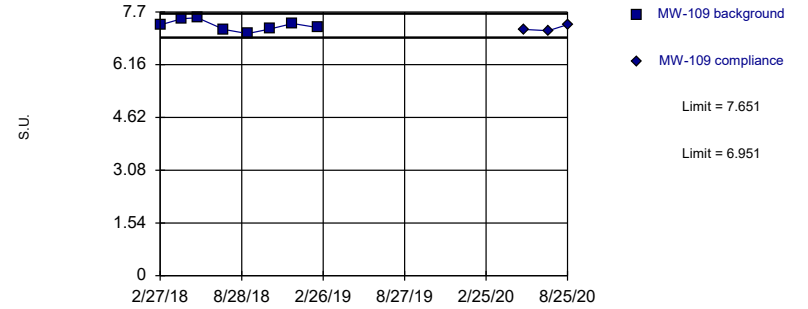


Background Data Summary: Mean=7.506, Std. Dev.=0.4207, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8278, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: pH Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limits

Prediction Limit  
Intrawell Parametric

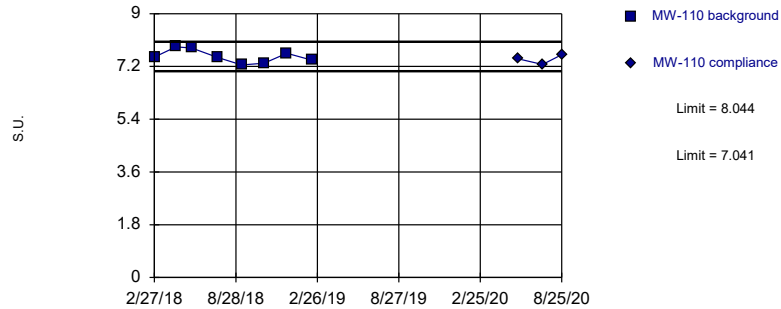


Background Data Summary: Mean=7.301, Std. Dev.=0.1583, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9525, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: pH Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limits

Prediction Limit  
Intrawell Parametric

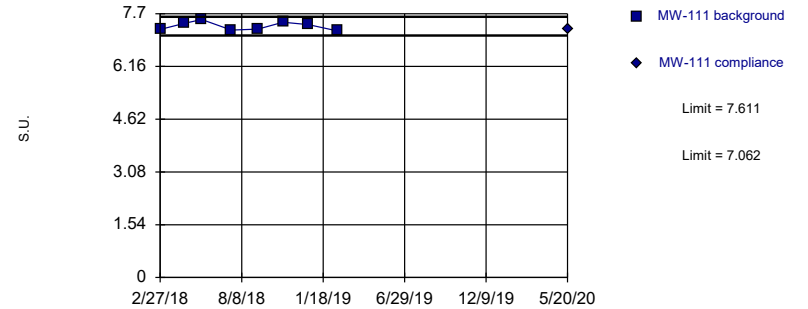


Background Data Summary: Mean=7.543, Std. Dev.=0.2271, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9407, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: pH Analysis Run 9/9/2020 11:07 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limits

Prediction Limit  
Intrawell Parametric



# Prediction Limit

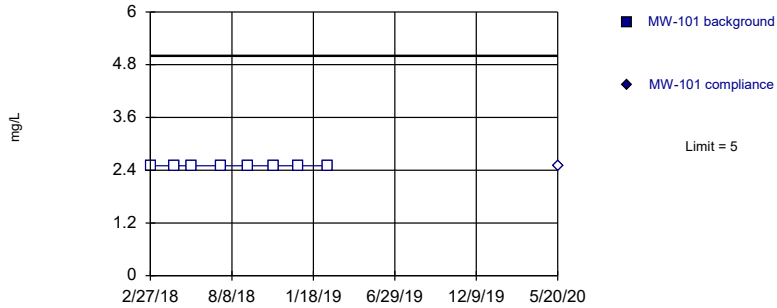
Constituent: pH Analysis Run 9/9/2020 11:12 AM View: Ash Impound III

