

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CCR LANDFILL AND LOWER AQC IMPOUNDMENT LA CYGNE GENERATING STATION LA CYGNE, KANSAS

Presented To:
Eversource Energy, Inc.

SCS ENGINEERS

27217233.20 | January 2021
Revision 1, April 2021
Revision 2, December 16, 2022

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Overland Park, Kansas 66210
913-681-0030

CERTIFICATIONS

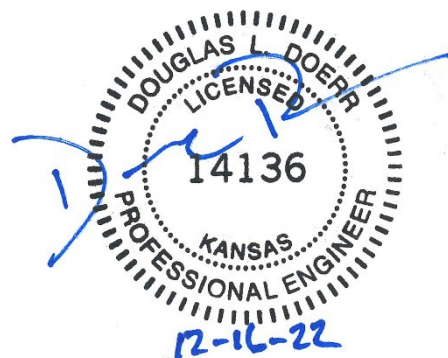
I, John R. Rockhold, being a qualified groundwater scientist and Professional Geologist in the State of Kansas, do hereby certify that the 2020 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



John R. Rockhold, P.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Kansas, do hereby certify that the 2020 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



Douglas L. Doerr, P.E.

SCS Engineers

2020 Groundwater Monitoring and Corrective Action Report

Revision Number	Revision Date	Revision Sections	Summary of Revisions
1	April 7, 2021	Table of Contents Appendix A	Addition of Potentiometric Surface Maps to Appendix A
2	December 16, 2022	Addendum 1	Added Addendum 1

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1 INTRODUCTION

This 2020 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the “Coal Combustion Residuals (CCR) Final Rule” (Rule) published by the United States Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent revisions. Specifically, this report was prepared for Evergy Metro, Inc. (Evergy) to fulfill the requirements of 40 CFR 257.90 (e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2020 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station.

1.1 § 257.90(e)(6) SUMMARY

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

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

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

At the start of the current annual reporting period, (January 1, 2020), the CCR Landfill and Lower AQC Impoundment were operating under a detection monitoring program in compliance with § 257.94.

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

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

At the end of the current annual reporting period, (December 31, 2020), the CCR Landfill and Lower AQC Impoundment were operating under a detection monitoring program in compliance with § 257.94.

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

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

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

Monitoring Event	Monitoring Well	Constituent	ASD
Spring 2020	MW-14R	Chloride	Successful
Spring 2020	MW-14R	Fluoride	Successful

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

Not applicable because an assessment monitoring program was not initiated.

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

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

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

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

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

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

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

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

Not applicable because corrective measures are not required.

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

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

Not applicable because corrective measures are not required.

2 § 257.90(E) ANNUAL REPORT REQUIREMENTS

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

2.1 § 257.90(E)(1) SITE MAP

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

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

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

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

No new monitoring wells were installed and no wells were decommissioned as part of the CCR groundwater monitoring program for the CCR Landfill and Lower AQC Impoundment in 2020.

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

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

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

data; and, the initial Fall 2020 semiannual detection monitoring data. The dates of sample collection and the monitoring program requiring the sample are also provided in these tables.

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

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

There was no transition between monitoring programs in 2020. Only detection monitoring was conducted in 2020.

2.5 § 257.90(e)(5) OTHER REQUIREMENTS

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

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

2.5.1 § 257.90(e) Program Status

Status of Groundwater Monitoring and Corrective Action Program.

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

Summary of Key Actions Completed.

- a. completion of the statistical evaluation of the Fall 2019 semiannual detection monitoring sampling and analysis event per the certified statistical method,
- b. completion of the 2019 Annual Groundwater Monitoring and Corrective Action Report,
- c. completion of the Spring 2020 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method, and supplemental Appendix IV sample analysis,
- d. completion of the statistical evaluation of the Spring 2020 semiannual detection monitoring sampling and analysis event per the certified statistical method,
- e. completion of a successful alternative source demonstration for the Spring 2020 semiannual detection monitoring sampling and analysis event, and
- f. initiation of the Fall 2020 semiannual detection monitoring sampling and analysis event.

Description of Any Problems Encountered.

No noteworthy problems were encountered.

Discussion of Actions to Resolve the Problems.

Not applicable because no noteworthy problems were encountered.

Projection of Key Activities for the Upcoming Year (2021).

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2020 detection monitoring sampling and analysis event. Semiannual Spring and Fall 2020 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2020 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s).

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

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

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

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

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

The following demonstration report is included as **Appendix C:**

- C.1 Groundwater Monitoring Alternative Source Demonstration Report May 2020 Groundwater Monitoring Event, CCR Landfill and Lower AQC Impoundment, La Cygne Generating Station (December 2020).

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

Not applicable because there was no assessment monitoring conducted.

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

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

Not applicable because there was no assessment monitoring conducted.

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

Within 90 days of finding that any constituent listed in appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

Not applicable because there was no assessment monitoring conducted.

2.6 § 257.90(e)(6) OVERVIEW SUMMARY

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

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

3 GENERAL COMMENTS

This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the La Cygne 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 La Cygne Generating Station CCR Landfill and Lower AQC Impoundment. No warranties, express or implied, are intended or made.

APPENDIX A

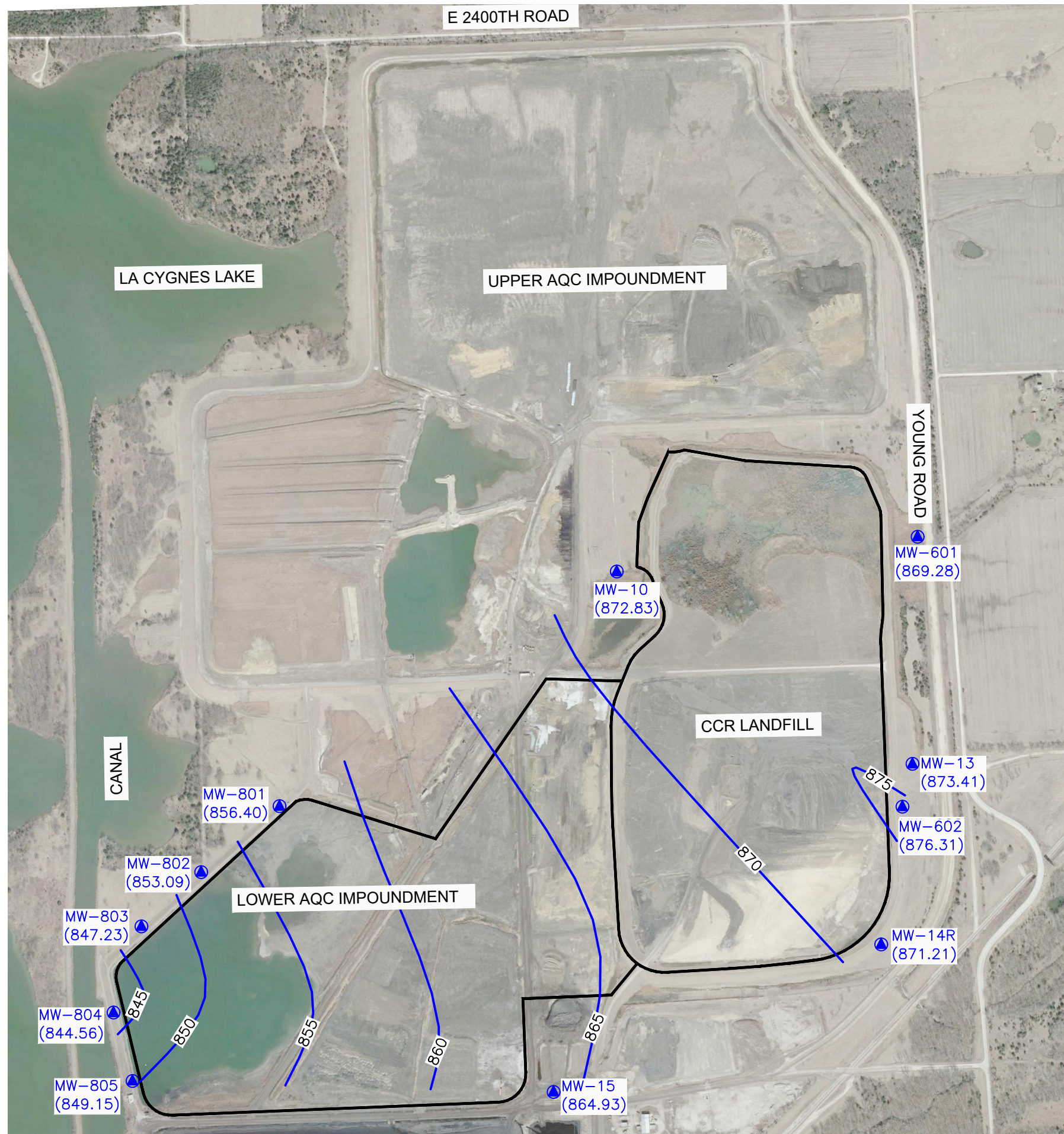
FIGURES

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (May 2020)

Figure 3: Potentiometric Surface Map (November 2020)

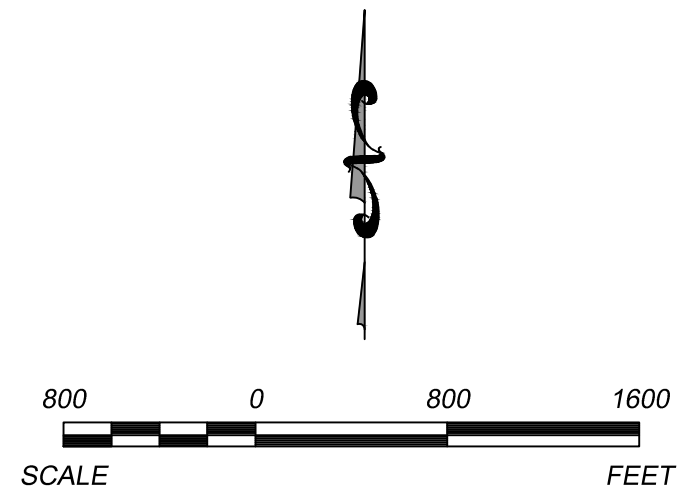
N:\KCP\Projects\Groundwater\DWG\La Cygne\CCR Annual Report\2020\La Cygne LF LAQC Imp & UAQC Fig May 2020 combined V2.dwg Apr 06, 2021 - 11:46am Layout Name: Fig 1 Lower By: 4415alr



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION

- NOTES:**
1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
 2. GOOGLE EARTH IMAGE DATED MARCH 2020. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.



	REV. DATE	CHK. BY			
	▲	▲	-	-	-
SHEET TITLE	POTENTIOMETRIC SURFACE MAP (MAY 2020) LAQC				
PROJECT TITLE	LOWER AQC IMPOUNDMENT - LANDFILL 2020 GROUNDWATER				
CLIENT	EVERGY METRO, INC LA CYGNE GENERATING STATION LA CYGNE, KANSAS				
SCS ENGINEERS	DWN. BY: MEBU	CHK. BY: JF	D/A RW BY: JRR	PROJ. MGR: JRR	
8275 W. 110th St. Ste. 100 Overland Park, Kansas 66210 PH: (913) 681-0630 FAX: (913) 681-0012	PROJ. NO.: 27217233.20	DSC. BY: DAW			
CADD FILE: LA CYGNE LF LAQC Imp & UAQC FIG MAY 2020 COMBINED V2.DWG					
DATE:	4/6/21				
FIGURE NO.	2				

N:\KCP\Projects\Groundwater\DWG\La Cygne\2020\NOVEMBER 2020\La Cygne LF LAQC Imp & UAQC Fig 1_ NOVEMBER 2020 - COMBINED.dwg Apr 06, 2021 - 12:16pm Layout Name: Fig 1 Lower By: 4415air



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SHEET TITLE	POTENTIOMETRIC SURFACE MAP (NOVEMBER 2020)	REV.	DATE	CHK.	BY
	LAQC	△	-	-	-
PROJECT TITLE	LOWER AQC IMPOUNDMENT - LANDFILL	△	-	-	-
	2020 GROUNDWATER	△	-	-	-
CLIENT	EVERGY METRO, INC	△	-	-	-
	LA CYGNE GENERATING STATION LA CYGNE, KANSAS	△	-	-	-
SCS ENGINEERS	8875 W. 110th St., Ste. 100 Overland Park, Kansas 66210 PH: (913) 681-0630 FAX: (913) 681-0012	△	-	-	-
	PROJ. NO. 27217233.20 DWN. BY: MBEJ CHK. BY: JF DSCR. BY: DAW	△	-	-	-
CADD FILE:	LA CYGNE LF LAQC Imp & UAQC Fig 1_ NOVEMBER 2020 - COMBINED.dwg	△	-	-	-
DATE:	1/5/21	△	-	-	-
FIGURE NO.	3	△	-	-	-

APPENDIX B

TABLES

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

Table 2: Detection Monitoring Field Measurements

Table 1
CCR Landfill and Lower AQC Impoundment
Appendix III with Supplemental Appendix IV Detection Monitoring Results
Evergy LaCygne 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-10	5/19/2020	0.791	52.1	51.8	0.422	7.34	14.4	584	<0.00400	0.0115	0.320	<0.00200	<0.00100	<0.0100	<0.0100	0.422	<0.00500	0.0306	<0.000200	<0.00500	<0.00200	<0.00200	0.425
MW-10	11/12/2020	0.845	52.5	51.5	0.375	7.34	9.92	571	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	5/19/2020	0.324	382	19.5	0.169	6.81	1700	2710	<0.00400	<0.00200	0.0166	<0.00200	<0.00100	<0.0100	<0.0100	0.169	<0.00500	0.0500	<0.000200	<0.00500	<0.00200	<0.00200	2.25
MW-13	7/13/2020	---	---	*18.8	---	**6.88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	11/12/2020	0.456	331	17.1	0.165	6.62	1500	2420	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14R	5/19/2020	0.688	53.9	6.21	0.329	7.35	60.5	579	<0.00400	<0.00200	0.0423	<0.00200	<0.00100	<0.0100	<0.0100	0.329	<0.00500	0.0385	<0.000200	<0.00500	<0.00200	<0.00200	0.945
MW-14R	7/13/2020	---	---	*6.38	*0.336	**7.54	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14R	8/27/2020	---	---	*6.25	*0.312	**7.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14R	11/12/2020	0.805	52.7	6.69	0.316	7.01	61.6	555	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	5/19/2020	0.209	99.3	10.8	0.284	7.25	182	734	<0.00400	<0.00200	0.0425	<0.00200	<0.00100	<0.0100	<0.0100	0.284	<0.00500	0.0210	<0.000200	<0.00500	<0.00200	<0.00200	1.74
MW-15	11/12/2020	0.235	102	10.8	0.248	6.95	191	713	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-601	5/19/2020	1.80	17.1	161	1.72	7.63	6.07	986	<0.00400	<0.00200	0.136	<0.00200	0.00146	<0.0100	<0.0100	1.72	<0.00500	0.0598	<0.000200	<0.00500	<0.00200	<0.00200	0.329
MW-601	11/12/2020	1.82	17.7	172	1.67	7.29	8.78	960	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-602	5/19/2020	2.28	23.8	17.1	1.24	7.60	25.7	611	<0.00400	<0.00200	0.105	<0.00200	<0.00100	<0.0100	<0.0100	1.24	<0.00500	0.0523	<0.000200	<0.00500	<0.00200	<0.00200	0
MW-602	11/12/2020	2.29	23.4	17.7	1.25	7.13	28.1	593	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-801	5/19/2020	2.14	26.2	91.4	1.09	7.52	<5.00	860	<0.00400	<0.00200	0.509	<0.00200	<0.00100	<0.0100	<0.0100	1.09	0.00779	0.0842	<0.000200	0.00974	<0.00200	<0.00200	0.632
MW-801	11/12/2020	2.20	26.4	95.2	1.05	7.65	3.25	832	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-802	5/19/2020	2.41	27.8	36.2	1.07	7.44	<5.00	685	<0.00400	<0.00200	0.939	<0.00200	<0.00100	<0.0100	<0.0100	1.07	<0.00500	0.0850	<0.000200	<0.00500	<0.00200	<0.00200	0.881
MW-802	11/12/2020	2.45	27.1	34.5	1.02	7.96	<5.00	646	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-803	5/19/2020	2.03	38.7	49.8	0.647	7.41	25.2	603	<0.00400	<0.00200	0.231	<0.00200	<0.00100	<0.0100	<0.0100	0.647	<0.00500	0.0672	<0.000200	0.00500	<0.00200	<0.00200	0.758
MW-803	11/12/2020	2.08	38.4	49.6	0.568	7.95	25.2	593	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-804	5/19/2020	1.56	66.7	29.1	0.489	7.28	25.2	553	<0.00400	<0.00200	0.147	<0.00200	<0.00100	<0.0100	<0.0100	0.489	<0.00500	0.0342	<0.000200	<0.00500	<0.00200	<0.00200	0.304
MW-804	11/12/2020	1.58	66.2	26.7	0.401	7.38	24.4	528	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-805	5/19/2020	0.503	450	472	0.176	6.52	713	2220	<0.00400	<0.00200	0.0350	<0.00200	<0.00100	<0.0100	<0.0100	0.176	<0.00500	0.0240	<0.000200	<0.00500	<0.00200	<0.00200	1.24
MW-805	11/12/2020	0.495	464	454	0.129	6.42	736	2210	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.

**Extra Sample for Quality Control Validation or per Standard Sampling Procedure

mg/L - milligrams per liter

pCi/L - picocuries per liter

S.U. - Standard Units

--- Not Sampled

**Table 2
CCR Landfill and Lower AQC Impoundment
Detection Monitoring Field Measurements
Evergy La Cygne 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-10	5/19/2020	7.34	983	15.81	3.10	-113	0.00	2.12	872.83
MW-10	11/12/2020	7.34	993	15.40	0.00	-61	0.61	3.82	871.13
MW-13	5/19/2020	6.81	2790	15.32	0.00	101	0.00	3.81	873.41
MW-13	7/13/2020	**6.88	2850	17.81	0.00	25	2.04	5.90	871.32
MW-13	11/12/2020	6.62	2830	15.73	0.00	142	3.06	6.98	870.24
MW-14R	5/19/2020	7.35	930	15.64	2.70	-64	0.00	7.62	871.21
MW-14R	7/13/2020	**7.54	983	18.58	0.00	-126	0.54	8.46	870.37
MW-14R	8/27/2020	**7.07	973	20.18	0.00	-135	2.88	8.76	870.07
MW-14R	11/12/2020	7.01	1020	15.86	0.00	-113	5.40	10.44	868.39
MW-15	5/19/2020	7.25	1120	17.16	0.50	109	0.00	8.95	864.93
MW-15	11/12/2020	6.95	1230	17.15	0.00	23	3.96	9.35	864.53
MW-601	5/19/2020	7.63	1650	14.57	10.50	30	0.00	9.90	869.28
MW-601	11/12/2020	7.29	1750	15.22	7.30	5	3.07	11.79	867.39
MW-602	5/19/2020	7.60	972	16.75	12.10	13	0.00	3.58	876.31
MW-602	11/12/2020	7.13	1050	15.78	0.00	56	8.81	4.85	875.04
MW-801	5/19/2020	7.52	1400	18.01	6.50	-82	0.00	1.25	856.40
MW-801	11/12/2020	7.65	1330	14.74	0.00	113	0.00	1.59	856.06
MW-802	5/19/2020	7.44	1130	18.53	0.00	-106	7.81	0.38	853.09
MW-802	11/12/2020	7.96	1070	14.57	0.00	137	0.00	0.00	853.47
MW-803	5/19/2020	7.41	1090	17.33	0.00	-12	0.00	7.77	847.23
MW-803	11/12/2020	7.95	962	14.99	0.00	142	0.00	9.64	845.36
MW-804	5/19/2020	7.28	981	19.11	0.00	12	0.90	10.64	844.56
MW-804	11/12/2020	7.38	874	17.98	0.00	139	0.00	8.05	847.15
MW-805	5/19/2020	6.52	3160	17.49	9.70	440	0.00	5.48	849.15
MW-805	11/12/2020	6.42	2770	16.80	16.80	146	0.00	5.51	849.12

* Verification Sample obtained per certified statistical method and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009.

**Extra Sample for Quality Control Validation or per Standard Sampling Procedure

***Depth to water measured in all monitoring wells within 24 hour period prior to the sampling event

S.U. - Standard Units

µS - microsiemens

°C - Degrees Celsius

ft btoc - Feet Below Top of Casing

ft NGVD - National Geodetic Vertical Datum (NAVD 88)

NTU - Nephelometric Turbidity Unit

Appendix C

Alternative Source Demonstration

Groundwater Monitoring Alternative Source Demonstration
Report May 2020 Groundwater Monitoring Event, CCR Landfill
and Lower AQC Impoundment, La Cygne Generating Station
(December 2020)

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

**CCR LANDFILL AND LOWER AQC IMPOUNDMENT
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS**

Presented To:

Evergy Metro, Inc.