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

	MW-108	MW-108	MW-109	MW-109	MW-110	MW-110	MW-111	MW-111
2/27/2018			7.32		7.52		7.24	
2/28/2018	7.38							
4/16/2018	7.59		7.5		7.87		7.42	
5/21/2018	7.79		7.53		7.83		7.53	
7/19/2018	7.21		7.19		7.5		7.22	
9/10/2018	7.14		7.07		7.25		7.25	
10/29/2018	7.23		7.2					
10/30/2018					7.31		7.45	
12/20/2018	7.31		7.36		7.65		7.38	
2/15/2019	8.4		7.24		7.41		7.2	
5/20/2020		7.15		7.19		7.46		7.25
7/13/2020				7.15 Extra Sample		7.27 Extra Sample		
8/25/2020				7.33 Extra Sample		7.6 Extra Sample		

Within Limit

Prediction Limit  
Intrawell Non-parametric

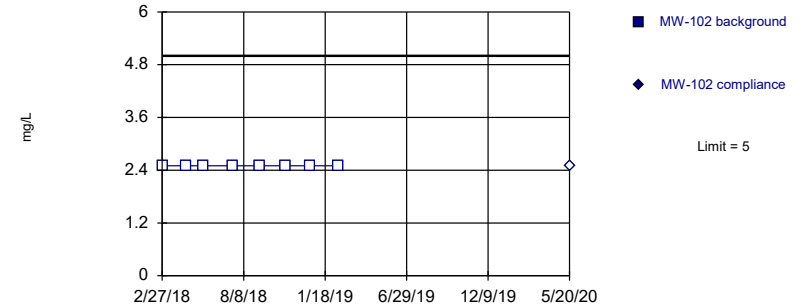


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Non-parametric

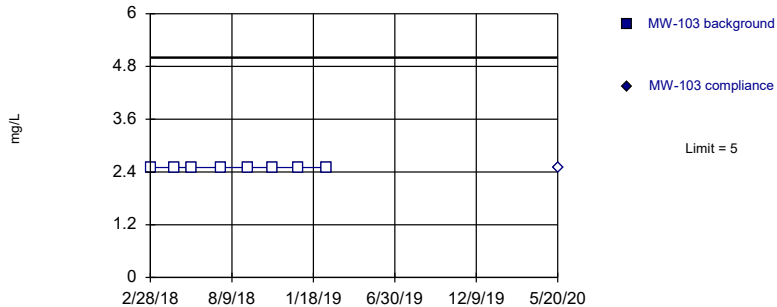


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Non-parametric

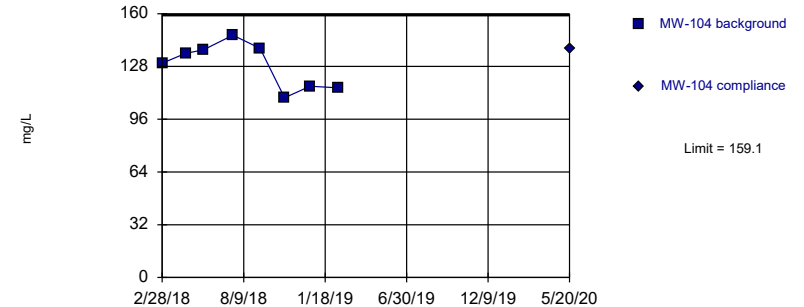


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 8) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=128.8, Std. Dev.=13.73, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9158, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

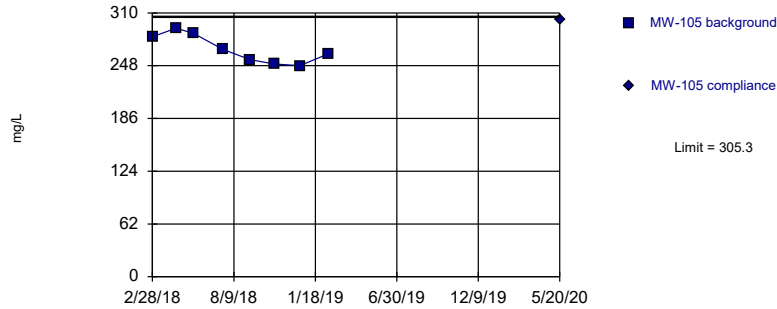


# Prediction Limit

Constituent: Sulfate Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-101	MW-101	MW-102	MW-102	MW-103	MW-103	MW-104	MW-104
2/27/2018	<5		<5					
2/28/2018					<5		130	
4/16/2018	<5		<5		<5		136	
5/21/2018	<5		<5		<5		138	
7/19/2018	<5		<5		<5		147	
9/10/2018	<5		<5					
9/11/2018					<5		139	
10/30/2018	<5		<5		<5		109	
12/20/2018	<5		<5		<5		116	
2/14/2019			<5		<5		115	
2/15/2019	<5							
5/20/2020		<5		<5		<5		139

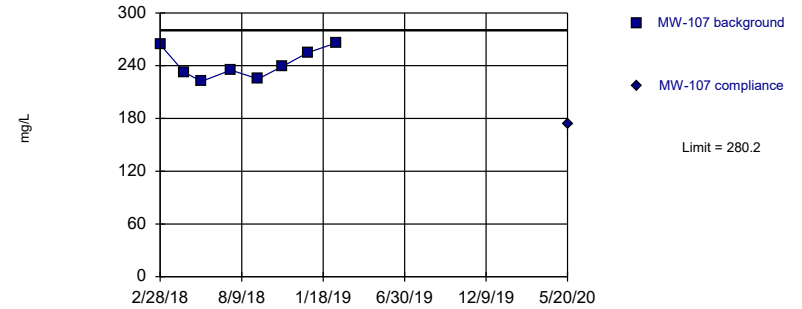
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=267.8, Std. Dev.=17.01, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9131, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

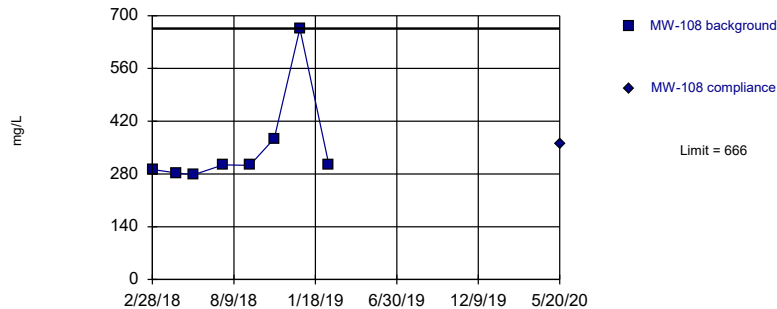
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=242.4, Std. Dev.=17.14, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9005, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

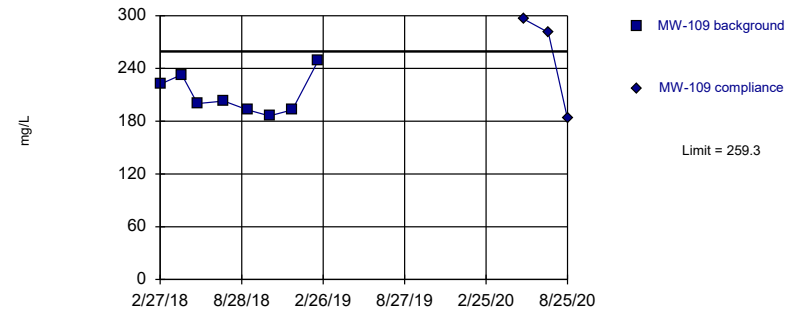
Within Limit Prediction Limit  
Intrawell Non-parametric



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 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=209.9, Std. Dev.=22.35, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.897, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

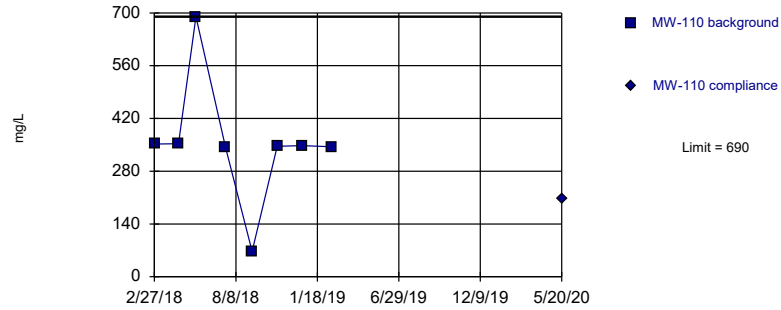
# Prediction Limit

Constituent: Sulfate Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
 Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

	MW-105	MW-105	MW-107	MW-107	MW-108	MW-108	MW-109	MW-109
2/27/2018							222	
2/28/2018	282		264		292			
4/16/2018	292		233		283		233	
5/21/2018	286		222		278		200	
7/19/2018	267		235		304		203	
9/10/2018					303		193	
9/11/2018	255		225					
10/29/2018			239		374		186	
10/30/2018	250							
12/19/2018	248				666		193	
12/20/2018			255					
2/14/2019	262							
2/15/2019			266		303		249	
5/20/2020		302		174		359		296
7/13/2020								281 1st Verification Sample
8/25/2020								183 2nd Verification Sample