Presented By:

SCS ENGINEERS

8575 West 110th Street, Suite 100

Overland Park, Kansas 66210

(913) 681-0030

December 2020

File No. 27217233.20

CERTIFICATIONS

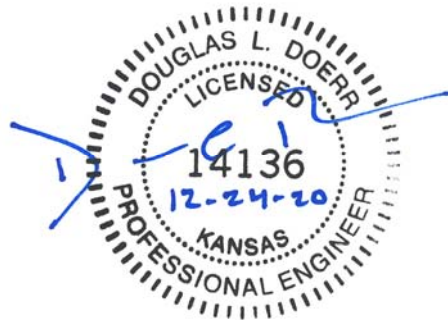
I, John R. Rockhold, being a qualified groundwater scientist and licensed Professional Geologist in the State of Kansas, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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, P.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Kansas, do hereby certify the accuracy of the information in the CCR Groundwater Monitoring Alternative Source Demonstration Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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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2 Statistical Results.....	1
3 Alternative Source Demonstration.....	2
3.1 Upgradient Well Location.....	2
3.2 Box and Whiskers Plots	2
3.3 Time Series Plots	3
4 Conclusion.....	3
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Appendices

- Appendix A Figure 1**
- Appendix B Box and Whiskers Plots**
- Appendix C Time Series Plots**

1 REGULATORY FRAMEWORK

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

2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on May 19, 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 27, 2020.

The completed statistical evaluation identified two Appendix III constituents above the prediction limits established for monitoring well MW-14R.

Constituent/Monitoring Well	*UPL	Observation May 19, 2020	1st Verification July 13, 2020	2nd Verification August 27, 2020
Chloride				
MW-14R	6.113	6.21	6.38	6.25
Fluoride				
MW-14R	0.3031	0.329	0.336	0.312

*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 two SSIs above the background prediction limit for chloride and fluoride in monitoring well MW-14R.

3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration 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 CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station, there are multiple lines of supporting evidence to indicate they are not caused by a release from the CCR Landfill and Lower AQC Impoundment. Select multiple lines of supporting evidence are described as follows.

3.1 UPGRADIENT WELL LOCATION

Figure 1 in Appendix A shows a potentiometric surface contour map indicating the direction of groundwater flow at and near the CCR Landfill and Lower AQC Impoundment at the time of sampling. The groundwater flow directions indicated are for the May 2020 groundwater monitoring event and are typical flow directions for this unit. As seen in the map, monitoring well MW-14R is located upgradient or cross-gradient from the CCR Landfill and Lower AQC Impoundment indicating the SSI for chloride and fluoride in MW-14R are not caused by a release from the CCR Landfill and Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSIs above background levels for chloride and fluoride, or that the respective SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

3.2 BOX AND WHISKERS PLOTS

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

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

Box and whiskers plots were prepared for chloride and fluoride for upgradient wells MW-601, MW-602, MW-10, and MW-13 and up/cross-gradient well MW-14R. The chloride concentrations in the upgradient wells are greater than the chloride concentration in monitoring well MW-14R. The fluoride concentrations in the upgradient wells are greater than the concentration in well MW-14R. The comparison indicates the chloride and fluoride concentrations in MW-14R are not caused by the CCR Landfill or the Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSI above background levels for chloride and fluoride, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Box and whiskers plots are provided in **Appendix B**.

3.3 TIME SERIES PLOTS

Time series plots provide a graphical method to view changes in data at a particular well (monitoring point) or wells over time. Time series plots display the variability in concentration levels over time and can be used to indicate possible outliers or data errors. 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 chloride and fluoride were prepared for the CCR monitoring system upgradient wells MW-601, MW-602, MW-10, and MW-13 and up/cross-gradient well MW-14R. The chloride concentrations in the upgradient wells are greater than the chloride concentration in monitoring well MW-14R. The fluoride concentrations in all but one of the upgradient wells are greater than the concentration in well MW-14R. The comparison indicates the chloride and fluoride concentrations in MW-14R are not caused by the CCR Landfill or the Lower AQC Impoundment. This demonstrates that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSI above background levels for chloride and fluoride, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Time series plots are provided in **Appendix C**.

4 CONCLUSION

Our opinion is that a sufficient body of evidence is available and presented above to demonstrate that a source other than the CCR Landfill and Lower AQC Impoundment caused the SSIs for chloride and fluoride, or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Based on the successful ASD, the owner or operator of the CCR Landfill and Lower AQC Impoundment may continue with the detection monitoring program under § 257.94.

5 GENERAL COMMENTS

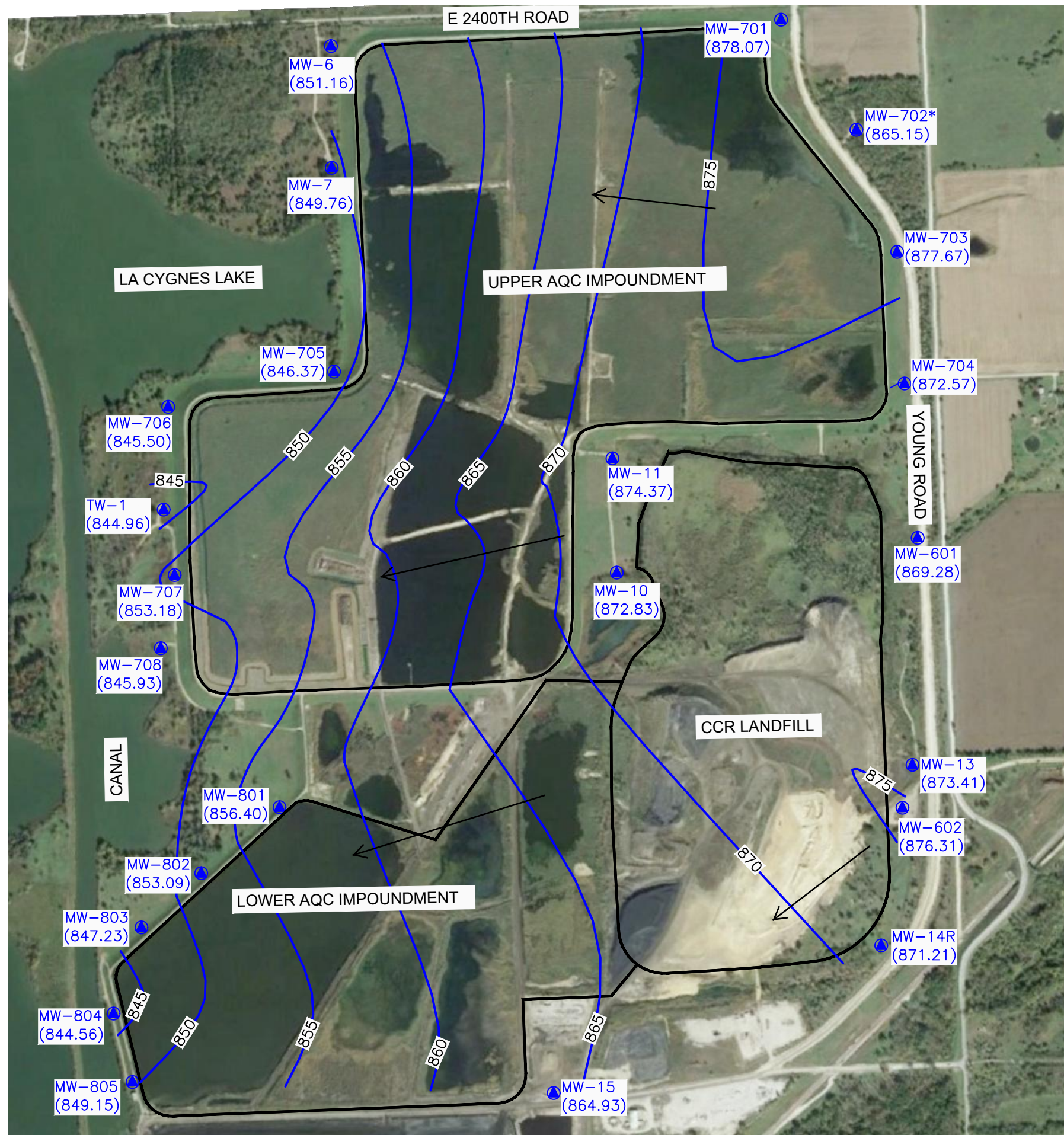
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report.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

The signatures of the certifying registered geologist and professional engineer on this document represent 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 signature. 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

Figure 1

N:\KCP\Projects\Groundwater\DWG\La Cygne\2020\La Cygne LF LAQC Imp & UAQC Fig 1_MAY 2020 - COMBINED.dwg Jul 16, 2020 - 11:35am Layout Name: Fig 1 Combined By: 4503m]



LEGEND

- CCR UNIT BOUNDARY
- MW-703 (877.00) CCR GROUNDWATER MONITORING WELLS
- 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- ← GROUNDWATER FLOW DIRECTION

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.

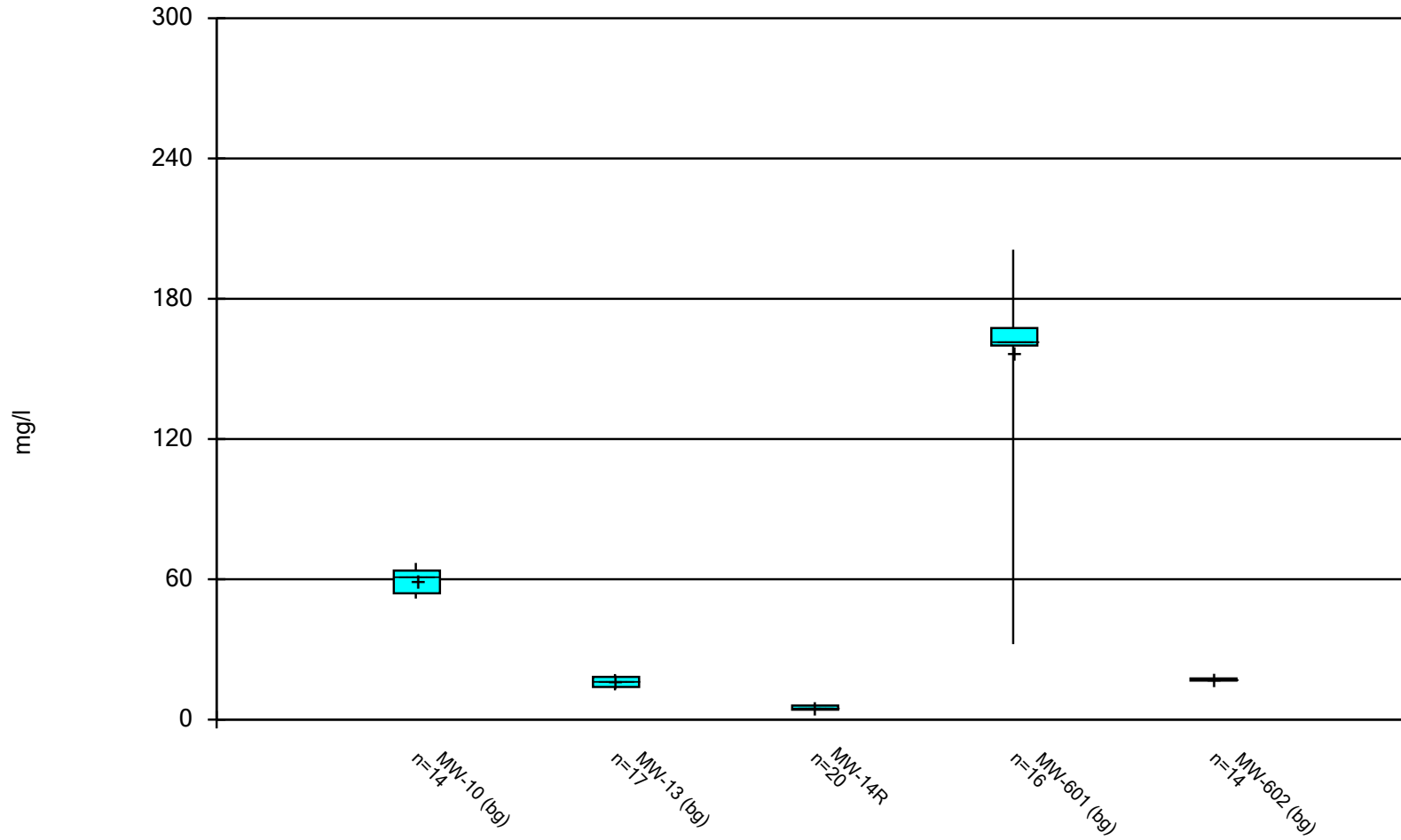


SHEET TITLE	POTENTIOMETRIC SURFACE MAP (MAY 2020)	REV.	DATE	BY	CHK.
	PROJECT TITLE	▲	▲	▲	▲
CLIENT	EVERGY METRO, INC LA CYGNE GENERATING STATION LA CYGNE, KANSAS				
SCS ENGINEERS	8275 W. 110th St. Ste. 100 Overland Park, Kansas 66210 PH: (913) 681-0630 FAX: (913) 681-0012	DWN. BY:	MBU	D/A R/W BY:	JRR
		CHK. BY:	JF	PROD. MAP BY:	JRR
CADD FILE:	LA CYGNE LF LAQC Imp & UAQC FIG 1_MAY 2020 - COMBINED.dwg	PROJ. NO.:	27217233.20	DISK BY:	DAW
DATE:	7/16/2020	FIGURE NO.:	1		

Appendix B

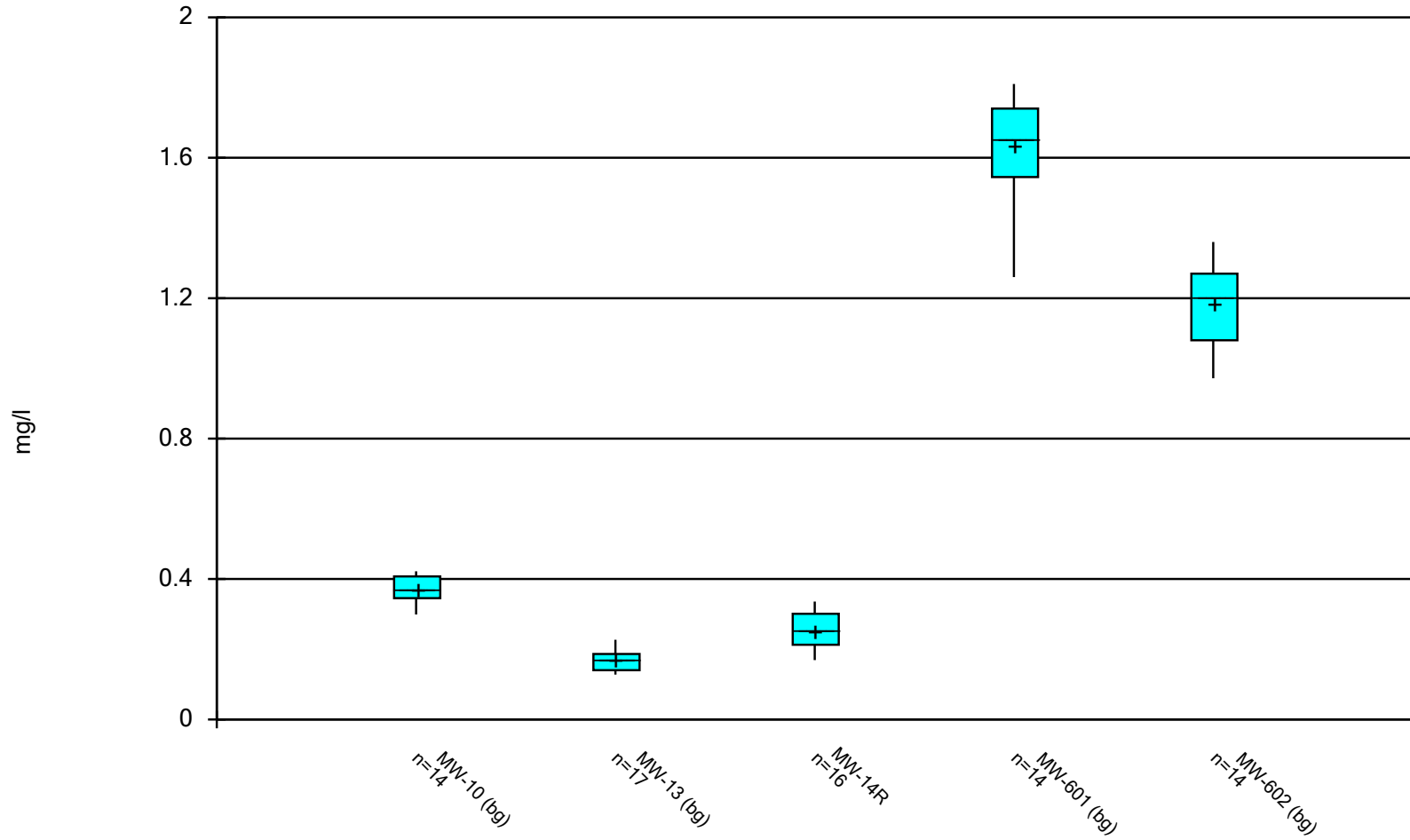
Box and Whiskers Plots

Box & Whiskers Plot



Constituent: CHLORIDE Analysis Run 10/7/2020 2:45 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot



Constituent: FLUORIDE Analysis Run 10/7/2020 2:45 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Box & Whiskers Plot

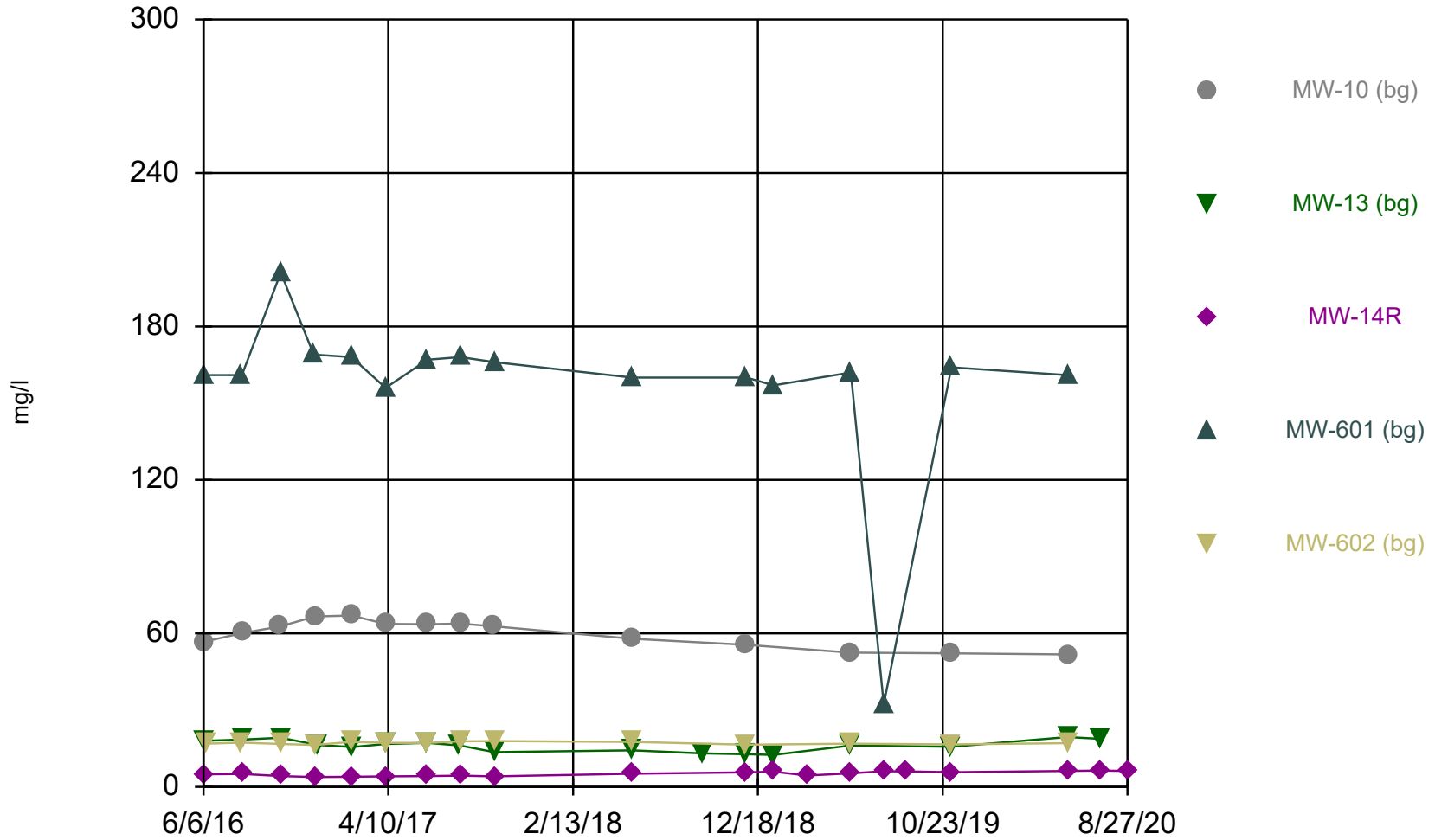
LaCygne Client: SCS Engineers Data: LaC GW Data Printed 10/7/2020, 2:47 PM