Within Limit

Prediction Limit  
Intrawell Non-parametric

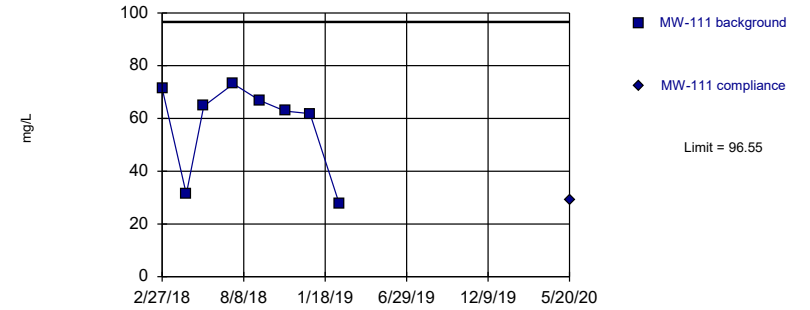


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

Within Limit

Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=57.46, Std. Dev.=17.69, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7706, critical = 0.749. Kappa = 2.21 (c=7, w=10, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007523.

Constituent: Sulfate Analysis Run 9/9/2020 11:08 AM View: Ash Impound III  
latan Utility Waste LF Client: SCS Engineers Data: latan jrr

# Prediction Limit

Constituent: Sulfate Analysis Run 9/9/2020 11:12 AM View: Ash Impound III  
Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr

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	MW-110	MW-110	MW-111	MW-111
2/27/2018	352		71.4	
4/16/2018	353		31.3	
5/21/2018	690		64.7	
7/19/2018	343		73.1	
9/10/2018	67.4		66.8	
10/30/2018	346		62.8	
12/19/2018	348		61.8	
2/15/2019	345		27.8	
5/20/2020		207		29

# Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 9/9/2020, 11:12 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-101	0.2	n/a	5/20/2020	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-102	0.2	n/a	5/20/2020	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-103	0.2	n/a	5/20/2020	0.1ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Boron (mg/L)	MW-104	1.361	n/a	5/20/2020	1.19	No	8	0	No	0.000...	Param Intra 1 of 3
Boron (mg/L)	MW-105	1.92	n/a	5/20/2020	1.66	No	8	0	n/a	0.005912	NP Intra (normality) ...
Boron (mg/L)	MW-107	2.771	n/a	5/20/2020	0.876	No	8	0	No	0.000...	Param Intra 1 of 3
Boron (mg/L)	MW-108	2.035	n/a	5/20/2020	1.6	No	8	0	No	0.000...	Param Intra 1 of 3
<b>Boron (mg/L)</b>	<b>MW-109</b>	<b>0.8503</b>	<b>n/a</b>	<b>8/25/2020</b>	<b>1.51</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>No</b>	<b>0.000...</b>	<b>Param Intra 1 of 3</b>
<b>Boron (mg/L)</b>	<b>MW-110</b>	<b>3.13</b>	<b>n/a</b>	<b>8/25/2020</b>	<b>4.13</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>No</b>	<b>0.000...</b>	<b>Param Intra 1 of 3</b>
Boron (mg/L)	MW-111	1.028	n/a	5/20/2020	0.827	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-101	137.3	n/a	5/20/2020	130	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-102	143.5	n/a	5/20/2020	125	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-103	182.1	n/a	5/20/2020	128	No	8	0	No	0.000...	Param Intra 1 of 3
<b>Calcium (mg/L)</b>	<b>MW-104</b>	<b>54.12</b>	<b>n/a</b>	<b>8/25/2020</b>	<b>61.9</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>No</b>	<b>0.000...</b>	<b>Param Intra 1 of 3</b>
Calcium (mg/L)	MW-105	104.6	n/a	5/20/2020	74.1	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-107	63.34	n/a	5/20/2020	40.3	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-108	250	n/a	5/20/2020	117	No	8	0	sqrt(x)	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-109	141.5	n/a	5/20/2020	92.2	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-110	86.38	n/a	5/20/2020	43.3	No	8	0	No	0.000...	Param Intra 1 of 3
Calcium (mg/L)	MW-111	108.2	n/a	5/20/2020	93.3	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-101	6.675	n/a	5/20/2020	5.89	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-102	5.657	n/a	5/20/2020	5.37	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-103	4.679	n/a	5/20/2020	4.64	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-104	25.02	n/a	5/20/2020	24.1	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-105	19.3	n/a	5/20/2020	16.4	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-107	25.9	n/a	5/20/2020	17	No	8	0	n/a	0.005912	NP Intra (normality) ...
Chloride (mg/L)	MW-108	28.7	n/a	5/20/2020	20.8	No	8	0	n/a	0.005912	NP Intra (normality) ...
Chloride (mg/L)	MW-109	30.45	n/a	5/20/2020	25.6	No	8	0	No	0.000...	Param Intra 1 of 3
Chloride (mg/L)	MW-110	21	n/a	8/25/2020	20	No	8	0	n/a	0.005912	NP Intra (normality) ...
Chloride (mg/L)	MW-111	13.08	n/a	5/20/2020	9.26	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-101	554.4	n/a	5/20/2020	546	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-102	539.1	n/a	5/20/2020	487	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-103	629.7	n/a	5/20/2020	482	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-104	474.5	n/a	5/20/2020	460	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-105	719.9	n/a	7/13/2020	711	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-107	710.4	n/a	5/20/2020	475	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-108	1490	n/a	5/20/2020	813	No	8	0	n/a	0.005912	NP Intra (normality) ...
Dissolved Solids (mg/l)	MW-109	784.3	n/a	5/20/2020	691	No	8	0	No	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-110	801.3	n/a	5/20/2020	684	No	8	0	x^4	0.000...	Param Intra 1 of 3
Dissolved Solids (mg/l)	MW-111	594.5	n/a	5/20/2020	564	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-101	0.4156	n/a	5/20/2020	0.35	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-102	0.362	n/a	5/20/2020	0.267	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-103	0.328	n/a	5/20/2020	0.243	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-104	0.7603	n/a	5/20/2020	0.539	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-105	0.9151	n/a	5/20/2020	0.707	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-107	0.9095	n/a	5/20/2020	0.533	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-108	0.7348	n/a	5/20/2020	0.509	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-109	0.6709	n/a	5/20/2020	0.525	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-110	0.7402	n/a	5/20/2020	0.583	No	8	0	No	0.000...	Param Intra 1 of 3
Fluoride (mg/L)	MW-111	0.7493	n/a	5/20/2020	0.517	No	8	0	No	0.000...	Param Intra 1 of 3