<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>
CHLORIDE (mg/l)	MW-10 (bg)	14	59.79	5.321	1.422	61.45	51.8	67	0
CHLORIDE (mg/l)	MW-13 (bg)	17	16.14	2.269	0.5503	16.2	12.5	19.5	0
CHLORIDE (mg/l)	MW-14R	20	5.117	0.8895	0.1989	5.11	3.86	6.38	0
CHLORIDE (mg/l)	MW-601 (bg)	16	157.1	34.83	8.707	161.5	32.3	201	0
CHLORIDE (mg/l)	MW-602 (bg)	14	17.13	0.4762	0.1273	17.15	16.4	17.9	0
FLUORIDE (mg/l)	MW-10 (bg)	14	0.3689	0.03865	0.01033	0.3705	0.299	0.422	0
FLUORIDE (mg/l)	MW-13 (bg)	17	0.1701	0.02698	0.006543	0.171	0.128	0.227	0
FLUORIDE (mg/l)	MW-14R	16	0.2548	0.05271	0.01318	0.252	0.169	0.336	0
FLUORIDE (mg/l)	MW-601 (bg)	14	1.633	0.1455	0.03889	1.655	1.26	1.81	0
FLUORIDE (mg/l)	MW-602 (bg)	14	1.187	0.1071	0.02861	1.205	0.972	1.36	0

Appendix C

Time Series Plots

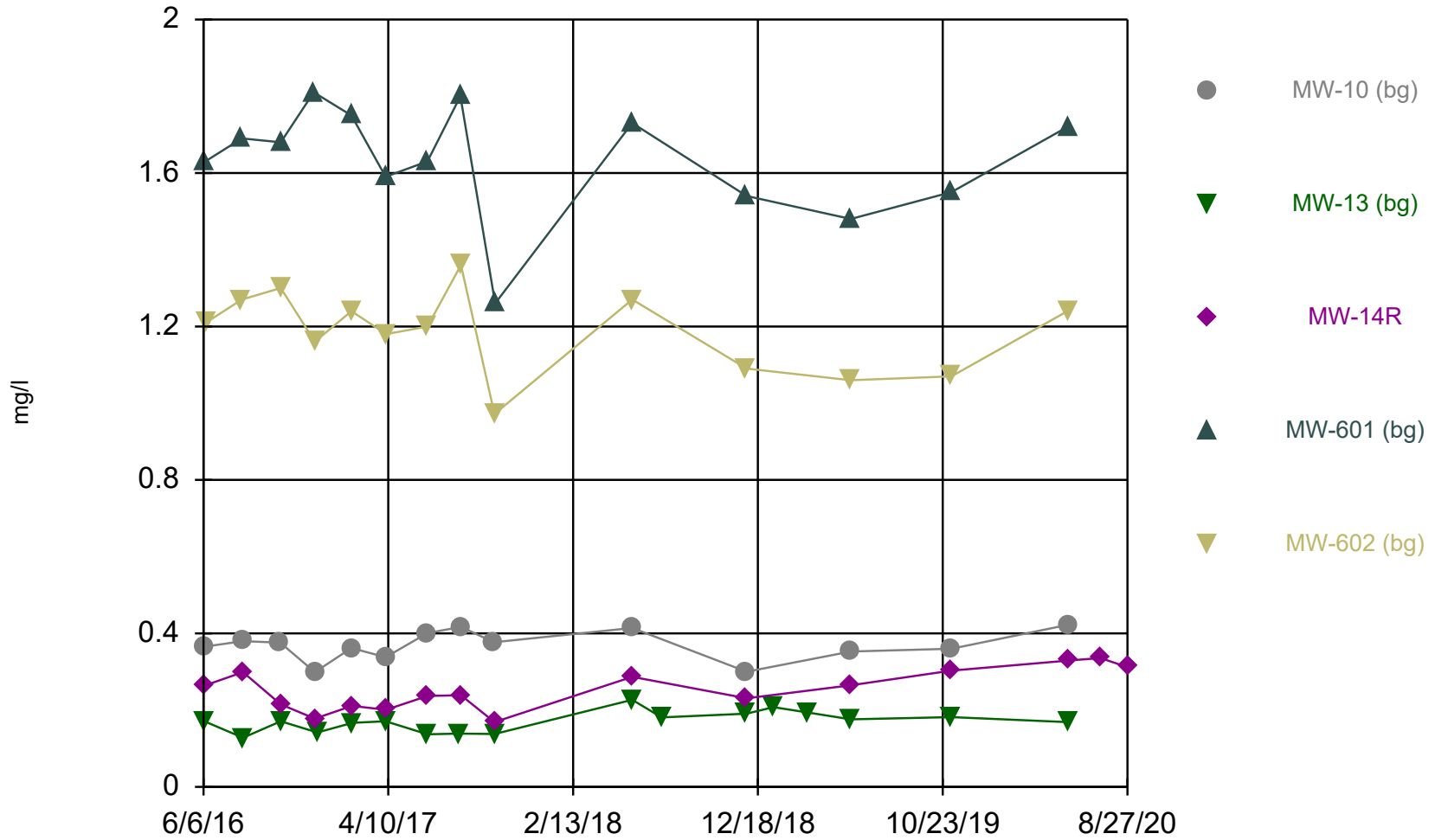
Time Series



Constituent: CHLORIDE Analysis Run 10/7/2020 2:50 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Time Series



Constituent: FLUORIDE Analysis Run 10/7/2020 2:50 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

Addendum 1

2020 Annual Groundwater Monitoring and Corrective Action Report Addendum 1

December 16, 2022
File No. 27217233.20

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

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

Subject: 2020 Annual Groundwater Monitoring and Corrective Action Report Addendum 1
Evergy Metro, Inc.
CCR Landfill and Lower AQC Impoundment
La Cygne Generating Station - La Cygne, Kansas



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

This Addendum has been prepared to supplement the operating record in recognition of comments received by Evergy from the U.S. Environmental Protection Agency (USEPA) on January 11, 2022. In addition to the information listed in 40 CFR 257.90(e), the USEPA indicated in their comments that the GWMCA Report contain the following:

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

This information is not specifically referred to in 40 CFR 257.90(e) for inclusion in the GWMCA Reports; however, it is routinely collected, determined and maintained in Evergy’s files and is being provided in the attachments to this addendum.

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:
Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. The laboratory data packages for the following sampling events are provided:



- May 2020 – Spring 2020 semiannual detection monitoring sampling event and Appendix IV.
 - July 2020 – First verification sampling for the Spring 2020 detection monitoring sampling event.
 - August 2020 - Second verification sampling for the Spring 2020 detection monitoring sampling event.
 - November 2020 - Fall 2020 semiannual detection monitoring sampling event.
- Attachment 2 - Statistical Analyses:

Includes summary of statistical results, prediction limit plots, prediction limit background data, detection sample results, first and second verification re-sample results (when applicable), extra sample results for pH (collected as part of the approved sampling procedures), input parameters, and a Prediction Limit summary table. Statistical analyses completed in 2020 included the following:

 - Fall 2019 semiannual detection monitoring statistical analyses.
 - Spring 2020 semiannual detection monitoring statistical analyses.
 - Attachment 3 - Revised Groundwater Potentiometric Surface Maps:

Includes revised groundwater potentiometric surface maps with the measured groundwater elevations at each well and the generalized groundwater flow direction and the calculated groundwater flow rate. Maps for the following sampling events are provided:

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

Jared Morrison
December 16, 2022

ATTACHMENT 1
Laboratory Analytical Reports

ATTACHMENT 1-1
May 2020 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L1221030
Samples Received: 05/21/2020
Project Number: 27217233.20
Description: KCPL - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	²Tc
Cn: Case Narrative	5	
Sr: Sample Results	6	³Ss
MW-10 L1221030-01	6	
MW-13 L1221030-02	7	⁴Cn
MW-14R L1221030-03	8	⁵Sr
MW-15 L1221030-04	9	
MW-601 L1221030-05	10	⁶Qc
MW-602 L1221030-06	11	
MW-801 L1221030-07	12	⁷Gl
MW-802 L1221030-08	13	⁸Al
MW-803 L1221030-09	14	
MW-804 L1221030-10	15	
MW-805 L1221030-11	16	⁹Sc
DUPLICATE #2 L1221030-12	17	
Qc: Quality Control Summary	18	
Gravimetric Analysis by Method 2540 C-2011	18	
Wet Chemistry by Method 9056A	20	
Metals (ICP) by Method 6010B	22	
Gl: Glossary of Terms	25	
Al: Accreditations & Locations	26	
Sc: Sample Chain of Custody	27	

SAMPLE SUMMARY



MW-10 L1221030-01 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 15:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480834	1	05/22/20 18:47	05/23/20 01:36	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 00:58	05/26/20 00:58	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:28	EL	Mt. Juliet, TN

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

MW-13 L1221030-02 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 17:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480834	1	05/22/20 18:47	05/23/20 01:36	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 01:16	05/26/20 01:16	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	50	05/26/20 01:34	05/26/20 01:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:30	EL	Mt. Juliet, TN

MW-14R L1221030-03 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 16:20
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480834	1	05/22/20 18:47	05/23/20 01:36	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 01:51	05/26/20 01:51	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:33	EL	Mt. Juliet, TN

MW-15 L1221030-04 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 18:15
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480834	1	05/22/20 18:47	05/23/20 01:36	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 02:09	05/26/20 02:09	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	5	05/26/20 02:27	05/26/20 02:27	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:27	EL	Mt. Juliet, TN

MW-601 L1221030-05 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 12:10
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 02:45	05/26/20 02:45	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	5	05/26/20 03:39	05/26/20 03:39	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:30	EL	Mt. Juliet, TN

MW-602 L1221030-06 GW

Collected by Jason R Franks
 Collected date/time 05/19/20 17:00
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 03:57	05/26/20 03:57	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:33	EL	Mt. Juliet, TN

SAMPLE SUMMARY



MW-801 L1221030-07 GW

Collected by Jason R Franks
Collected date/time 05/19/20 16:50
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 04:15	05/26/20 04:15	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480613	1	05/27/20 17:48	05/28/20 13:29	EL	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-802 L1221030-08 GW

Collected by Jason R Franks
Collected date/time 05/19/20 17:45
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 05:26	05/26/20 05:26	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:36	EL	Mt. Juliet, TN

MW-803 L1221030-09 GW

Collected by Jason R Franks
Collected date/time 05/19/20 18:30
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 05:44	05/26/20 05:44	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:44	EL	Mt. Juliet, TN

MW-804 L1221030-10 GW

Collected by Jason R Franks
Collected date/time 05/19/20 19:10
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 06:02	05/26/20 06:02	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:47	EL	Mt. Juliet, TN

MW-805 L1221030-11 GW

Collected by Jason R Franks
Collected date/time 05/19/20 19:50
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 07:14	05/26/20 07:14	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	10	05/26/20 07:32	05/26/20 07:32	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:50	EL	Mt. Juliet, TN

DUPLICATE #2 L1221030-12 GW

Collected by Jason R Franks
Collected date/time 05/19/20 16:50
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1480835	1	05/22/20 18:49	05/23/20 01:08	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	1	05/26/20 07:50	05/26/20 07:50	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:53	EL	Mt. Juliet, TN



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

Jeff Carr
Project Manager

- 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	584000		10000	1	05/23/2020 01:36	WG1480834

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	51800		1000	1	05/26/2020 00:58	WG1481857
Fluoride	422		150	1	05/26/2020 00:58	WG1481857
Sulfate	14400		5000	1	05/26/2020 00:58	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	791		200	1	05/27/2020 20:28	WG1480611
Calcium	52100		1000	1	05/27/2020 20:28	WG1480611

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	2710000		50000	1	05/23/2020 01:36	WG1480834

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19500		1000	1	05/26/2020 01:16	WG1481857
Fluoride	169		150	1	05/26/2020 01:16	WG1481857
Sulfate	1700000		250000	50	05/26/2020 01:34	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	324		200	1	05/27/2020 20:30	WG1480611
Calcium	382000		1000	1	05/27/2020 20:30	WG1480611

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	579000		10000	1	05/23/2020 01:36	WG1480834

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6210		1000	1	05/26/2020 01:51	WG1481857
Fluoride	329		150	1	05/26/2020 01:51	WG1481857
Sulfate	60500		5000	1	05/26/2020 01:51	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	688		200	1	05/27/2020 20:33	WG1480611
Calcium	53900		1000	1	05/27/2020 20:33	WG1480611

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	734000		10000	1	05/23/2020 01:36	WG1480834

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	10800		1000	1	05/26/2020 02:09	WG1481857
Fluoride	284		150	1	05/26/2020 02:09	WG1481857
Sulfate	182000		25000	5	05/26/2020 02:27	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	209		200	1	05/28/2020 10:27	WG1480612
Calcium	99300		1000	1	05/28/2020 10:27	WG1480612

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	986000		20000	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	161000		5000	5	05/26/2020 03:39	WG1481857
Fluoride	1720		150	1	05/26/2020 02:45	WG1481857
Sulfate	6070		5000	1	05/26/2020 02:45	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1800		200	1	05/28/2020 10:30	WG1480612
Calcium	17100		1000	1	05/28/2020 10:30	WG1480612

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	611000		10000	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	17100		1000	1	05/26/2020 03:57	WG1481857
Fluoride	1240		150	1	05/26/2020 03:57	WG1481857
Sulfate	25700		5000	1	05/26/2020 03:57	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2280		200	1	05/28/2020 10:33	WG1480612
Calcium	23800		1000	1	05/28/2020 10:33	WG1480612

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	860000		13300	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	91400		1000	1	05/26/2020 04:15	WG1481857
Fluoride	1090		150	1	05/26/2020 04:15	WG1481857
Sulfate	ND		5000	1	05/26/2020 04:15	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2140	<u>O1</u>	200	1	05/28/2020 13:29	WG1480613
Calcium	26200	<u>O1</u>	1000	1	05/28/2020 13:29	WG1480613

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	685000		13300	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	36200		1000	1	05/26/2020 05:26	WG1481857
Fluoride	1070		150	1	05/26/2020 05:26	WG1481857
Sulfate	ND		5000	1	05/26/2020 05:26	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2410		200	1	05/28/2020 10:36	WG1480612
Calcium	27800		1000	1	05/28/2020 10:36	WG1480612

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	603000		10000	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	49800		1000	1	05/26/2020 05:44	WG1481857
Fluoride	647		150	1	05/26/2020 05:44	WG1481857
Sulfate	25200		5000	1	05/26/2020 05:44	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2030		200	1	05/28/2020 10:44	WG1480612
Calcium	38700		1000	1	05/28/2020 10:44	WG1480612

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	553000		10000	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	29100		1000	1	05/26/2020 06:02	WG1481857
Fluoride	489		150	1	05/26/2020 06:02	WG1481857
Sulfate	25200		5000	1	05/26/2020 06:02	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	1560		200	1	05/28/2020 10:47	WG1480612
Calcium	66700		1000	1	05/28/2020 10:47	WG1480612

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	2220000		50000	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	472000		10000	10	05/26/2020 07:32	WG1481857
Fluoride	176		150	1	05/26/2020 07:14	WG1481857
Sulfate	713000		50000	10	05/26/2020 07:32	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	503		200	1	05/28/2020 10:50	WG1480612
Calcium	450000		1000	1	05/28/2020 10:50	WG1480612

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	841000		13300	1	05/23/2020 01:08	WG1480835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	91700		1000	1	05/26/2020 07:50	WG1481857
Fluoride	1070		150	1	05/26/2020 07:50	WG1481857
Sulfate	ND		5000	1	05/26/2020 07:50	WG1481857

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2150		200	1	05/28/2020 10:53	WG1480612
Calcium	26800		1000	1	05/28/2020 10:53	WG1480612

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3531332-1 05/23/20 01:36

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

1 Cp

2 Tc

3 Ss

L1221030-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1221030-04 05/23/20 01:36 • (DUP) R3531332-3 05/23/20 01:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	734000	733000	1	0.136		5

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3531332-2 05/23/20 01:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800000	8830000	100	85.0-115	

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3531333-1 05/23/20 01:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	3000	↓	2820	10000

Laboratory Control Sample (LCS)

(LCS) R3531333-2 05/23/20 01:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8810000	100	85.0-115	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3532269-1 05/25/20 20:08

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1221030-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1221030-10 05/26/20 06:02 • (DUP) R3532269-8 05/26/20 06:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	29100	29000	1	0.337		15
Fluoride	489	492	1	0.591		15
Sulfate	25200	25100	1	0.0990		15

Laboratory Control Sample (LCS)

(LCS) R3532269-2 05/25/20 20:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	39500	98.8	80.0-120	
Fluoride	8000	7940	99.2	80.0-120	
Sulfate	40000	40200	100	80.0-120	

L1221029-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221029-04 05/25/20 22:52 • (MS) R3532269-4 05/25/20 23:10 • (MSD) R3532269-5 05/26/20 00:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	32900	74600	75500	83.3	85.2	1	80.0-120			1.23	15
Fluoride	5000	418	4690	4770	85.4	86.9	1	80.0-120			1.64	15
Sulfate	50000	78800	118000	119000	78.5	79.8	1	80.0-120	E J6	E J6	0.521	15

L1221030-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221030-07 05/26/20 04:15 • (MS) R3532269-6 05/26/20 04:33 • (MSD) R3532269-7 05/26/20 04:51

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	91400	132000	133000	82.2	83.1	1	80.0-120	E	E	0.350	15
Fluoride	5000	1090	5550	5580	89.4	89.8	1	80.0-120			0.383	15



L1221030-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221030-07 05/26/20 04:15 • (MS) R3532269-6 05/26/20 04:33 • (MSD) R3532269-7 05/26/20 04:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Sulfate	50000	ND	49100	49300	90.2	90.6	1	80.0-120			0.401	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3532357-1 05/27/20 19:13

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3532357-2 05/27/20 19:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	907	90.7	80.0-120	
Calcium	10000	9540	95.4	80.0-120	



Method Blank (MB)

(MB) R3532782-1 05/28/20 10:11

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3532782-2 05/28/20 10:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	968	96.8	80.0-120	
Calcium	10000	9990	99.9	80.0-120	



Method Blank (MB)

(MB) R3532784-1 05/28/20 13:23

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

4 Cn

Laboratory Control Sample (LCS)

(LCS) R3532784-2 05/28/20 13:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	956	95.6	80.0-120	
Calcium	10000	9730	97.3	80.0-120	

5 Sr

6 Qc

L1221030-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221030-07 05/28/20 13:29 • (MS) R3532784-4 05/28/20 13:34 • (MSD) R3532784-5 05/28/20 13:37

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	2140	3080	3090	93.7	94.8	1	75.0-125			0.369	20
Calcium	10000	26200	36100	36000	99.3	98.8	1	75.0-125			0.134	20

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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 ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

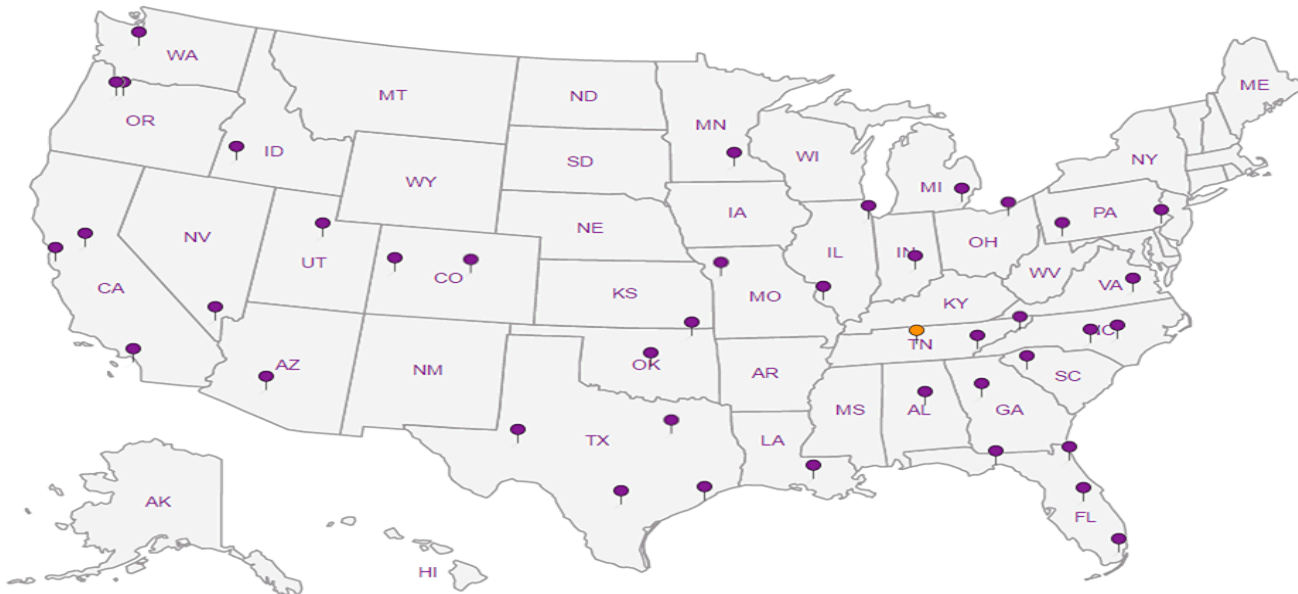
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Project Description:
KCPL - LaCygne Generating Station