# Prediction Limit

Iatan Utility Waste LF Client: SCS Engineers Data: Iatan jrr Printed 9/9/2020, 11:12 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
pH (S.U.)	MW-101	7.814	6.628	5/20/2020	6.93	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-102	7.661	6.772	5/20/2020	6.99	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-103	7.49	6.84	5/20/2020	7.05	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-104	7.932	7.095	8/25/2020	7.5	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-105	7.853	6.875	7/13/2020	7.25	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-107	8.033	7.192	5/20/2020	7.4	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-108	8.436	6.576	5/20/2020	7.15	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-109	7.651	6.951	8/25/2020	7.33	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-110	8.044	7.041	8/25/2020	7.6	No	8	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-111	7.611	7.062	5/20/2020	7.25	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-101	5	n/a	5/20/2020	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Sulfate (mg/L)	MW-102	5	n/a	5/20/2020	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Sulfate (mg/L)	MW-103	5	n/a	5/20/2020	2.5ND	No	8	100	n/a	0.005912	NP Intra (NDs) 1 of 3
Sulfate (mg/L)	MW-104	159.1	n/a	5/20/2020	139	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-105	305.3	n/a	5/20/2020	302	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-107	280.2	n/a	5/20/2020	174	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-108	666	n/a	5/20/2020	359	No	8	0	n/a	0.005912	NP Intra (normality) ...
Sulfate (mg/L)	MW-109	259.3	n/a	8/25/2020	183	No	8	0	No	0.000...	Param Intra 1 of 3
Sulfate (mg/L)	MW-110	690	n/a	5/20/2020	207	No	8	0	n/a	0.005912	NP Intra (normality) ...
Sulfate (mg/L)	MW-111	96.55	n/a	5/20/2020	29	No	8	0	No	0.000...	Param Intra 1 of 3

Iatan Generating Station  
Determination of Statistically Significant Increases  
Ash Impoundment  
September 28, 2020

## **ATTACHMENT 2**

### **Sanitas™ Configuration Settings**



Exclude data flags:

Data Reading Options

- Individual Observations
- Mean of Each:  Month
- Median of Each:  Season

Automatically Process Resamples...