City/State Collected: **La Cygne, KS**

Please Circle:
PT MT CT JT

Phone: 913-681-0030

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

Quote #

Immediately Packed on Ice N Y

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

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody	
MW-10	GRAB	GW	-	5/19/20	1545	3	Antions (Cld, F, SO4) 125miHDPE-NoPres B, Ca - 6010 250miHDPE-HNO3 TDS 250miHDPE-NoPres	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 QR Code SDG # 1221030 G243 Acctnum: AQUAOPKS Template: T150678 Prelogin: P769467 PM: 206 - Jeff Carr PB: Shipped Via: Remarks Sample # (lab only)	
MW-13		GW	-		1745	3	X X X		-01
MW-14R		GW	-		1620	3	X X X		02
MW-15		GW	-		1815	3	X X X		03
MW-601		GW	-		1210	3	X X X		04
MW-602		GW	-		1700	3	X X X		05
MW-801		GW	-		1650	3	X X X		06
MW-802		GW	-		1745	3	X X X		07
MW-803		GW	-		1830	3	X X X		08
MW-804		GW	-		1910	3	X X X		09

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

Remarks:
Samples returned via:
UPS FedEx Courier

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

Relinquished by: (Signature) <i>[Signature]</i>	Date: 5-20-20	Time: 0900	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes/No HCL / MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5-20-20	Time: 1800	Received by: (Signature) FedEx	Temp: <u>WWT</u> <u>10-12.5</u> Bottles Received: <u>39</u>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 5/21/20 Time: 8:45

Hold: Condition: NCF / OK

SCS Engineers - KS

Sample Delivery Group: L1220990
Samples Received: 05/21/2020
Project Number: 27217233.20
Description: Evergy - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	4	³Ss
Cn: Case Narrative	10	⁴Cn
Sr: Sample Results	11	⁵Sr
MW-6 L1220990-01	11	⁶Qc
MW-7 L1220990-02	12	⁷Gl
MW-10 L1220990-03	13	⁸Al
MW-11 L1220990-04	14	⁹Sc
MW-13 L1220990-05	15	
MW-14R L1220990-06	16	
MW-15 L1220990-07	17	
MW-601 L1220990-08	18	
MW-602 L1220990-09	19	
MW-701 L1220990-10	20	
MW-702 L1220990-11	21	
MW-703 L1220990-12	22	
MW-704 L1220990-13	23	
MW-705 L1220990-14	24	
MW-706 L1220990-15	25	
MW-707B L1220990-16	26	
MW-708 L1220990-17	27	
TW-1 L1220990-18	28	
DUPLICATE 1 L1220990-19	29	
MW-801 L1220990-20	30	
MW-802 L1220990-21	31	
MW-803 L1220990-22	32	
MW-804 L1220990-23	33	
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MW-901 L1220990-26	36	
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Gl: Glossary of Terms

50

Al: Accreditations & Locations

51

Sc: Sample Chain of Custody

52

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY



MW-6 L1220990-01 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 11:20
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:46	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 17:57	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:44	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 06:46	LAT	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-7 L1220990-02 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 12:10
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:48	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:00	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:47	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 06:49	LAT	Mt. Juliet, TN

MW-10 L1220990-03 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 15:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:50	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:03	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:51	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 06:52	LAT	Mt. Juliet, TN

MW-11 L1220990-04 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 15:00
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:52	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:11	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:54	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 06:56	LAT	Mt. Juliet, TN

MW-13 L1220990-05 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 17:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:54	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:14	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:57	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:19	LAT	Mt. Juliet, TN

MW-14R L1220990-06 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 16:20
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:09	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:17	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:01	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:23	LAT	Mt. Juliet, TN

SAMPLE SUMMARY



MW-15 L1220990-07 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 18:15
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:11	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:20	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:04	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:26	LAT	Mt. Juliet, TN

1
Cp

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Tc

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Ss

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Cn

5
Sr

6
Qc

7
Gl

8
Al

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Sc

MW-601 L1220990-08 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 12:10
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:13	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:23	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:07	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:30	LAT	Mt. Juliet, TN

MW-602 L1220990-09 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 17:00
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:15	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:26	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:17	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:33	LAT	Mt. Juliet, TN

MW-701 L1220990-10 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 13:15
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:17	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:21	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:37	LAT	Mt. Juliet, TN

MW-702 L1220990-11 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 10:35
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:19	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:32	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:24	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:40	LAT	Mt. Juliet, TN

MW-703 L1220990-12 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 11:30
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:21	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:35	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:28	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:44	LAT	Mt. Juliet, TN

SAMPLE SUMMARY



MW-704 L1220990-13 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 14:00
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 08:36	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 17:43	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 00:04	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 06:32	LAT	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-705 L1220990-14 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 13:05
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:23	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:38	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 01:31	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480617	1	05/26/20 19:42	05/27/20 07:47	LAT	Mt. Juliet, TN

MW-706 L1220990-15 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 13:45
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480428	1	05/21/20 19:00	05/22/20 09:25	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:46	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 17:16	LD	Mt. Juliet, TN

MW-707B L1220990-16 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 15:20
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:47	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:50	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 17:19	LD	Mt. Juliet, TN

MW-708 L1220990-17 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 16:05
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:49	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:53	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 17:23	LD	Mt. Juliet, TN

TW-1 L1220990-18 GW

Collected by Jason R. Franks
Collected date/time 05/19/20 14:30
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:51	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:56	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 17:26	LD	Mt. Juliet, TN

SAMPLE SUMMARY



DUPLICATE 1 L1220990-19 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 14:05
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:56	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480610	1	05/27/20 01:02	05/27/20 18:59	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:09	LD	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-801 L1220990-20 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 16:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:35	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:18	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 17:43	LD	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

MW-802 L1220990-21 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 17:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:58	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:36	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:12	LD	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

MW-803 L1220990-22 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 18:30
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:00	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:44	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:15	LD	Mt. Juliet, TN

MW-804 L1220990-23 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 19:10
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:02	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:47	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:19	LD	Mt. Juliet, TN

MW-805 L1220990-24 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 19:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:04	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:50	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:22	LD	Mt. Juliet, TN

SAMPLE SUMMARY



DUPLICATE 2 L1220990-25 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 16:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:06	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:53	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:25	LD	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-901 L1220990-26 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 18:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:08	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:55	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:29	LD	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

MW-902 L1220990-27 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 15:25
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:10	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:58	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:32	LD	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

MW-903 L1220990-28 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 19:00
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:12	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:01	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:35	LD	Mt. Juliet, TN

MW-904 L1220990-29 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 11:25
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 09:41	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 19:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480619	1	05/27/20 05:58	05/27/20 09:00	LAT	Mt. Juliet, TN

MW-905 L1220990-30 GW

Collected by Jason R. Franks
 Collected date/time 05/19/20 14:05
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:14	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:04	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:52	LD	Mt. Juliet, TN

SAMPLE SUMMARY



DUPLICATE 3 L1220990-31 GW

Collected by	Collected date/time	Received date/time
Jason R. Franks	05/19/20 11:25	05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1480429	1	05/21/20 19:00	05/22/20 10:22	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:06	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1480618	1	05/26/20 23:43	05/27/20 16:55	LD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ 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

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



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:46	WG1480428

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	137		5.00	1	05/27/2020 17:57	WG1480610
Chromium	ND		10.0	1	05/27/2020 17:57	WG1480610
Cobalt	ND		10.0	1	05/27/2020 17:57	WG1480610
Lithium	43.2		15.0	1	05/27/2020 17:57	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 17:57	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:44	WG1480617
Arsenic	ND		2.00	1	05/27/2020 00:44	WG1480617
Beryllium	ND		2.00	1	05/27/2020 06:46	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:44	WG1480617
Lead	ND		5.00	1	05/27/2020 00:44	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:44	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:44	WG1480617

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:48	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	490		5.00	1	05/27/2020 18:00	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:00	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:00	WG1480610
Lithium	68.3		15.0	1	05/27/2020 18:00	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:00	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:47	WG1480617
Arsenic	ND		2.00	1	05/27/2020 00:47	WG1480617
Beryllium	ND		2.00	1	05/27/2020 06:49	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:47	WG1480617
Lead	ND		5.00	1	05/27/2020 00:47	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:47	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:47	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:50	WG1480428

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	320		5.00	1	05/27/2020 18:03	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:03	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:03	WG1480610
Lithium	30.6		15.0	1	05/27/2020 18:03	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:03	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:51	WG1480617
Arsenic	11.5		2.00	1	05/27/2020 00:51	WG1480617
Beryllium	ND		2.00	1	05/27/2020 06:52	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:51	WG1480617
Lead	ND		5.00	1	05/27/2020 00:51	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:51	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:51	WG1480617

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:52	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	32.3		5.00	1	05/27/2020 18:11	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:11	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:11	WG1480610
Lithium	59.0		15.0	1	05/27/2020 18:11	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:11	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:54	WG1480617
Arsenic	ND		2.00	1	05/27/2020 00:54	WG1480617
Beryllium	ND		2.00	1	05/27/2020 06:56	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:54	WG1480617
Lead	ND		5.00	1	05/27/2020 00:54	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:54	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:54	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:54	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	16.6		5.00	1	05/27/2020 18:14	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:14	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:14	WG1480610
Lithium	50.0		15.0	1	05/27/2020 18:14	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:14	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:57	WG1480617
Arsenic	ND		2.00	1	05/27/2020 00:57	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:19	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:57	WG1480617
Lead	ND		5.00	1	05/27/2020 00:57	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:57	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:57	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:09	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	42.3		5.00	1	05/27/2020 18:17	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:17	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:17	WG1480610
Lithium	38.5		15.0	1	05/27/2020 18:17	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:17	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:01	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:01	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:23	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:01	WG1480617
Lead	ND		5.00	1	05/27/2020 01:01	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:01	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:01	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:11	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	42.5		5.00	1	05/27/2020 18:20	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:20	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:20	WG1480610
Lithium	21.0		15.0	1	05/27/2020 18:20	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:20	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:04	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:04	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:26	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:04	WG1480617
Lead	ND		5.00	1	05/27/2020 01:04	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:04	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:04	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:13	WG1480428

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	136		5.00	1	05/27/2020 18:23	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:23	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:23	WG1480610
Lithium	59.8		15.0	1	05/27/2020 18:23	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:23	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:07	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:07	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:30	WG1480617
Cadmium	1.46		1.00	1	05/27/2020 01:07	WG1480617
Lead	ND		5.00	1	05/27/2020 01:07	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:07	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:07	WG1480617

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:15	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	105		5.00	1	05/27/2020 18:26	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:26	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:26	WG1480610
Lithium	52.3		15.0	1	05/27/2020 18:26	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:26	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:17	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:17	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:33	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:17	WG1480617
Lead	ND		5.00	1	05/27/2020 01:17	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:17	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:17	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:17	WG1480428

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	201		5.00	1	05/27/2020 18:29	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:29	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:29	WG1480610
Lithium	36.2		15.0	1	05/27/2020 18:29	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:29	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:21	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:21	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:37	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:21	WG1480617
Lead	ND		5.00	1	05/27/2020 01:21	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:21	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:21	WG1480617

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:19	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	133		5.00	1	05/27/2020 18:32	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:32	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:32	WG1480610
Lithium	118		15.0	1	05/27/2020 18:32	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:32	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:24	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:24	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:40	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:24	WG1480617
Lead	ND		5.00	1	05/27/2020 01:24	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:24	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:24	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:21	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	275		5.00	1	05/27/2020 18:35	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:35	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:35	WG1480610
Lithium	59.6		15.0	1	05/27/2020 18:35	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:35	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:28	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:28	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:44	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:28	WG1480617
Lead	ND		5.00	1	05/27/2020 01:28	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:28	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:28	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 08:36	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	72.6		5.00	1	05/27/2020 17:43	WG1480610
Chromium	ND		10.0	1	05/27/2020 17:43	WG1480610
Cobalt	ND		10.0	1	05/27/2020 17:43	WG1480610
Lithium	92.1		15.0	1	05/27/2020 17:43	WG1480610
Molybdenum	5.09		5.00	1	05/27/2020 17:43	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 00:04	WG1480617
Arsenic	ND		2.00	1	05/27/2020 00:04	WG1480617
Beryllium	ND		2.00	1	05/27/2020 06:32	WG1480617
Cadmium	ND		1.00	1	05/27/2020 00:04	WG1480617
Lead	ND		5.00	1	05/27/2020 00:04	WG1480617
Selenium	ND		2.00	1	05/27/2020 00:04	WG1480617
Thallium	ND		2.00	1	05/27/2020 00:04	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:23	WG1480428

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	88.7		5.00	1	05/27/2020 18:38	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:38	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:38	WG1480610
Lithium	113		15.0	1	05/27/2020 18:38	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:38	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 01:31	WG1480617
Arsenic	ND		2.00	1	05/27/2020 01:31	WG1480617
Beryllium	ND		2.00	1	05/27/2020 07:47	WG1480617
Cadmium	ND		1.00	1	05/27/2020 01:31	WG1480617
Lead	ND		5.00	1	05/27/2020 01:31	WG1480617
Selenium	ND		2.00	1	05/27/2020 01:31	WG1480617
Thallium	ND		2.00	1	05/27/2020 01:31	WG1480617

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:25	WG1480428

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	199		5.00	1	05/27/2020 18:46	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:46	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:46	WG1480610
Lithium	116		15.0	1	05/27/2020 18:46	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:46	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 17:16	WG1480618
Arsenic	ND		2.00	1	05/27/2020 17:16	WG1480618
Beryllium	ND		2.00	1	05/27/2020 17:16	WG1480618
Cadmium	ND		1.00	1	05/27/2020 17:16	WG1480618
Lead	ND		5.00	1	05/27/2020 17:16	WG1480618
Selenium	ND		2.00	1	05/27/2020 17:16	WG1480618
Thallium	ND		2.00	1	05/27/2020 17:16	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:47	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	24.1		5.00	1	05/27/2020 18:50	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:50	WG1480610
Cobalt	12.1		10.0	1	05/27/2020 18:50	WG1480610
Lithium	1010		15.0	1	05/27/2020 18:50	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:50	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 17:19	WG1480618
Arsenic	ND		2.00	1	05/27/2020 17:19	WG1480618
Beryllium	ND		2.00	1	05/27/2020 17:19	WG1480618
Cadmium	ND		1.00	1	05/27/2020 17:19	WG1480618
Lead	ND		5.00	1	05/27/2020 17:19	WG1480618
Selenium	ND		2.00	1	05/27/2020 17:19	WG1480618
Thallium	ND		2.00	1	05/27/2020 17:19	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:49	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	202		5.00	1	05/27/2020 18:53	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:53	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:53	WG1480610
Lithium	69.1		15.0	1	05/27/2020 18:53	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:53	WG1480610

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 17:23	WG1480618
Arsenic	ND		2.00	1	05/27/2020 17:23	WG1480618
Beryllium	ND		2.00	1	05/27/2020 17:23	WG1480618
Cadmium	ND		1.00	1	05/27/2020 17:23	WG1480618
Lead	ND		5.00	1	05/27/2020 17:23	WG1480618
Selenium	ND		2.00	1	05/27/2020 17:23	WG1480618
Thallium	ND		2.00	1	05/27/2020 17:23	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:51	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	65.6		5.00	1	05/27/2020 18:56	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:56	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:56	WG1480610
Lithium	127		15.0	1	05/27/2020 18:56	WG1480610
Molybdenum	ND		5.00	1	05/27/2020 18:56	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 17:26	WG1480618
Arsenic	ND		2.00	1	05/27/2020 17:26	WG1480618
Beryllium	ND		2.00	1	05/27/2020 17:26	WG1480618
Cadmium	ND		1.00	1	05/27/2020 17:26	WG1480618
Lead	ND		5.00	1	05/27/2020 17:26	WG1480618
Selenium	ND		2.00	1	05/27/2020 17:26	WG1480618
Thallium	ND		2.00	1	05/27/2020 17:26	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:56	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	73.2		5.00	1	05/27/2020 18:59	WG1480610
Chromium	ND		10.0	1	05/27/2020 18:59	WG1480610
Cobalt	ND		10.0	1	05/27/2020 18:59	WG1480610
Lithium	91.3		15.0	1	05/27/2020 18:59	WG1480610
Molybdenum	5.02		5.00	1	05/27/2020 18:59	WG1480610

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:09	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:09	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:09	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:09	WG1480618
Lead	ND		5.00	1	05/27/2020 16:09	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:09	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:09	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:35	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	509	<u>O1</u>	5.00	1	05/27/2020 19:18	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:18	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:18	WG1480611
Lithium	84.2		15.0	1	05/27/2020 19:18	WG1480611
Molybdenum	9.74		5.00	1	05/27/2020 19:18	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 17:43	WG1480618
Arsenic	ND		2.00	1	05/27/2020 17:43	WG1480618
Beryllium	ND		2.00	1	05/27/2020 17:43	WG1480618
Cadmium	ND		1.00	1	05/27/2020 17:43	WG1480618
Lead	7.79		5.00	1	05/27/2020 17:43	WG1480618
Selenium	ND		2.00	1	05/27/2020 17:43	WG1480618
Thallium	ND		2.00	1	05/27/2020 17:43	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:58	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	939		5.00	1	05/27/2020 19:36	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:36	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:36	WG1480611
Lithium	85.0		15.0	1	05/27/2020 19:36	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 19:36	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:12	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:12	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:12	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:12	WG1480618
Lead	ND		5.00	1	05/27/2020 16:12	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:12	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:12	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:00	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	231		5.00	1	05/27/2020 19:44	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:44	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:44	WG1480611
Lithium	67.2		15.0	1	05/27/2020 19:44	WG1480611
Molybdenum	5.00		5.00	1	05/27/2020 19:44	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:15	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:15	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:15	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:15	WG1480618
Lead	ND		5.00	1	05/27/2020 16:15	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:15	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:15	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:02	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	147		5.00	1	05/27/2020 19:47	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:47	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:47	WG1480611
Lithium	34.2		15.0	1	05/27/2020 19:47	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 19:47	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:19	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:19	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:19	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:19	WG1480618
Lead	ND		5.00	1	05/27/2020 16:19	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:19	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:19	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:04	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	35.0		5.00	1	05/27/2020 19:50	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:50	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:50	WG1480611
Lithium	24.0		15.0	1	05/27/2020 19:50	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 19:50	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:22	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:22	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:22	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:22	WG1480618
Lead	ND		5.00	1	05/27/2020 16:22	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:22	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:22	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:06	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	517		5.00	1	05/27/2020 19:53	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:53	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:53	WG1480611
Lithium	84.2		15.0	1	05/27/2020 19:53	WG1480611
Molybdenum	10.3		5.00	1	05/27/2020 19:53	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:25	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:25	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:25	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:25	WG1480618
Lead	10.9		5.00	1	05/27/2020 16:25	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:25	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:25	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:08	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	165		5.00	1	05/27/2020 19:55	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:55	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:55	WG1480611
Lithium	60.4		15.0	1	05/27/2020 19:55	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 19:55	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:29	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:29	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:29	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:29	WG1480618
Lead	ND		5.00	1	05/27/2020 16:29	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:29	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:29	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:10	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	126		5.00	1	05/27/2020 19:58	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:58	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:58	WG1480611
Lithium	33.3		15.0	1	05/27/2020 19:58	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 19:58	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:32	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:32	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:32	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:32	WG1480618
Lead	ND		5.00	1	05/27/2020 16:32	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:32	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:32	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:12	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	15.7		5.00	1	05/27/2020 20:01	WG1480611
Chromium	ND		10.0	1	05/27/2020 20:01	WG1480611
Cobalt	ND		10.0	1	05/27/2020 20:01	WG1480611
Lithium	50.6		15.0	1	05/27/2020 20:01	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 20:01	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:35	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:35	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:35	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:35	WG1480618
Lead	ND		5.00	1	05/27/2020 16:35	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:35	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:35	WG1480618

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 09:41	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	72.9		5.00	1	05/27/2020 19:29	WG1480611
Chromium	ND		10.0	1	05/27/2020 19:29	WG1480611
Cobalt	ND		10.0	1	05/27/2020 19:29	WG1480611
Lithium	41.1		15.0	1	05/27/2020 19:29	WG1480611
Molybdenum	8.64		5.00	1	05/27/2020 19:29	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 09:00	WG1480619
Arsenic	ND		2.00	1	05/27/2020 09:00	WG1480619
Beryllium	ND		2.00	1	05/27/2020 09:00	WG1480619
Cadmium	ND		1.00	1	05/27/2020 09:00	WG1480619
Lead	ND		5.00	1	05/27/2020 09:00	WG1480619
Selenium	ND		2.00	1	05/27/2020 09:00	WG1480619
Thallium	ND		2.00	1	05/27/2020 09:00	WG1480619

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:14	WG1480429

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	136		5.00	1	05/27/2020 20:04	WG1480611
Chromium	ND		10.0	1	05/27/2020 20:04	WG1480611
Cobalt	ND		10.0	1	05/27/2020 20:04	WG1480611
Lithium	63.3		15.0	1	05/27/2020 20:04	WG1480611
Molybdenum	ND		5.00	1	05/27/2020 20:04	WG1480611

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:52	WG1480618
Arsenic	2.46		2.00	1	05/27/2020 16:52	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:52	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:52	WG1480618
Lead	ND		5.00	1	05/27/2020 16:52	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:52	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:52	WG1480618

⁷ Gl

⁸ Al

⁹ Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/22/2020 10:22	WG1480429

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	72.2		5.00	1	05/27/2020 20:06	WG1480611
Chromium	ND		10.0	1	05/27/2020 20:06	WG1480611
Cobalt	ND		10.0	1	05/27/2020 20:06	WG1480611
Lithium	42.1		15.0	1	05/27/2020 20:06	WG1480611
Molybdenum	7.89		5.00	1	05/27/2020 20:06	WG1480611

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	05/27/2020 16:55	WG1480618
Arsenic	ND		2.00	1	05/27/2020 16:55	WG1480618
Beryllium	ND		2.00	1	05/27/2020 16:55	WG1480618
Cadmium	ND		1.00	1	05/27/2020 16:55	WG1480618
Lead	ND		5.00	1	05/27/2020 16:55	WG1480618
Selenium	ND		2.00	1	05/27/2020 16:55	WG1480618
Thallium	ND		2.00	1	05/27/2020 16:55	WG1480618

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3530756-1 05/22/20 08:29

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

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R3530756-2 05/22/20 08:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.80	93.4	80.0-120	

4 Cn

5 Sr

L1220990-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-13 05/22/20 08:36 • (MS) R3530756-3 05/22/20 08:38 • (MSD) R3530756-4 05/22/20 08:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	3.05	3.00	102	99.9	1	75.0-125			1.79	20

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3530790-1 05/22/20 09:27

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3530790-2 05/22/20 09:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.05	102	80.0-120	

7 Gl

8 Al

L1220990-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-20 05/22/20 09:35 • (MS) R3530790-3 05/22/20 09:37 • (MSD) R3530790-4 05/22/20 09:39

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 %
Mercury	3.00	ND	3.14	3.10	105	103	1	75.0-125			1.26	20

9 Sc

L1220990-29 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-29 05/22/20 09:41 • (MS) R3530790-5 05/22/20 09:43 • (MSD) R3530790-6 05/22/20 09:45

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 %
Mercury	3.00	ND	3.04	3.02	101	101	1	75.0-125			0.676	20



Method Blank (MB)

(MB) R3532365-1 05/27/20 17:37

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS)

(LCS) R3532365-2 05/27/20 17:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1000	986	98.6	80.0-120	
Chromium	1000	968	96.8	80.0-120	
Cobalt	1000	986	98.6	80.0-120	
Lithium	1000	945	94.5	80.0-120	
Molybdenum	1000	998	99.8	80.0-120	

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1220990-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-13 05/27/20 17:43 • (MS) R3532365-4 05/27/20 17:48 • (MSD) R3532365-5 05/27/20 17:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1000	72.6	1020	1030	94.8	95.3	1	75.0-125			0.477	20
Chromium	1000	ND	963	969	96.3	96.9	1	75.0-125			0.645	20
Cobalt	1000	ND	1020	1030	102	103	1	75.0-125			0.506	20
Lithium	1000	92.1	1010	1010	91.4	91.6	1	75.0-125			0.208	20
Molybdenum	1000	5.09	989	995	98.4	99.0	1	75.0-125			0.645	20



Method Blank (MB)

(MB) R3532357-1 05/27/20 19:13

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

Laboratory Control Sample (LCS)

(LCS) R3532357-2 05/27/20 19:15

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Barium	1000	976	97.6	80.0-120	
Chromium	1000	937	93.7	80.0-120	
Cobalt	1000	938	93.8	80.0-120	
Lithium	1000	936	93.6	80.0-120	
Molybdenum	1000	976	97.6	80.0-120	

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1220990-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-20 05/27/20 19:18 • (MS) R3532357-4 05/27/20 19:23 • (MSD) R3532357-5 05/27/20 19:26

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	509	1460	1460	95.5	95.5	1	75.0-125			0.0385	20
Chromium	1000	ND	935	939	93.5	93.9	1	75.0-125			0.363	20
Cobalt	1000	ND	987	988	98.7	98.8	1	75.0-125			0.168	20
Lithium	1000	84.2	1000	1010	91.9	92.5	1	75.0-125			0.611	20
Molybdenum	1000	9.74	1000	996	99.4	98.6	1	75.0-125			0.824	20

L1220990-29 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-29 05/27/20 19:29 • (MS) R3532357-6 05/27/20 19:31 • (MSD) R3532357-7 05/27/20 19:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	72.9	1030	1030	96.2	96.1	1	75.0-125			0.0924	20
Chromium	1000	ND	937	932	93.7	93.2	1	75.0-125			0.520	20
Cobalt	1000	ND	975	969	97.5	96.9	1	75.0-125			0.637	20
Lithium	1000	41.1	971	967	92.9	92.6	1	75.0-125			0.401	20
Molybdenum	1000	8.64	991	994	98.2	98.5	1	75.0-125			0.278	20



Method Blank (MB)

(MB) R3531944-1 05/26/20 23:57

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Method Blank (MB)

(MB) R3531965-1 05/27/20 06:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Beryllium	U		0.454	2.00

⁶ Qc

⁷ Gl

⁸ Al

Laboratory Control Sample (LCS)

(LCS) R3531944-2 05/27/20 00:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Antimony	50.0	46.3	92.5	80.0-120	
Arsenic	50.0	51.0	102	80.0-120	
Cadmium	50.0	49.5	99.1	80.0-120	
Lead	50.0	48.5	97.0	80.0-120	
Selenium	50.0	43.9	87.8	80.0-120	
Thallium	50.0	47.7	95.3	80.0-120	

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3531965-2 05/27/20 06:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Beryllium	50.0	42.1	84.1	80.0-120	



L1220990-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-13 05/27/20 00:04 • (MS) R3531944-4 05/27/20 00:10 • (MSD) R3531944-5 05/27/20 00:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	49.0	50.5	94.5	97.7	1	75.0-125			3.14	20
Arsenic	50.0	ND	51.2	50.3	102	101	1	75.0-125			1.62	20
Cadmium	50.0	ND	48.9	48.0	97.9	96.0	1	75.0-125			1.86	20
Lead	50.0	ND	49.8	48.1	99.7	96.2	1	75.0-125			3.56	20
Selenium	50.0	ND	48.9	48.5	97.8	97.0	1	75.0-125			0.866	20
Thallium	50.0	ND	48.2	47.1	96.4	94.2	1	75.0-125			2.31	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L1220990-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-13 05/27/20 06:32 • (MS) R3531965-4 05/27/20 06:39 • (MSD) R3531965-5 05/27/20 06:42

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 %
Beryllium	50.0	ND	44.2	43.5	88.4	87.0	1	75.0-125			1.65	20

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3532304-6 05/27/20 17:37

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS)

(LCS) R3532304-7 05/27/20 17:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Antimony	50.0	45.9	91.8	80.0-120	
Arsenic	50.0	42.6	85.2	80.0-120	
Beryllium	50.0	50.8	102	80.0-120	
Cadmium	50.0	48.1	96.2	80.0-120	
Lead	50.0	46.7	93.3	80.0-120	
Selenium	50.0	49.1	98.3	80.0-120	
Thallium	50.0	46.3	92.5	80.0-120	

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1220990-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-20 05/27/20 17:43 • (MS) R3532304-9 05/27/20 17:50 • (MSD) R3532304-10 05/27/20 17:53

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	46.4	46.0	92.9	92.0	1	75.0-125			0.943	20
Arsenic	50.0	ND	48.2	48.6	93.7	94.7	1	75.0-125			0.974	20
Beryllium	50.0	ND	56.7	55.1	113	110	1	75.0-125			2.88	20
Cadmium	50.0	ND	49.3	49.4	98.7	98.8	1	75.0-125			0.186	20
Lead	50.0	7.79	55.2	56.3	94.9	97.0	1	75.0-125			1.89	20
Selenium	50.0	ND	47.9	49.4	95.8	98.7	1	75.0-125			3.00	20
Thallium	50.0	ND	47.8	47.5	95.5	95.0	1	75.0-125			0.538	20



Method Blank (MB)

(MB) R3532049-1 05/27/20 08:53

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS)

(LCS) R3532049-2 05/27/20 08:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Antimony	50.0	51.5	103	80.0-120	
Arsenic	50.0	49.8	99.6	80.0-120	
Beryllium	50.0	45.7	91.5	80.0-120	
Cadmium	50.0	50.1	100	80.0-120	
Lead	50.0	49.0	98.0	80.0-120	
Selenium	50.0	54.0	108	80.0-120	
Thallium	50.0	48.7	97.4	80.0-120	

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1220990-29 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220990-29 05/27/20 09:00 • (MS) R3532049-4 05/27/20 09:07 • (MSD) R3532049-5 05/27/20 09:10

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	53.5	55.8	107	112	1	75.0-125			4.26	20
Arsenic	50.0	ND	49.4	48.9	96.7	95.8	1	75.0-125			0.878	20
Beryllium	50.0	ND	48.2	46.7	96.4	93.5	1	75.0-125			3.07	20
Cadmium	50.0	ND	50.7	50.0	101	100	1	75.0-125			1.31	20
Lead	50.0	ND	49.6	50.6	99.3	101	1	75.0-125			1.88	20
Selenium	50.0	ND	55.7	54.1	111	108	1	75.0-125			3.05	20
Thallium	50.0	ND	49.4	48.2	98.7	96.3	1	75.0-125			2.46	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.

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

Qualifier Description

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



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

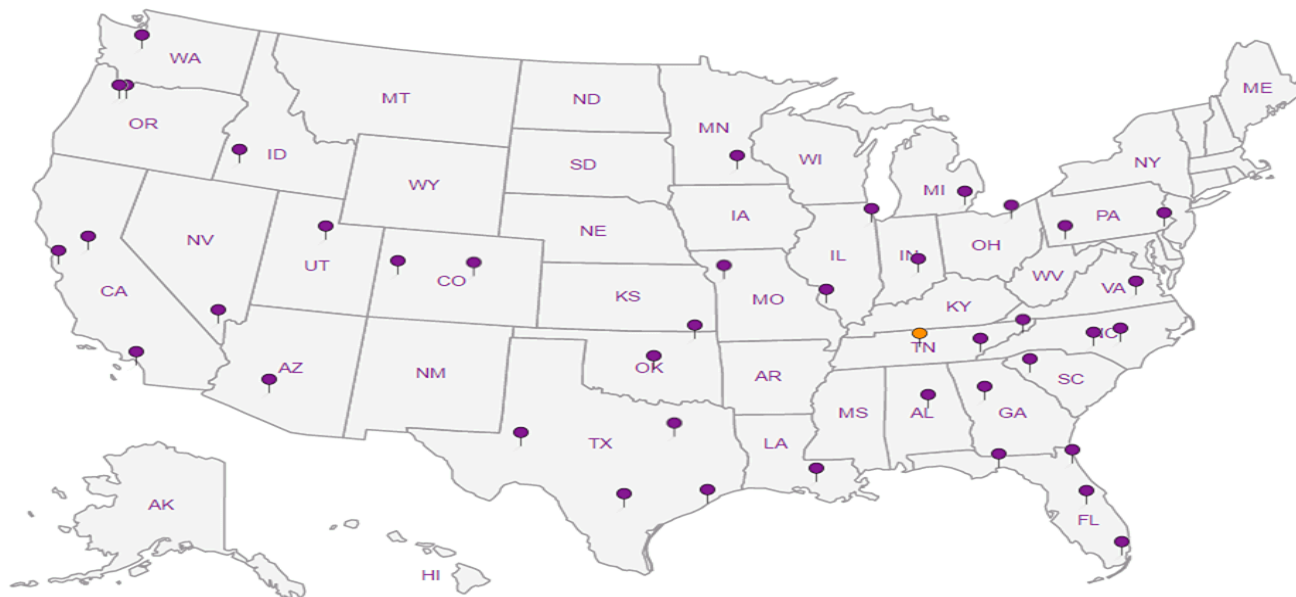
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres
Chk *CC*

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 - LaCygne Generating Station

City/State
Collected: *LaCygne KS*

Please Circle:
PT MT **CT** ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

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
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-6	<i>GRAB</i>	GW	-	<i>5/19/20</i>	<i>1120</i>	1
MW-7		GW	-		<i>1210</i>	1
MW-10		GW	-		<i>1545</i>	1
MW-11		GW	-		<i>1500</i>	1
MW-13		GW	-		<i>1745</i>	1
MW-14R		GW	-		<i>1620</i>	1
MW-15		GW	-		<i>1815</i>	1
MW-601		GW	-		<i>1210</i>	1
MW-602		GW	-		<i>1700</i>	1
MW-701		GW	-		<i>1315</i>	1

CCR Metals 250mHDPE-HNO3

SDG # *1220990*

G240

Acctnum: **AQUAOPKS**

Template: **T166954**

Prelogin: **P770321**

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: **6010 Metals-BA,CR,CO,LI,MO, 6020 Metals-SB,AS,BE,CD,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		
VOA Zero Headspace:	<input type="checkbox"/> Y <input checked="" 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)
Jason R. Franks

Date: *5-20-20*

Time: *0960*

Received by: (Signature)
[Signature]

Trip Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date: *5-20-20*

Time: *1800*

Received by: (Signature)
FedEx

Temp: *16.6-17.5*
Bottles Received: *34*

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)
[Signature]

Date: *5/21/20* Time: *8:45*

Hold: Condition: NCF / *OK*

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Project Description:
Energy - LaCygne Generating Station

Phone: **913-681-0030**

Collected by (print):
Jason R. Franks

Collected by (signature):
Jason R. Franks

Immediately Packed on Ice N Y

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

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

City/State Collected: *LA CYGNE, KS*

Please Circle:
PT MT **CT** ET

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Site/Facility ID #

P.O. #

Rush? (Lab MUST Be Notified)

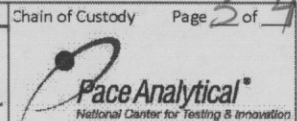
- Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mHDPE-HNO3	Analysis / Container / Preservative	Chain of Custody
MW-801	<i>GRAB</i>	GW	-	<i>5/19/20</i>	<i>1050</i>	1	X		
MW-802		GW	-		<i>1745</i>	1	X		
MW-803		GW	-		<i>1830</i>	1	X		
MW-804		GW	-		<i>1910</i>	1	X		
MW-805		GW	-		<i>1950</i>	1	X		
DUPLICATE 2		GW	-		<i>1650</i>	1	X		
<i>801</i> MS/MSD		GW	-		<i>11055</i>	1	X		
MW-901		GW	-		<i>1850</i>	1	X		
MW-902		GW	-		<i>1525</i>	1	X		
MW-903		GW	-		<i>1900</i>	1	X		



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



SDG # *1220990*

Table #

Acctnum: **AQUAOPKS**

Template: **T166954**

Prelogin: **P770321**

PM: 206 - Jeff Carr

PB:

Shipped Via:

Remarks	Sample # (lab only)
	<i>20 21</i>
	<i>21 22</i>
	<i>22 23</i>
	<i>23 24</i>
	<i>24 25</i>
	<i>25 26</i>
	<i>26 27</i>
	<i>26 28</i>
	<i>27 29</i>
	<i>28 30</i>

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

Remarks: **6010 Metals-BA,CR,CO,LI,MO, 6020 Metals-SB,AS,BE,CD,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		
VOA Zero Headspace:	<input type="checkbox"/> Y	<input checked="" 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>Jason R. Franks</i>	Date: <i>5-20-20</i>	Time: <i>0900</i>	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes (No) HCL/MsoH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: <i>5-20-20</i>	Time: <i>1800</i>	Received by: (Signature) <i>FedEx</i>	Temp: <i>1.6-1.5</i> Bottles Received: <i>34</i>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Paul Kemp</i>	Date: <i>5/10/20</i> Time: <i>8:45</i> Hold: Condition: NCF / <i>OR</i>

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 4 of 4



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 - LaCygne Generating Station

City/State
Collected: **LA CYGNE, KS**

Please Circle:
PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
Jason R Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R Franks

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

Quote #

Date Results Needed

No.
of
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
-----------	-----------	----------	-------	------	------	-------------

MW-904	GRAB	GW	-	5/19/20	1125	1
MW-905	↓	GW	-		1405	1
DUPLICATE 3		GW	-		1125	1
904 MS/MSD		GW	-	↓		1125

CCR Metals 250mLHDPE-HNO3

SDG # **1220990**

Table #

Acctnum: **AQUAOPKS**

Template: **T166954**

Prelogin: **P770321**

PM: **206 - Jeff Carr**

PB:

Shipped Via:

Remarks | Sample # (lab only)

29
30
31
2982

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

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

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) *Jason R Franks* Date: **5-20-20** Time: **0900** Received by: (Signature) *[Signature]*

Trip Blank Received: Yes / **NO**
HCL / MeOH
TBR

Relinquished by: (Signature) *[Signature]* Date: **5-20-20** Time: **1100** Received by: (Signature) **FedEx**

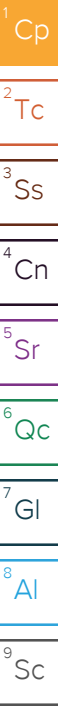
Temp: **11.5** Bottles Received: **34**

If preservation required by LogIn: Date/Time

Relinquished by: (Signature) Date: Time: Received for lab by: (Signature) *Paul Kemp*

Date: **5/01/20** Time: **8:45**

Hold: Condition: **NCF / OK**



SCS Engineers - KS

Sample Delivery Group: L1221007
Samples Received: 05/21/2020
Project Number: 27217233.20
Description: Evergy - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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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Sc: Sample Chain of Custody

50

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY

MW-6 L1221007-01 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 11:20
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 19:13	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 19:13	RGT	Mt. Juliet, TN

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

MW-7 L1221007-02 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 12:10
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 19:13	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 19:13	RGT	Mt. Juliet, TN

MW-10 L1221007-03 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 15:45
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-11 L1221007-04 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 15:00
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-13 L1221007-05 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 17:45
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-14R L1221007-06 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 16:20
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

SAMPLE SUMMARY



MW-15 L1221007-07 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 18:15
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-601 L1221007-08 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 12:10
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-602 L1221007-09 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 17:00
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 09:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-701 L1221007-10 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 13:15
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-702 L1221007-11 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 10:35
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-703 L1221007-12 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 11:30
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

SAMPLE SUMMARY



MW-704 L1221007-13 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 14:00
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-705 L1221007-14 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 13:05
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-706 L1221007-15 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 13:45
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1482900	1	05/28/20 14:52	06/03/20 13:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1487018	1	06/04/20 15:41	06/05/20 15:02	RGT	Mt. Juliet, TN

MW-707B L1221007-16 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 15:20
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-708 L1221007-17 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 16:05
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

TW-1 L1221007-18 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 14:30
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN



DUPLICATE 1 L1221007-19 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 14:05
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-801 L1221007-20 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 16:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

MW-802 L1221007-21 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 17:45
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

MW-803 L1221007-22 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 18:30
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/07/20 12:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-804 L1221007-23 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 19:10
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/08/20 09:45	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-805 L1221007-24 Non-Potable Water

Collected by Jason R Franks
 Collected date/time 05/19/20 19:50
 Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/08/20 09:45	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

DUPLICATE 2 L1221007-25 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 16:50
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/08/20 09:45	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

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

MW-901 L1221007-26 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 18:50
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1483720	1	05/29/20 12:43	06/08/20 09:45	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-902 L1221007-27 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 15:25
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1484279	1	06/02/20 13:54	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-903 L1221007-28 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 19:00
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1484279	1	06/02/20 13:54	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1488872	1	06/08/20 15:36	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1488872	1	06/08/20 15:36	06/09/20 15:19	RGT	Mt. Juliet, TN

MW-904 L1221007-29 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 11:25
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1484279	1	06/02/20 13:54	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1489235	1	06/11/20 14:06	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1489235	1	06/11/20 14:06	06/12/20 15:10	RGT	Mt. Juliet, TN

MW-905 L1221007-30 Non-Potable Water

Collected by Jason R Franks
Collected date/time 05/19/20 14:05
Received date/time 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1484279	1	06/02/20 13:54	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1489235	1	06/11/20 14:06	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1489235	1	06/11/20 14:06	06/12/20 15:10	RGT	Mt. Juliet, TN



DUPLICATE 3 L1221007-31 Non-Potable Water

Collected by: Jason R Franks
 Collected date/time: 05/19/20 11:25
 Received date/time: 05/21/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1484279	1	06/02/20 13:54	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1489235	1	06/11/20 14:06	06/16/20 09:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1489235	1	06/11/20 14:06	06/12/20 15:15	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



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

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- 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	2.08		0.600	0.851	06/03/2020 09:35	WG1482900
(T) Barium	113			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	107			79.0-136	06/03/2020 09:35	WG1482900

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	2.42		0.876	1.15	06/05/2020 19:13	WG1487018

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	0.342		0.276	0.296	06/05/2020 19:13	WG1487018
(T) Barium-133	77.6			30.0-143	06/05/2020 19:13	WG1487018