- Black and White Output
- Four Plots Per Page
  - Always Combine Data Pages...
  - Include Tick Marks on Data Page
  - Use Constituent Name for Graph Title
- Draw Border Around Text Reports and Data Pages
- Enlarge/Reduce Fonts (Graphs):
- Enlarge/Reduce Fonts (Data/Text Reports):
- Wide Margins (on reports without explicit setting)
- Use CAS# (Not Const. Name)
- Truncate File Names to  Characters
- Include Limit Lines when found in Database...
- Show Deselected Data on Time Series  ▾
- Show Deselected Data on all Data Pages  ▾

- Prompt to Overwrite/Append Summary Tables
- Round Limits to  Sig. Digits (when not set in data file)
- User-Set Scale
- Indicate Background Data
- Show Exact Dates
- Thick Plot Lines

Zoom Factor:  ▾

- Output Decimal Precision
- Less Precision
  - Normal Precision
  - More Precision

Store Print Jobs in Multiple Constituent Mode

Printer:  ▾

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:  
[Dropdown]
- 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.

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

Statistical Evaluations per Year:

Constituents Analyzed:

Downgradient (Compliance) Wells:

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)

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  $\alpha=$   or if  $n >$   Rosner's at  $\alpha=$    Use EPA Screening to establish Suspected Outliers
- Tukey's Outlier Screening, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- Test For Normality using Shapiro-Wilk/Francia at Alpha = 
  - Stop if Non-Normal
  - Continue with Parametric Test if Non-Normal
  - Tukey's if Non-Normal, with IQR Multiplier =   Use Ladder of Powers to achieve Best W Stat
- No Outlier If Less Than  Times Median
- Apply Rules found in Ohio Guidance Document 0715
- Combine Background Wells on the Outlier Report...