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	1.06		0.644	0.995	06/03/2020 09:35	WG1482900
(T) Barium	109			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	105			79.0-136	06/03/2020 09:35	WG1482900

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	1.72		0.972	1.25	06/05/2020 19:13	WG1487018

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	0.653		0.328	0.254	06/05/2020 19:13	WG1487018
(T) Barium-133	84.7			30.0-143	06/05/2020 19:13	WG1487018

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	-0.0592		0.677	1.1	06/03/2020 09:35	WG1482900
(T) Barium	116			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	108			79.0-136	06/03/2020 09:35	WG1482900

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	0.425		0.974	1.39	06/05/2020 15:02	WG1487018

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	0.425		0.297	0.287	06/05/2020 15:02	WG1487018
(T) Barium-133	79.9			30.0-143	06/05/2020 15:02	WG1487018

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	2.50		0.568	0.891	06/03/2020 09:35	WG1482900
(T) Barium	103			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	98.0			79.0-136	06/03/2020 09:35	WG1482900

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	2.54		0.684	1.12	06/05/2020 15:02	WG1487018

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	0.0343		0.116	0.226	06/05/2020 15:02	WG1487018
(T) Barium-133	94.9			30.0-143	06/05/2020 15:02	WG1487018

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	2.09		0.578	0.799	06/03/2020 09:35	WG1482900
(T) Barium	101			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	110			79.0-136	06/03/2020 09:35	WG1482900

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	2.25		0.776	1.08	06/05/2020 15:02	WG1487018

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	0.161		0.198	0.277	06/05/2020 15:02	WG1487018
(T) Barium-133	99.2			30.0-143	06/05/2020 15:02	WG1487018

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	0.849		0.601	0.925	06/03/2020 09:35	WG1482900
(T) Barium	93.2			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	109			79.0-136	06/03/2020 09:35	WG1482900

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	0.945		0.741	1.14	06/05/2020 15:02	WG1487018

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	0.0956		0.140	0.21	06/05/2020 15:02	WG1487018
(T) Barium-133	92.1			30.0-143	06/05/2020 15:02	WG1487018

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	1.18		0.544	0.776	06/03/2020 09:35	WG1482900
(T) Barium	99.0			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	108			79.0-136	06/03/2020 09:35	WG1482900

- 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	1.74		0.864	1.12	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.560		0.320	0.342	06/05/2020 15:02	WG1487018
(T) Barium-133	91.7			30.0-143	06/05/2020 15:02	WG1487018



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.113		0.545	0.84	06/03/2020 09:35	WG1482900
(T) Barium	106			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	106			79.0-136	06/03/2020 09:35	WG1482900

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	0.329		0.744	1.08	06/05/2020 15:02	WG1487018

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	0.216		0.199	0.237	06/05/2020 15:02	WG1487018
(T) Barium-133	98.9			30.0-143	06/05/2020 15:02	WG1487018

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	-0.644		0.614	1.02	06/03/2020 09:35	WG1482900
(T) Barium	103			62.0-143	06/03/2020 09:35	WG1482900
(T) Yttrium	105			79.0-136	06/03/2020 09:35	WG1482900

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	0.000		0.827	1.41	06/05/2020 15:02	WG1487018

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	-0.0790		0.213	0.386	06/05/2020 15:02	WG1487018
(T) Barium-133	92.2			30.0-143	06/05/2020 15:02	WG1487018

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	1.68		0.590	0.851	06/03/2020 13:40	WG1482900
(T) Barium	105			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	105			79.0-136	06/03/2020 13:40	WG1482900

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	2.08		0.886	1.17	06/05/2020 15:02	WG1487018

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	0.400		0.296	0.322	06/05/2020 15:02	WG1487018
(T) Barium-133	77.7			30.0-143	06/05/2020 15:02	WG1487018

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	-0.673		0.612	0.995	06/03/2020 13:40	WG1482900
(T) Barium	112			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	101			79.0-136	06/03/2020 13:40	WG1482900

- 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	0.500		0.876	1.18	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.500		0.264	0.181	06/05/2020 15:02	WG1487018
(T) Barium-133	96.3			30.0-143	06/05/2020 15:02	WG1487018



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-1.18		0.656	1.1	06/03/2020 13:40	WG1482900
(T) Barium	111			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	101			79.0-136	06/03/2020 13:40	WG1482900

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	1.33		1.09	1.32	06/05/2020 15:02	WG1487018

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	1.33		0.429	0.216	06/05/2020 15:02	WG1487018
(T) Barium-133	103			30.0-143	06/05/2020 15:02	WG1487018

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	3.32		0.569	0.873	06/03/2020 13:40	WG1482900
(T) Barium	106			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	111			79.0-136	06/03/2020 13:40	WG1482900

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	3.52		0.830	1.24	06/05/2020 15:02	WG1487018

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	0.201		0.261	0.371	06/05/2020 15:02	WG1487018
(T) Barium-133	96.1			30.0-143	06/05/2020 15:02	WG1487018

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	-0.385		0.582	1.44	06/03/2020 13:40	WG1482900
(T) Barium	109			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	106			79.0-136	06/03/2020 13:40	WG1482900

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	0.343		0.830	1.68	06/05/2020 15:02	WG1487018

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	0.343		0.248	0.236	06/05/2020 15:02	WG1487018
(T) Barium-133	95.8			30.0-143	06/05/2020 15:02	WG1487018

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	1.40		0.647	0.967	06/03/2020 13:40	WG1482900
(T) Barium	107			62.0-143	06/03/2020 13:40	WG1482900
(T) Yttrium	102			79.0-136	06/03/2020 13:40	WG1482900

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	1.52		0.824	1.23	06/05/2020 15:02	WG1487018

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	0.122		0.177	0.267	06/05/2020 15:02	WG1487018
(T) Barium-133	96.3			30.0-143	06/05/2020 15:02	WG1487018

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	-0.218		0.615	0.966	06/07/2020 12:40	WG1483720
(T) Barium	124			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	108			79.0-136	06/07/2020 12:40	WG1483720

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	0.210		0.862	1.31	06/09/2020 15:19	WG1488872

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	0.210		0.247	0.34	06/09/2020 15:19	WG1488872
(T) Barium-133	92.9			30.0-143	06/09/2020 15:19	WG1488872

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	-0.182		0.684	1.09	06/07/2020 12:40	WG1483720
(T) Barium	122			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	106			79.0-136	06/07/2020 12:40	WG1483720

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	0.123		0.908	1.44	06/09/2020 15:19	WG1488872

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	0.123		0.224	0.347	06/09/2020 15:19	WG1488872
(T) Barium-133	95.4			30.0-143	06/09/2020 15:19	WG1488872

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	0.970		0.605	0.983	06/07/2020 12:40	WG1483720
(T) Barium	121			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	110			79.0-136	06/07/2020 12:40	WG1483720

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.18		0.814	1.24	06/09/2020 15:19	WG1488872

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.213		0.209	0.255	06/09/2020 15:19	WG1488872
(T) Barium-133	90.0			30.0-143	06/09/2020 15:19	WG1488872

⁶Qc

⁷Gl

⁸Al

⁹Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.204		0.614	0.901	06/07/2020 12:40	WG1483720
(T) Barium	120			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	105			79.0-136	06/07/2020 12:40	WG1483720

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	0.592		0.911	1.13	06/09/2020 15:19	WG1488872

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	0.592		0.297	0.23	06/09/2020 15:19	WG1488872
(T) Barium-133	93.5			30.0-143	06/09/2020 15:19	WG1488872

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	0.289		0.606	0.913	06/07/2020 12:40	WG1483720
(T) Barium	95.4			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	104			79.0-136	06/07/2020 12:40	WG1483720

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	0.632		0.846	1.15	06/09/2020 15:19	WG1488872

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	0.344		0.240	0.232	06/09/2020 15:19	WG1488872
(T) Barium-133	98.7			30.0-143	06/09/2020 15:19	WG1488872

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	0.128		0.520	0.754	06/07/2020 12:40	WG1483720
(T) Barium	116			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	104			79.0-136	06/07/2020 12:40	WG1483720

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	0.881		0.857	0.991	06/09/2020 15:19	WG1488872

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	0.753		0.337	0.237	06/09/2020 15:19	WG1488872
(T) Barium-133	90.8			30.0-143	06/09/2020 15:19	WG1488872

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	0.173		0.561	0.85	06/07/2020 12:40	WG1483720
(T) Barium	107			62.0-143	06/07/2020 12:40	WG1483720
(T) Yttrium	111			79.0-136	06/07/2020 12:40	WG1483720

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	0.758		0.895	1.16	06/09/2020 15:19	WG1488872

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	0.585		0.334	0.307	06/09/2020 15:19	WG1488872
(T) Barium-133	89.4			30.0-143	06/09/2020 15:19	WG1488872

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	-0.0906		0.582	0.906	06/08/2020 09:45	WG1483720
(T) Barium	105			62.0-143	06/08/2020 09:45	WG1483720
(T) Yttrium	111			79.0-136	06/08/2020 09:45	WG1483720

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	0.304		0.801	1.13	06/09/2020 15:19	WG1488872

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	0.304		0.219	0.223	06/09/2020 15:19	WG1488872
(T) Barium-133	87.0			30.0-143	06/09/2020 15:19	WG1488872

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	1.20		0.502	0.692	06/08/2020 09:45	WG1483720
(T) Barium	117			62.0-143	06/08/2020 09:45	WG1483720
(T) Yttrium	110			79.0-136	06/08/2020 09:45	WG1483720

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	1.24		0.692	1.01	06/09/2020 15:19	WG1488872

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	0.0441		0.190	0.314	06/09/2020 15:19	WG1488872
(T) Barium-133	103			30.0-143	06/09/2020 15:19	WG1488872

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	0.570		0.616	1.02	06/08/2020 09:45	WG1483720
(T) Barium	106			62.0-143	06/08/2020 09:45	WG1483720
(T) Yttrium	112			79.0-136	06/08/2020 09:45	WG1483720

- 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	0.783		0.813	1.26	06/09/2020 15:19	WG1488872

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.213		0.197	0.235	06/09/2020 15:19	WG1488872
(T) Barium-133	101			30.0-143	06/09/2020 15:19	WG1488872



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.73		0.643	1.01	06/08/2020 09:45	WG1483720
(T) Barium	111			62.0-143	06/08/2020 09:45	WG1483720
(T) Yttrium	111			79.0-136	06/08/2020 09:45	WG1483720

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.90		0.914	1.4	06/09/2020 15:19	WG1488872

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.176		0.271	0.388	06/09/2020 15:19	WG1488872
(T) Barium-133	91.9			30.0-143	06/09/2020 15:19	WG1488872

⁶Qc

⁷Gl

⁸Al

⁹Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.13		0.673	0.954	06/16/2020 09:40	WG1484279
(T) Barium	100			62.0-143	06/16/2020 09:40	WG1484279
(T) Yttrium	92.6			79.0-136	06/16/2020 09:40	WG1484279

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	1.33		0.887	1.24	06/16/2020 09:40	WG1488872

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	0.201		0.214	0.282	06/09/2020 15:19	WG1488872
(T) Barium-133	88.8			30.0-143	06/09/2020 15:19	WG1488872

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	0.486		0.604	1.01	06/16/2020 09:40	WG1484279
(T) Barium	90.9			62.0-143	06/16/2020 09:40	WG1484279
(T) Yttrium	105			79.0-136	06/16/2020 09:40	WG1484279

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.509		0.694	1.22	06/16/2020 09:40	WG1488872

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0233		0.0899	0.205	06/09/2020 15:19	WG1488872
(T) Barium-133	85.1			30.0-143	06/09/2020 15:19	WG1488872

⁶Qc

⁷Gl

⁸Al

⁹Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.167		0.630	0.999	06/16/2020 09:40	WG1484279
(T) Barium	98.7			62.0-143	06/16/2020 09:40	WG1484279
(T) Yttrium	99.4			79.0-136	06/16/2020 09:40	WG1484279

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	0.215		0.738	1.2	06/16/2020 09:40	WG1489235

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	0.0478		0.108	0.198	06/12/2020 15:10	WG1489235
(T) Barium-133	99.4			30.0-143	06/12/2020 15:10	WG1489235

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	-0.294		0.545	0.949	06/16/2020 09:40	WG1484279
(T) Barium	95.6			62.0-143	06/16/2020 09:40	WG1484279
(T) Yttrium	98.9			79.0-136	06/16/2020 09:40	WG1484279

¹Cp

²Tc

³Ss

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.281		0.772	1.19	06/16/2020 09:40	WG1489235

⁴Cn

⁵Sr

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.281		0.227	0.242	06/12/2020 15:10	WG1489235
(T) Barium-133	95.9			30.0-143	06/12/2020 15:10	WG1489235

⁶Qc

⁷Gl

⁸Al

⁹Sc



Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0624		0.594	0.93	06/16/2020 09:40	WG1484279
(T) Barium	91.1			62.0-143	06/16/2020 09:40	WG1484279
(T) Yttrium	101			79.0-136	06/16/2020 09:40	WG1484279

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	0.149		0.745	1.18	06/16/2020 09:40	WG1489235

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	0.0868		0.151	0.246	06/12/2020 15:15	WG1489235
(T) Barium-133	93.4			30.0-143	06/12/2020 15:15	WG1489235

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3535421-1 06/03/20 09:35

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.0276		0.501
(T) Barium	106		
(T) Yttrium	105		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1222318-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222318-01 06/03/20 13:40 • (DUP) R3535421-5 06/03/20 09:35

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.35	1.54	1	13.4	0.220		20	3
(T) Barium	107	100						
(T) Yttrium	101	108						

Laboratory Control Sample (LCS)

(LCS) R3535421-2 06/03/20 09:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.81	96.1	80.0-120	
(T) Barium			98.1		
(T) Yttrium			104		

L1221007-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221007-13 06/03/20 13:40 • (MS) R3535421-3 06/03/20 09:35 • (MSD) R3535421-4 06/03/20 09:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	3.32	11.8	14.2	84.7	108	1	70.0-130			18.3		20
(T) Barium		106			105	105							
(T) Yttrium		111			109	109							



Method Blank (MB)

(MB) R3536266-1 06/07/20 12:40

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.711		0.542
(T) Barium	82.1		
(T) Yttrium	103		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1221007-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1221007-19 06/07/20 12:40 • (DUP) R3536266-5 06/07/20 12:40

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.204	0.282	1	200	0.515		20	3
(T) Barium	120	104						
(T) Yttrium	105	106						

Laboratory Control Sample (LCS)

(LCS) R3536266-2 06/07/20 12:40

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.47	109	80.0-120	
(T) Barium			92.5		
(T) Yttrium			97.7		

L1221007-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221007-20 06/07/20 12:40 • (MS) R3536266-3 06/07/20 12:40 • (MSD) R3536266-4 06/07/20 12:40

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	0.289	10.8	10.5	105	102	1	70.0-130			3.19		20
(T) Barium		95.4			119	120							
(T) Yttrium		104			101	106							



Method Blank (MB)

(MB) R3540497-1 06/16/20 09:40

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.442		0.422
(T) Barium	97.2		
(T) Yttrium	105		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1222881-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222881-01 06/16/20 09:40 • (DUP) R3540497-5 06/16/20 09:40

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.394	0.886	1	76.9	0.543		20	3
(T) Barium	82.7	86.8						
(T) Yttrium	97.9	104						

Laboratory Control Sample (LCS)

(LCS) R3540497-2 06/16/20 09:40

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.72	94.4	80.0-120	
(T) Barium			83.3		
(T) Yttrium			97.0		



Method Blank (MB)

(MB) R3537395-1 06/05/20 15:02

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.0212		0.0760
(T) Barium-133	101		

1 Cp

2 Tc

3 Ss

4 Cn

L1224651-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1224651-01 06/05/20 15:02 • (DUP) R3537395-5 06/05/20 15:02

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	0.289	0.269	1	7.21	0.0681		20	3
(T) Barium-133	104	94.0						

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3537395-2 06/05/20 15:02

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.75	94.5	80.0-120	
(T) Barium-133			99.4		

7 Gl

8 Al

9 Sc

L1221007-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221007-13 06/05/20 15:02 • (MS) R3537395-3 06/05/20 15:02 • (MSD) R3537395-4 06/05/20 15:02

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	0.201	19.7	23.7	96.9	117	1	75.0-125			18.4		20
(T) Barium-133		96.1			99.0	85.9							



Method Blank (MB)

(MB) R3538773-1 06/09/20 15:19

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.0212		0.0760
(T) Barium-133	103		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1221007-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1221007-17 06/09/20 15:19 • (DUP) R3538773-5 06/09/20 15:19

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	0.123	0.154	1	22.3	0.114		20	3
(T) Barium-133	95.4	99.3						

Laboratory Control Sample (LCS)

(LCS) R3538773-2 06/09/20 15:19

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.55	110	80.0-120	
(T) Barium-133			103		

L1221007-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221007-20 06/09/20 15:19 • (MS) R3538773-3 06/09/20 15:19 • (MSD) R3538773-4 06/09/20 15:19

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	0.344	18.6	21.0	91.0	103	1	75.0-125			11.9		20
(T) Barium-133		98.7			102	104							



Method Blank (MB)

(MB) R3539344-1 06/12/20 15:10

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00387		0.0511
(T) Barium-133	85.9		

1 Cp

2 Tc

3 Ss

4 Cn

L1221829-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221829-01 06/12/20 15:15 • (DUP) R3539344-5 06/12/20 15:10

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Radium-226	-0.0278	-0.0200	1	0.000	0.0975		20	3
(T) Barium-133	111	100						

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3539344-2 06/12/20 15:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.10	102	80.0-120	
(T) Barium-133			94.7		

7 Gl

8 Al

9 Sc

L1221007-29 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221007-29 06/12/20 15:10 • (MS) R3539344-3 06/12/20 15:10 • (MSD) R3539344-4 06/12/20 15:10

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	0.0478	21.0	20.3	104	101	1	75.0-125			3.58		20
(T) Barium-133		99.4			96.9	100							



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



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

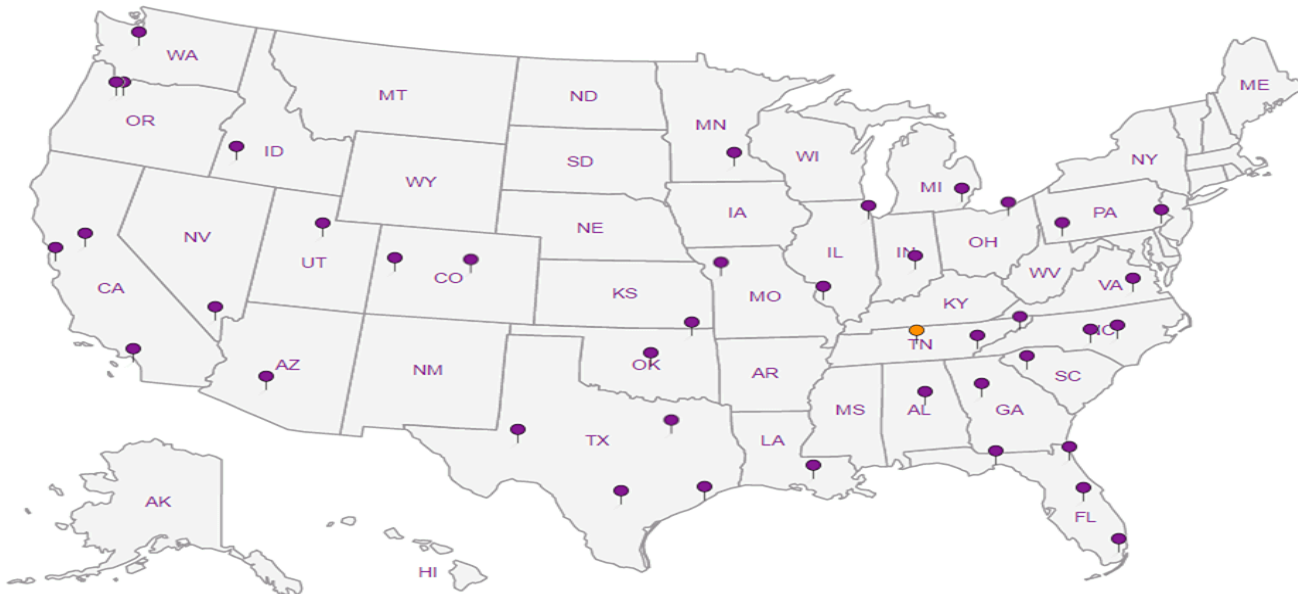
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 4



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 - LaCygne Generating Station

City/State
Collected: La Cygne, KS

Please Circle:
PT MT CT ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
J.R. Franks

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

No.
of
Cnts

Immediately
Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts												
MW-702	GRAB	NPW	-	5/19/20	1035	2	X											
MW-703		NPW	-		1130	2	X											11
MW-704		NPW	-		1400	2	X											12
MW-705		NPW	-		1305	2	X											13
MW-706		NPW	-		1345	2	X											14
MW-707B		NPW	-		1520	2	X											15
MW-708		NPW	-		1605	2	X											16
TW-1		NPW	-		1430	2	X											17
DUPLICATE 1		NPW	-		1405	2	X											18
704 MS / MSD		NPW	-		1410	2	X											19

RA226, RA228 1L-HDPE-Add HNO3

SDG # 1221007

Table #

Acctnum: **AQUAOPKS**

Template: **T167974**

Prelogin: **P774139**

PM: 206 - Jeff Carr

PB:

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

* 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: 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)
Jason R. Franks

Date: 5-20-20

Time: 0900

Received by: (Signature)
[Signature]

Trip Blank Received: Yes/No
HCL/Mech
TBR

Relinquished by: (Signature)
[Signature]

Date: 5-20-20

Time: 1800

Received by: (Signature)
[Signature]

Temp: 16.0 °C
Bottles Received: 68

If preservation required by Login; Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)
[Signature]

Date: 5/21/20 Time: 8:45

Hold:

Condition:
NCF / OK

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

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

Project Description:
Energy - LaCygne Generating Station

City/State Collected: **LA CYGNE, KS**

Please Circle:
PT MT **CT** ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)

Quote #

Immediately Packed on Ice N Y

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

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MSD	GRAB	NPW	-	5/19/20	11050	2
MW-801	GRAB	NPW	-	5/19/20	11050	2
MW-802	GRAB	NPW	-	5/19/20	1745	2
MW-803	GRAB	NPW	-	5/19/20	1830	2
MW-804	GRAB	NPW	-	5/19/20	1910	2
MW-805	GRAB	NPW	-	5/19/20	1950	2
DUPLICATE 2	GRAB	NPW	-	5/19/20	1050	2
801 MS/MSD	GRAB	NPW	-	5/19/20	1850	2
MSD	GRAB	NPW	-	5/19/20	1525	2
MW-901	GRAB	NPW	-	5/19/20	1850	2

RA226, RA228 1L-HDPE-Add HNO3

Analysis / Container / Preservative

Chain of Custody Page 3 of 4



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



SDG # **12-21607**

Table #

Acctnum: **AQUAOPKS**

Template: **T167974**

Prelogin: **P774139**

PM: 206 - Jeff Carr

PB:

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

* 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 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)
Jason R. Franks

Date: **5-20-20**
Time: **0900**

Received by: (Signature)
JR

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

Relinquished by: (Signature)
JR

Date: **5-20-20**
Time: **1800**

Received by: (Signature)
FedEx

Temp: **4.1** °C
1.10-1.15
Bottles Received: **68**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: _____
Time: _____

Received for lab by: (Signature)
Chris Harris

Date: **5/20/20**
Time: **8:45**

Hold: _____
Condition: **NCF / OK**

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Pres
Chk

LL

Analysis / Container / Preservative

Chain of Custody Page 4 of 4



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 - LaCygne Generating Station

City/State
Collected: *LA CYGNE, KS*

Please Circle:
PT MT CT ET

Phone: 913-681-0030

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

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 Cnts												
MW-902	GRAB	NPW	-	5/19/20	1525	2	X											
MW-903		NPW	-		1900	2	X											
MW-904		NPW	-		1125	2	X											
MW-905		NPW	-		1405	2	X											
DUPLICATE 3		NPW	-		1125	2	X											
904 ^{MS} / MSD		NPW	-		1125	2	X											
MSD		NPW	-			2	X											

RA226, RA228 1L-HDPE-Add HNO3

SDG # 1221007

Table #

Acctnum: AQUAOPKS

Template: T167974

Prelogin: P774139

PM: 206 - Jeff Carr

PB:

Shipped Via: FedEX Ground

Remarks | Sample # (lab only)

* 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: 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)
Jason R. Franks

Date:
5-20-20

Time:
0900

Received by: (Signature)
[Signature]

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date:
5-20-20

Time:
0800

Received by: (Signature)
FedEx

Temp: *11.0-11.5* °C
Bottles Received: 68

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

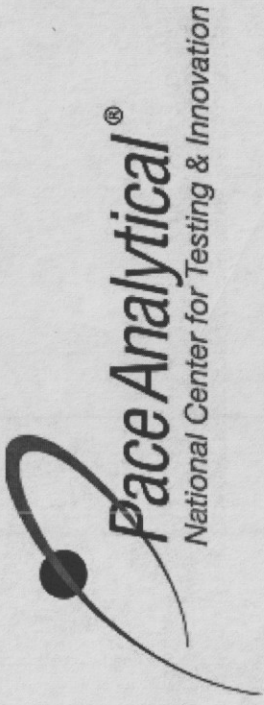
Time:

Received for lab by: (Signature)
[Signature]

Date: 5/21/20 Time: 8:45

Hold: Condition: NCF / OK

Kelsey Stephenson



LogIn #: L1221007	Client:AQUAOPKS	Date:05/21	Evaluated by:Kelsey S
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Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	If Broken Container:
Parameter(s) past holding time	Login Clarification Needed	Insufficient packing material around container
Temperature not in range	Chain of custody is incomplete	Insufficient packing material inside cooler
Improper container type	Please specify Metals requested.	Improper handling by carrier (FedEx / UPS / Courier)
pH not in range.	Please specify TCLP requested.	Sample was frozen
Insufficient sample volume.	Received additional samples not listed on coc.	Container lid not intact
Sample is biphasic.	Sample ids on containers do not match ids on coc	If no Chain of Custody:
Viials received with headspace.	Trip Blank not received.	Received by:
Broken container	Client did not "X" analysis.	Date/Time:
Broken container:	Chain of Custody is missing	Temp./Cont. Rec./pH:
Sufficient sample remains		Carrier:
		Tracking#

LogIn Comments: Received MW-707B with a pH of 6 and 7.

pH adj 1550 05/21. Lot#19L04452

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials:	Client Contact:				

LogIn Instructions:

Will hold 16 hrs & proceed with analysis.
DE 5/21/20 1644

ATTACHMENT 1-2
July 2020 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L1239490
Samples Received: 07/15/2020
Project Number: 27217233.20
Description: Evergy - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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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SAMPLE SUMMARY



MW-13 L1239490-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 06:38	07/16/20 06:38	ELN	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 12:25
 Received date/time 07/15/20 08:30

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MW-14R L1239490-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 06:55	07/16/20 06:55	ELN	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 11:45
 Received date/time 07/15/20 08:30

DUPLICATE 1 L1239490-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 08:19	07/16/20 08:19	ELN	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 11:50
 Received date/time 07/15/20 08:30

MW-701 L1239490-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1509664	1	07/16/20 10:18	07/16/20 16:17	EL	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 14:07
 Received date/time 07/15/20 08:30

MW-704 L1239490-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	5	07/16/20 08:36	07/16/20 08:36	ELN	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 13:25
 Received date/time 07/15/20 08:30

MW-706 L1239490-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 11:25	07/16/20 11:25	ELN	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 11:50
 Received date/time 07/15/20 08:30

MW-707B L1239490-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1509664	1	07/16/20 10:18	07/16/20 15:30	EL	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 11:05
 Received date/time 07/15/20 08:30

DUPLICATE 2 L1239490-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1509664	1	07/16/20 10:18	07/16/20 16:20	EL	Mt. Juliet, TN

Collected by G. Penaflor
 Collected date/time 07/13/20 11:10
 Received date/time 07/15/20 08:30

SAMPLE SUMMARY



TW-1 L1239490-09 GW

Collected by: G. Penaflor
 Collected date/time: 07/13/20 10:50
 Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 09:10	07/16/20 09:10	ELN	Mt. Juliet, TN

¹Cp

²Tc

³Ss

DUPLICATE 3 L1239490-10 GW

Collected by: G. Penaflor
 Collected date/time: 07/13/20 10:55
 Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	5	07/16/20 10:01	07/16/20 10:01	ELN	Mt. Juliet, TN

⁴Cn

⁵Sr

MW-901 L1239490-11 GW

Collected by: G. Penaflor
 Collected date/time: 07/13/20 09:45
 Received date/time: 07/15/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1509631	1	07/16/20 10:18	07/16/20 10:18	ELN	Mt. Juliet, TN

⁶Qc

⁷Gl

⁸Al

⁹Sc



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

- 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
Chloride	18800		1000	1	07/16/2020 06:38	WG1509631

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
Chloride	6380		1000	1	07/16/2020 06:55	WG1509631
Fluoride	336		150	1	07/16/2020 06:55	WG1509631

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
Chloride	6370		1000	1	07/16/2020 08:19	WG1509631
Fluoride	339		150	1	07/16/2020 08:19	WG1509631

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	41300		1000	1	07/16/2020 16:17	WG1509664

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
Chloride	90100		5000	5	07/16/2020 08:36	WG1509631

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	21300		5000	1	07/16/2020 11:25	WG1509631

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	421000	<u>O1V</u>	1000	1	07/16/2020 15:30	WG1509664

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	422000		1000	1	07/16/2020 16:20	WG1509664

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	69400		5000	1	07/16/2020 09:10	WG1509631

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	69800		25000	5	07/16/2020 10:01	WG1509631

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
Fluoride	562		150	1	07/16/2020 10:18	WG1509631

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3550034-1 07/16/20 00:33

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1239053-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1239053-01 07/16/20 02:07 • (DUP) R3550034-3 07/16/20 02:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	18800	18600	1	1.21		15
Fluoride	ND	ND	1	0.000		15
Sulfate	8370	8470	1	1.20		15

L1239490-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1239490-11 07/16/20 10:18 • (DUP) R3550034-8 07/16/20 11:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	24100	24000	1	0.491		15
Fluoride	562	565	1	0.444		15
Sulfate	21500	21400	1	0.174		15

Laboratory Control Sample (LCS)

(LCS) R3550034-2 07/16/20 00:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	40000	100	80.0-120	
Fluoride	8000	8020	100	80.0-120	
Sulfate	40000	39800	99.5	80.0-120	



L1239490-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239490-02 07/16/20 06:55 • (MS) R3550034-4 07/16/20 07:45 • (MSD) R3550034-5 07/16/20 08:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6380	52700	52900	92.6	93.1	1	80.0-120			0.455	15
Fluoride	5000	336	4920	4940	91.7	92.1	1	80.0-120			0.462	15
Sulfate	50000	56800	98200	98300	82.7	83.0	1	80.0-120			0.130	15

L1239490-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239490-09 07/16/20 09:10 • (MS) R3550034-6 07/16/20 09:27 • (MSD) R3550034-7 07/16/20 09:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	41200	86000	86300	89.6	90.2	1	80.0-120			0.321	15
Fluoride	5000	444	5030	5040	91.8	92.0	1	80.0-120			0.198	15
Sulfate	50000	69400	113000	113000	86.5	86.4	1	80.0-120	<u>E</u>	<u>E</u>	0.0432	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3550315-1 07/16/20 15:24

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS)

(LCS) R3550315-2 07/16/20 15:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9480	94.8	80.0-120	

⁶ Qc

L1239490-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1239490-07 07/16/20 15:30 • (MS) R3550315-4 07/16/20 15:36 • (MSD) R3550315-5 07/16/20 15:39

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 %
Calcium	10000	421000	422000	417000	17.3	0.000	1	75.0-125	<u>V</u>	<u>V</u>	1.24	20

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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.

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 ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

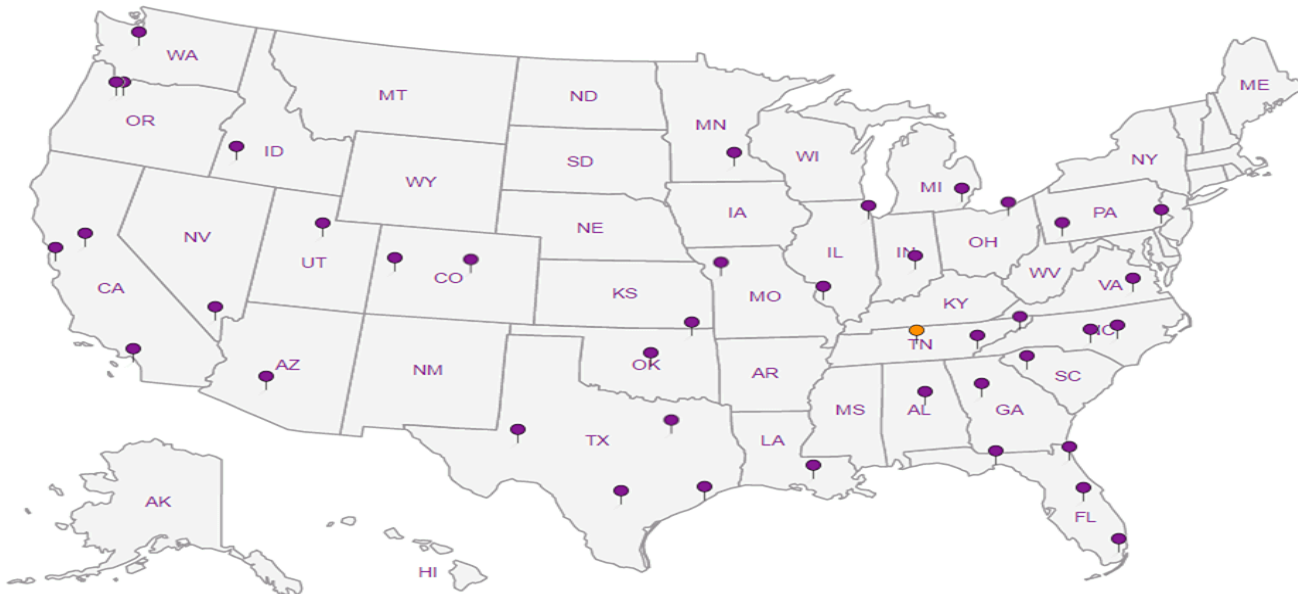
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

855 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

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

Project Description:
Evergy - LaCygne Generating Station

City/State
Collected:

Please Circle:
PT MT ET

Phone: 913-681-0030

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
G. Penafior

Site/Facility ID #

P.O. #

Collected by (signature):
G. Penafior

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

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium - 6010 250mHDPE-HNO3	Chloride 125mHDPE-NoPres	Chloride, Fluoride 125mHDPE-NoPres	Fluoride 125mHDPE-NoPres	Sulfate 125mHDPE-NoPres
MW-13	GRAB	GW		7/13/20	1225	1	X				
MW-14R		GW			1145	1		X			
MW-14R MS/MSD		GW			1155	1		X			
DUPLICATE 1		GW			1150	1		X			
MW-701		GW			1407	1	X				
MW-704		GW			1325	1		X			
MW-706		GW			1150	1				X	
MW-707B		GW			1105	1	X	X			
MW-707B MS/MSD		GW			1115	1	X	X			
DUPLICATE 2		GW			1110	1	X	X			

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

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # *1845 4330 1990*

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	
VOR 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

Relinquished by: (Signature) <i>G. Penafior</i>	Date: 7-14-20	Time: 1330	Received by: (Signature) <i>AD</i>	Trip Blank Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Relinquished by: (Signature) <i>AD</i>	Date: 7-14-20	Time: 1800	Received by: (Signature) <i>FedEx</i>	Temp: <i>22.2 = 20</i> °C Bottles Received: <i>14</i>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>L. White</i>	Date: 7/15/20 Time: 08:30

Calcium - 6010 250mHDPE-HNO3

Chloride 125mHDPE-NoPres

Chloride, Fluoride 125mHDPE-NoPres

Fluoride 125mHDPE-NoPres

Sulfate 125mHDPE-NoPres



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



SDG # *U239490*
Tag # **F089**
Acctnum: AQUAOPKS
Template: T136276
Prelogin: P784787
PM: 206 - Jeff Carr
PB:
Shipped Via:
Remarks | Sample # (lab only)

	-01
	-02
	-02
	-03
	-04
	-05
	-06
	-07
	-07
	-08

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Project Description:
Every - LaCygne Generating Station

Phone: 913-681-0030

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

Immediately
Packed on Ice N Y X

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

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

City/State
Collected:

Please Circle:
PT MT CT ET

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Site/Facility ID #

P.O. #

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

No. of
Cntrs

Analysis / Container / Preservative

Chain of Custody Page of



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



SDG # *L1239490*

Table #
Acctnum: AQUAOPKS

Template: T136276

Prelogin: P784787

PM: 206 - Jeff Carr

PB:

Shipped Via:

Remarks | Sample# (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres
TW-1	<i>GRAB</i>	GW		<i>7/13/20</i>	<i>1050</i>	1					X
TW-1 MS/MSD		GW		<i>↓</i>	<i>1100</i>	1					X
DUPLICATE 3		GW		<i>↓</i>	<i>1055</i>	1					X
MW-901		GW		<i>↓</i>	<i>0945</i>	1			X		

* 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"/> NP	<input type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:	<input type="checkbox"/> Y	<input type="checkbox"/> N	
Bottles arrive intact:	<input type="checkbox"/> Y	<input type="checkbox"/> N	
Correct bottles used:	<input type="checkbox"/> Y	<input type="checkbox"/> N	
Sufficient volume sent:	<input 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>G. Penafior</i>	Date: <i>7-14-20</i>	Time: <i>1330</i>	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes/No HCL/Mech TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: <i>7-14-20</i>	Time: <i>1500</i>	Received by: (Signature) <i>FedEx</i>	Temp °C <i>22.2-20</i>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>J. White</i>	Bottles Received: <i>14</i>
			Date: <i>7/15/20</i>	Time: <i>08:30</i>
			Hold:	Condition: NCF / <input checked="" type="checkbox"/> OK

ATTACHMENT 1-3
August 2020 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L1255853
Samples Received: 08/28/2020
Project Number: 27217233.20
Description: Evergy - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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.



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
MW-14R L1255853-01	5	
DUPLICATE 1 L1255853-02	6	
MW-704 L1255853-03	7	
MW-706 L1255853-04	8	
TW-1 L1255853-05	9	
DUPLICATE 2 L1255853-06	10	
MW-901 L1255853-07	11	
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Gl: Glossary of Terms	14	
Al: Accreditations & Locations	15	
Sc: Sample Chain of Custody	16	

SAMPLE SUMMARY



MW-14R L1255853-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 12:45	08/30/20 12:45	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 13:15
 Received date/time 08/28/20 08:00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DUPLICATE 1 L1255853-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 13:51	08/30/20 13:51	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 13:15
 Received date/time 08/28/20 08:00

MW-704 L1255853-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 14:04	08/30/20 14:04	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 12:35
 Received date/time 08/28/20 08:00

MW-706 L1255853-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 14:17	08/30/20 14:17	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 11:00
 Received date/time 08/28/20 08:00

TW-1 L1255853-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 14:30	08/30/20 14:30	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 11:40
 Received date/time 08/28/20 08:00

DUPLICATE 2 L1255853-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 15:09	08/30/20 15:09	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 11:40
 Received date/time 08/28/20 08:00

MW-901 L1255853-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1535066	1	08/30/20 15:22	08/30/20 15:22	ELN	Mt. Juliet, TN

Collected by Whit Martin
 Collected date/time 08/27/20 10:10
 Received date/time 08/28/20 08:00



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

- 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
Chloride	6250		1000	1	08/30/2020 12:45	WG1535066
Fluoride	312		150	1	08/30/2020 12:45	WG1535066

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
Chloride	6330		1000	1	08/30/2020 13:51	WG1535066
Fluoride	317		150	1	08/30/2020 13:51	WG1535066

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
Chloride	92200		1000	1	08/30/2020 14:04	WG1535066

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	20700		5000	1	08/30/2020 14:17	WG1535066

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	72400		5000	1	08/30/2020 14:30	WG1535066

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	72200		5000	1	08/30/2020 15:09	WG1535066

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
Fluoride	500		150	1	08/30/2020 15:22	WG1535066

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3565608-1 08/30/20 09:31

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1256294-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1256294-12 08/30/20 10:47 • (DUP) R3565608-3 08/30/20 11:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	138000	138000	10	0.369		15
Fluoride	ND	ND	10	0.545		15
Sulfate	89200	91400	10	2.49		15

L1255853-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1255853-07 08/30/20 15:22 • (DUP) R3565608-8 08/30/20 16:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	24100	24200	1	0.350		15
Fluoride	500	500	1	0.0600		15
Sulfate	21500	21600	1	0.264		15

Laboratory Control Sample (LCS)

(LCS) R3565608-2 08/30/20 09:44

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39600	99.1	80.0-120	
Fluoride	8000	8040	101	80.0-120	
Sulfate	40000	39900	99.7	80.0-120	



L1255853-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255853-01 08/30/20 12:45 • (MS) R3565608-4 08/30/20 13:25 • (MSD) R3565608-5 08/30/20 13:38

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	6250	57400	57400	102	102	1	80.0-120			0.0209	15
Fluoride	5000	312	5340	5350	101	101	1	80.0-120			0.275	15
Sulfate	50000	56900	106000	106000	98.4	98.5	1	80.0-120	E	E	0.00961	15

L1255853-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255853-05 08/30/20 14:30 • (MS) R3565608-6 08/30/20 14:43 • (MSD) R3565608-7 08/30/20 14:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	41800	91300	91400	98.9	99.2	1	80.0-120			0.138	15
Fluoride	5000	391	5480	5490	102	102	1	80.0-120			0.0747	15
Sulfate	50000	72400	121000	121000	97.4	97.7	1	80.0-120	E	E	0.124	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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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 ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