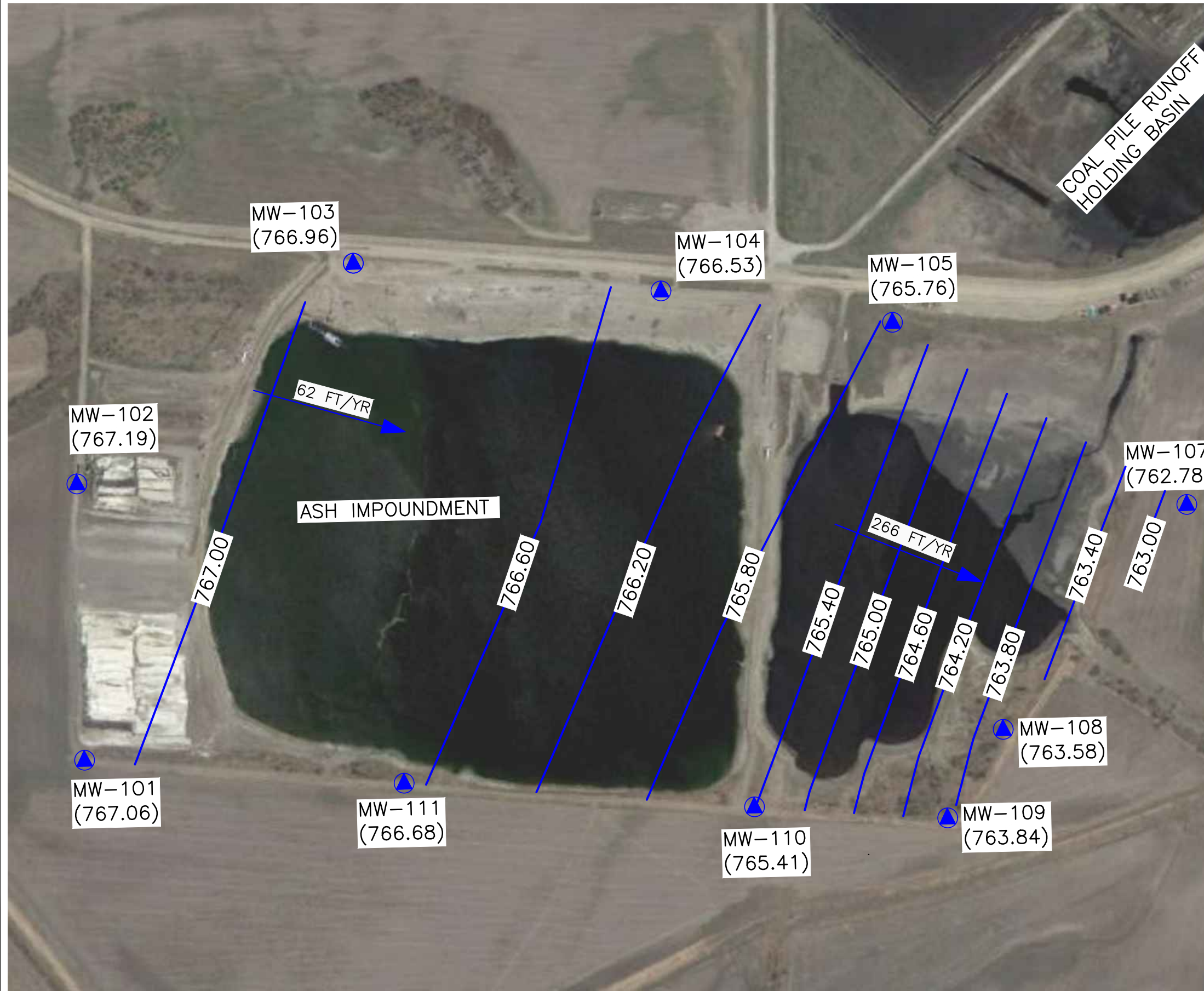
Piper, Stiff Diagram

- Combine Wells  Label Constituents
- Combine Dates  Label Axes
- Use Default Constituent Names  Note Cation-Anion Balance (Piper only)
- Use Constituent Definition File

Jared Morrison  
December 16, 2022

**ATTACHMENT 3**  
**Groundwater Potentiometric Surface Maps**

N:\KCPL\Projects\Groundwater\DWG\Iatan\2020\Groundwater\Ash Impoundment\NOVEMBER 2020\27213167.20\_Ash Impoundment.dwg Dec 14, 2022 - 2:22pm Layout Name: 6K By: swly



**LEGEND:**

- MW-109 MONITORING WELL (763.84) (GROUNDWATER ELEVATION)
- 766.40 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 62 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED FLOW RATE (FT/YR)

**NOTES:**

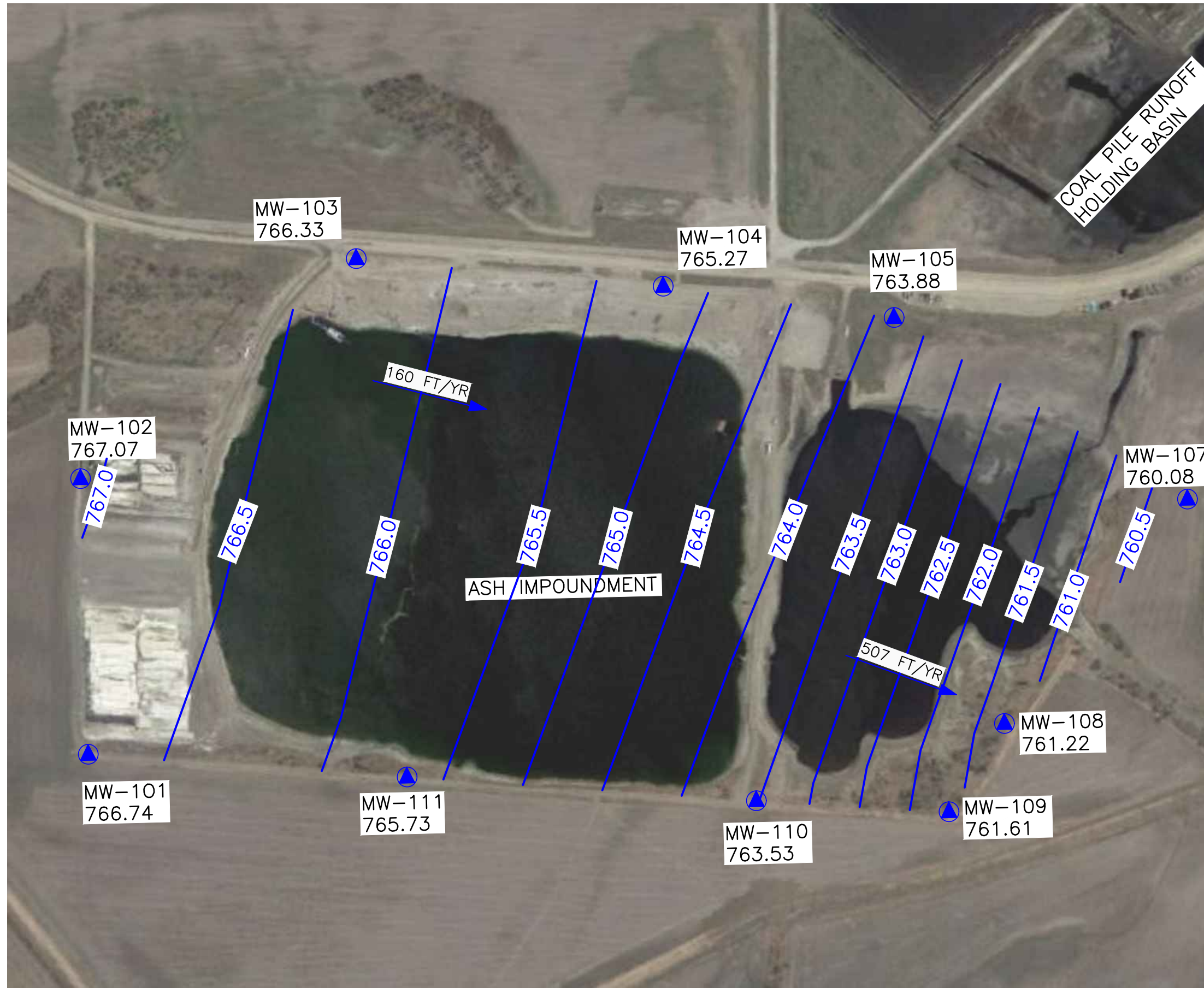
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON NOVEMBER 9, 2020.



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SHEET TITLE	POTENTIOMETRIC SURFACE MAP ASH IMPOUNDMENT (NOVEMBER 2020)
PROJECT TITLE	2020-2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM
CLIENT	EVERGY METRO, INC. IATAN GENERATING STATION WESTON, MISSOURI
SCS ENGINEERS	6575 West 110th St., Ste. 100 Overland Park, MO 66204 PH: (913) 681-0030 FAX: (913) 681-0012 PROJ. NO. 27213167.20 DSK BY: DAW    DWN BY: ALR    Q/A BY: JRR CHK BY: JRF    PHO. MGR: JRF
CADD FILE:	27213167.20_ASH IMPOUNDMENT_NOVEMBER 2020
DATE:	12/14/22
FIGURE	2



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**LEGEND:**

- MW-109 MONITORING WELL (763.84) (GROUNDWATER ELEVATION)
- 766.40 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 160 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED FLOW RATE (FT/YR)

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON FEBRUARY 2, 2021.



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SHEET TITLE	POTENTIOMETRIC SURFACE MAP ASH IMPOUNDMENT (FEBRUARY 2021)
PROJECT TITLE	2020-2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

<b>SCS ENGINEERS</b>	
6875 West 110th St., Ste. 100 Overland Park, MO 66204 PH: (913) 681-0030 FAX: (913) 681-0012	
PROJ. NO. 27217413.00	D/WN. BY: ALR
DATE: 12/14/22	CHK. BY: JRR
DATE: 12/14/22	PROJ. MGR. JRR

CADD FILE:	27213167_20_ASH IMPOUNDMENT_FEB 2.DWG
DATE:	12/14/22
FIGURE NO.	<b>3</b>



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**LEGEND:**

- ▲ MW-109 MONITORING WELL (764.67) (GROUNDWATER ELEVATION)
- 766.50 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- ← 67 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED FLOW RATE (FT/YR)

**NOTES:**

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED APRIL 27, 2018.
4. GROUNDWATER ELEVATIONS MEASURED ON MAY 20, 2021.



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SHEET TITLE	POTENTIOMETRIC SURFACE MAP ASH IMPOUNDMENT (MAY 2021)
PROJECT TITLE	2020-2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT	EVERGY METRO, INC. IATAN GENERATING STATION WESTON, MISSOURI
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<b>SCS ENGINEERS</b>	
875 West 110th St., Ste. 100 Weston, MO 64094 PH: (816) 681-0030 FAX: (816) 681-0012	
PROJ. NO. 27213167.21	DATE BY: DAW
DRAWN BY: MRB	CHK. BY: JRF
QA/RV BY: JRR	PROJ. MGR: JRF

CADD FILE:	27213167_20_ASH IMPOUNDMENT_MAY 21 - FIGURE 4 ANNUAL REPORT.dwg
DATE:	7/9/2021
FIGURE	<b>4</b>