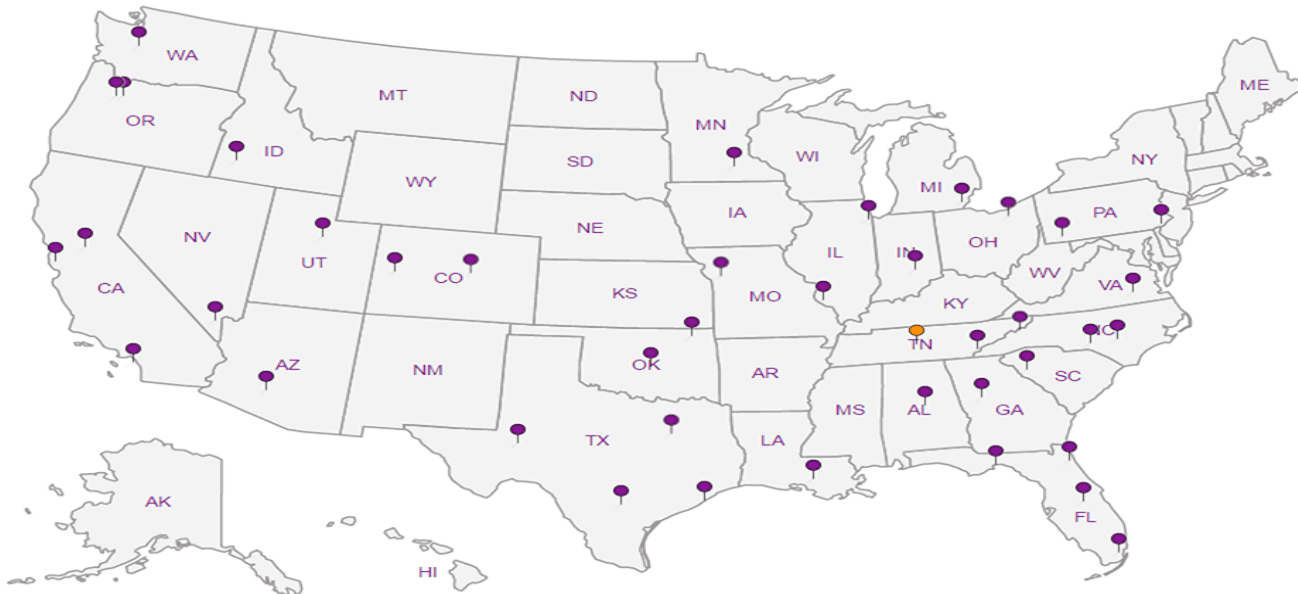
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Billing Information:

Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

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

Pres
Chk

Analysis / Container / Preservative



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



Project Description:
Evergy - LaCygne Generating Station

City/State Collected:
LaCygne, KS

Please Circle:
PT MT **CT** ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

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 Cntrs	Chloride 125mHDPE-NoPres	Chloride, Fluoride 125mHDPE-NoPres	Fluoride 125mHDPE-NoPres	Sulfate 125mHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	Grab	GW		8/27/20	1315	1		X				-01
MW-14R MS/MSD	Grab	GW		8/27/20	1315	1		X				-01
DUPLICATE 1	Grab	GW		8/27/20	1315	1		X				-02
MW-704	Grab	GW		8/27/20	1235	1	X					-03
MW-706	Grab	GW		8/27/20	1100	1			X			-04
TW-1	Grab	GW		8/27/20	1140	1			X			-05
TW-1 MS/MSD	Grab	GW		8/27/20	1140	1			X			-05
DUPLICATE 2	Grab	GW		8/27/20	1140	1			X			-06
MW-901	Grab	GW		8/27/20	1010	1			X			-07

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist

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

Samples returned via:
___ UPS ___ FedEx ___ Courier

Tracking # **526 51667361 0001**

Relinquished by: (Signature) <i>Whit Martin</i>	Date: 8/27/20	Time: 1545	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes / No HCL / MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 8/27/20	Time: 1500	Received by: (Signature) FedEx	Temp: -5 °C 1.3 °C Bottles Received: 9
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Deborah Holman</i>	Date: 8-28-20 Time: 8:00
Hold:				Condition: NCF / OK

SCS Engineers - KS

Sample Delivery Group: L1255852
Samples Received: 08/28/2020
Project Number: 27217233.20
Description: Evergy - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
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.



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
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MW-706 L1255852-03	7	
TW-1 L1255852-04	8	
MW-901 L1255852-05	9	
Qc: Quality Control Summary	10	
Wet Chemistry by Method 2320 B-2011	10	
Wet Chemistry by Method 9056A	11	
Metals (ICP) by Method 6010D	13	
Gl: Glossary of Terms	15	
Al: Accreditations & Locations	16	
Sc: Sample Chain of Custody	17	

SAMPLE SUMMARY



MW-14R L1255852-01 GW

Collected by
Whit Martin

Collected date/time
08/27/20 13:15

Received date/time
08/28/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1536154	1	09/01/20 15:48	09/01/20 15:48	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534671	1	08/30/20 16:24	08/30/20 16:24	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1535591	1	09/02/20 15:49	09/02/20 23:48	CCE	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-704 L1255852-02 GW

Collected by
Whit Martin

Collected date/time
08/27/20 12:35

Received date/time
08/28/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1536154	1	09/01/20 15:55	09/01/20 15:55	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534671	5	08/30/20 20:01	08/30/20 20:01	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1535592	1	09/02/20 17:23	09/02/20 20:29	EL	Mt. Juliet, TN

MW-706 L1255852-03 GW

Collected by
Whit Martin

Collected date/time
08/27/20 11:00

Received date/time
08/28/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1536154	1	09/01/20 16:02	09/01/20 16:02	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534671	5	08/30/20 20:12	08/30/20 20:12	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1535592	1	09/02/20 17:23	09/02/20 20:39	EL	Mt. Juliet, TN

TW-1 L1255852-04 GW

Collected by
Whit Martin

Collected date/time
08/27/20 11:40

Received date/time
08/28/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1536154	1	09/01/20 16:10	09/01/20 16:10	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534671	1	08/30/20 16:57	08/30/20 16:57	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1535592	1	09/02/20 17:23	09/02/20 20:42	EL	Mt. Juliet, TN

MW-901 L1255852-05 GW

Collected by
Whit Martin

Collected date/time
08/27/20 10:10

Received date/time
08/28/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1536154	1	09/01/20 16:17	09/01/20 16:17	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1534671	1	08/30/20 17:40	08/30/20 17:40	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1535592	1	09/02/20 17:23	09/02/20 20:45	EL	Mt. Juliet, TN



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

Jeff Carr
Project Manager

- 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	476000		20000	1	09/01/2020 15:48	WG1536154
Alkalinity,Carbonate	ND		20000	1	09/01/2020 15:48	WG1536154

Sample Narrative:

L1255852-01 WG1536154: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	54700		5000	1	08/30/2020 16:24	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	54100		1000	1	09/02/2020 23:48	WG1535591
Magnesium	38300		1000	1	09/02/2020 23:48	WG1535591
Potassium	4250		2000	1	09/02/2020 23:48	WG1535591
Sodium	112000		3000	1	09/02/2020 23:48	WG1535591

- 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	803000		20000	1	09/01/2020 15:55	WG1536154
Alkalinity,Carbonate	ND		20000	1	09/01/2020 15:55	WG1536154

Sample Narrative:

L1255852-02 WG1536154: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfate	150000		25000	5	08/30/2020 20:01	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	21800		1000	1	09/02/2020 20:29	WG1535592
Magnesium	16100		1000	1	09/02/2020 20:29	WG1535592
Potassium	5510		2000	1	09/02/2020 20:29	WG1535592
Sodium	444000	V	3000	1	09/02/2020 20:29	WG1535592

- 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	751000		20000	1	09/01/2020 16:02	WG1536154
Alkalinity,Carbonate	ND		20000	1	09/01/2020 16:02	WG1536154

Sample Narrative:

L1255852-03 WG1536154: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	238000		5000	5	08/30/2020 20:12	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	23000		1000	1	09/02/2020 20:39	WG1535592
Magnesium	19400		1000	1	09/02/2020 20:39	WG1535592
Potassium	6250		2000	1	09/02/2020 20:39	WG1535592
Sodium	437000		3000	1	09/02/2020 20:39	WG1535592

- 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	835000		20000	1	09/01/2020 16:10	WG1536154
Alkalinity,Carbonate	ND		20000	1	09/01/2020 16:10	WG1536154

Sample Narrative:

L1255852-04 WG1536154: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	41000		1000	1	08/30/2020 16:57	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	23600		1000	1	09/02/2020 20:42	WG1535592
Magnesium	58300		1000	1	09/02/2020 20:42	WG1535592
Potassium	7610		2000	1	09/02/2020 20:42	WG1535592
Sodium	304000		3000	1	09/02/2020 20:42	WG1535592

- 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	432000		20000	1	09/01/2020 16:17	WG1536154
Alkalinity,Carbonate	ND		20000	1	09/01/2020 16:17	WG1536154

Sample Narrative:

L1255852-05 WG1536154: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	24000		1000	1	08/30/2020 17:40	WG1534671
Sulfate	20400		5000	1	08/30/2020 17:40	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	56700		1000	1	09/02/2020 20:45	WG1535592
Magnesium	21800		1000	1	09/02/2020 20:45	WG1535592
Potassium	3820		2000	1	09/02/2020 20:45	WG1535592
Sodium	122000		3000	1	09/02/2020 20:45	WG1535592

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



Method Blank (MB)

(MB) R3566231-1 09/01/20 15:19

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

L1256606-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1256606-01 09/01/20 16:24 • (DUP) R3566231-2 09/01/20 16:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	293000	293000	1	0.251		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L1256606-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1256606-04 09/01/20 16:58 • (DUP) R3566231-4 09/01/20 17:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	125000	125000	1	0.107		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3565469-1 08/30/20 10:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
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

L1255051-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1255051-01 08/30/20 13:30 • (DUP) R3565469-3 08/30/20 13:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	ND	1	0.000		15
Sulfate	20300	20700	1	1.90		15

L1255852-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1255852-04 08/30/20 16:57 • (DUP) R3565469-6 08/30/20 17:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	41000	41600	1	1.29		15
Sulfate	69000	69100	1	0.112		15

Laboratory Control Sample (LCS)

(LCS) R3565469-2 08/30/20 11:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	39300	98.2	80.0-120	
Sulfate	40000	39400	98.4	80.0-120	

L1255091-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255091-03 08/30/20 13:52 • (MS) R3565469-4 08/30/20 14:03 • (MSD) R3565469-5 08/30/20 14:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	197000	239000	239000	83.7	83.6	1	80.0-120	E	E	0.0302	15
Sulfate	50000	197000	243000	242000	91.2	88.6	1	80.0-120	E	E	0.536	15



L1255852-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1255852-05 08/30/20 17:40 • (MS) R3565469-7 08/30/20 17:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	24000	75100	102	1	80.0-120	
Sulfate	50000	20400	71700	103	1	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3566804-1 09/02/20 22:33

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3566804-2 09/02/20 22:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9830	98.3	80.0-120	
Magnesium	10000	9380	93.8	80.0-120	
Potassium	10000	9310	93.1	80.0-120	
Sodium	10000	9730	97.3	80.0-120	

L1255618-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255618-01 09/02/20 22:39 • (MS) R3566804-4 09/02/20 22:44 • (MSD) R3566804-5 09/02/20 22:46

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	35400	44700	44700	93.2	93.8	1	75.0-125			0.125	20
Magnesium	10000	9700	18700	18800	90.5	91.0	1	75.0-125			0.274	20
Potassium	10000	23600	32500	32400	88.2	87.2	1	75.0-125			0.315	20
Sodium	10000	23100	32300	32200	92.3	91.5	1	75.0-125			0.274	20



Method Blank (MB)

(MB) R3566772-1 09/02/20 20:23

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3566772-2 09/02/20 20:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	10000	100	80.0-120	
Magnesium	10000	10100	101	80.0-120	
Potassium	10000	9610	96.1	80.0-120	
Sodium	10000	9910	99.1	80.0-120	

L1255852-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255852-02 09/02/20 20:29 • (MS) R3566772-4 09/02/20 20:34 • (MSD) R3566772-5 09/02/20 20:36

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	21800	31500	31100	97.6	93.7	1	75.0-125			1.24	20
Magnesium	10000	16100	25500	25200	94.9	91.3	1	75.0-125			1.45	20
Potassium	10000	5510	15300	15200	97.8	96.5	1	75.0-125			0.883	20
Sodium	10000	444000	444000	441000	0.000	0.000	1	75.0-125	<u>V</u>	<u>V</u>	0.571	20



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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 ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

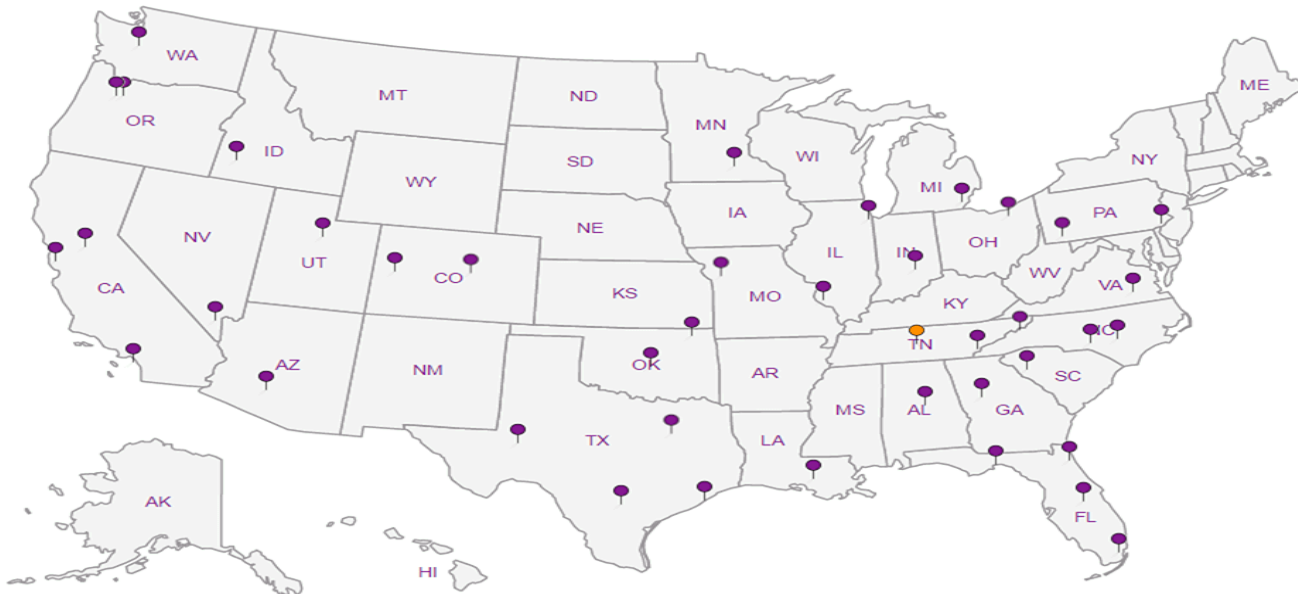
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

Project Description:
EVERGY - LaCygne Generating Station

Phone: **913-681-0030**

Collected by (print):
Whit Martin

Collected by (signature):
Whit Martin

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBi, ALKCA	125mlHDPE-NoPres	Ca, K, Mg, Na - 6010	250mlHDPE-HNO3	Chloride - 9056	125mlHDPE-NoPres	Chloride, SO4 - 9056	125mlHDPE-NoPres	SO4 - 9056	125mlHDPE-NoPres
MW-14R	Grab	GW		8/27/20	1315	3	X	X							X	
MW-704	Grab	GW		8/27/20	1235	3	X	X							X	
MW-706	Grab	GW		8/27/20	1100	3	X	X	X							
TW-1	Grab	GW		8/27/20	1140	3	X	X	X							
MW-901	Grab	GW		8/27/20	1010	3	X	X				X				

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

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # **586516673610001**

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

Relinquished by: (Signature)
Whit Martin

Date: **8/27/20**

Time: **1545**

Received by: (Signature)
[Signature]

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date: **8/27/20**

Time: **1800**

Received by: (Signature)
FedEx

Temp: **16°C** Bottles Received: **15**
1.3.5 = .8

Relinquished by: (Signature)
[Signature]

Date: **8-28-20**

Time: **8:00**

Received for lab by: (Signature)
Dalea Kendall

Date: **8-28-20** Time: **8:00**

If preservation required by Login: Date/Time

Hold: _____ Condition: **NCF / OK**

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

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

City/State Collected: **LaCygne, KS**

Please Circle:
PT MT **LT** ET

Client Project #
27217233.19

Lab Project #
AQUAOPKS-LACYGNE

Site/Facility ID #

P.O. #

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

No. of Cntrs

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



SDG # **U255852**

A137

Template: **T152974**

Prelogin: **P789924**

PM: 206 - Jeff Carr

PB:

Shipped Via:

Remarks Sample # (lab only)

-01
-02
-03
-04
-05

ATTACHMENT 1-4
November 2020 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L1286012
Samples Received: 11/14/2020
Project Number: 27217233.20
Description: KCPL - LaCygne Generating Station

Report To: Jason Franks
8575 West 110th Street
Suite 100
Overland Park, KS 66210




Entire Report Reviewed By:



Jason Romer
Project Manager

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SAMPLE SUMMARY



MW-10 L1286012-01 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 12:20
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579271	1	11/19/20 16:05	11/19/20 19:02	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 18:33	11/25/20 18:33	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 09:54	CCE	Mt. Juliet, TN

1
Cp

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MW-13 L1286012-02 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 12:45
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 18:45	11/25/20 18:45	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1584151	20	11/30/20 17:02	11/30/20 17:02	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 09:57	CCE	Mt. Juliet, TN

MW-14R L1286012-03 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 13:15
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 18:58	11/25/20 18:58	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:05	CCE	Mt. Juliet, TN

MW-15 L1286012-04 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 13:45
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 19:11	11/25/20 19:11	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	5	11/25/20 19:24	11/25/20 19:24	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:08	CCE	Mt. Juliet, TN

MW-601 L1286012-05 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 11:30
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 19:37	11/25/20 19:37	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	5	11/25/20 19:49	11/25/20 19:49	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:11	CCE	Mt. Juliet, TN

MW-602 L1286012-06 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 12:00
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 20:02	11/25/20 20:02	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:14	CCE	Mt. Juliet, TN

SAMPLE SUMMARY



MW-801 L1286012-07 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 12:05
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581709	1	11/25/20 20:53	11/25/20 20:53	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 09:37	CCE	Mt. Juliet, TN

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

MW-802 L1286012-08 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 11:40
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	1	11/25/20 17:00	11/25/20 17:00	GB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:17	CCE	Mt. Juliet, TN

MW-803 L1286012-09 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 11:00
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	1	11/25/20 17:52	11/25/20 17:52	GB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:20	CCE	Mt. Juliet, TN

MW-804 L1286012-10 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 10:35
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	1	11/25/20 18:32	11/25/20 18:32	GB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:23	CCE	Mt. Juliet, TN

MW-805 L1286012-11 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 10:10
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	1	11/25/20 18:58	11/25/20 18:58	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	5	11/25/20 19:11	11/25/20 19:11	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1584583	10	12/01/20 14:03	12/01/20 14:03	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:26	CCE	Mt. Juliet, TN

DUPLICATE L1286012-12 GW

Collected by
G. Penaflor
Collected date/time
11/12/20 12:10
Received date/time
11/14/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1579274	1	11/19/20 16:19	11/19/20 17:39	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1581711	1	11/25/20 19:24	11/25/20 19:24	GB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1579836	1	11/21/20 16:30	11/23/20 10:29	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.

Jason Romer
Project Manager

- 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	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	571000		2820	10000	1	11/19/2020 19:02	WG1579271

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	51500		379	1000	1	11/25/2020 18:33	WG1581709
Fluoride	375		64.0	150	1	11/25/2020 18:33	WG1581709
Sulfate	9920		594	5000	1	11/25/2020 18:33	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	845		20.0	200	1	11/23/2020 09:54	WG1579836
Calcium	52500		79.3	1000	1	11/23/2020 09:54	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2420000		5640	20000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	17100		379	1000	1	11/25/2020 18:45	WG1581709
Fluoride	165		64.0	150	1	11/25/2020 18:45	WG1581709
Sulfate	1500000		11900	100000	20	11/30/2020 17:02	WG1584151

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	456		20.0	200	1	11/23/2020 09:57	WG1579836
Calcium	331000		79.3	1000	1	11/23/2020 09:57	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	555000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	6690		379	1000	1	11/25/2020 18:58	WG1581709
Fluoride	316		64.0	150	1	11/25/2020 18:58	WG1581709
Sulfate	61600		594	5000	1	11/25/2020 18:58	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	805		20.0	200	1	11/23/2020 10:05	WG1579836
Calcium	52700		79.3	1000	1	11/23/2020 10:05	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	713000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	10800		379	1000	1	11/25/2020 19:11	WG1581709
Fluoride	248		64.0	150	1	11/25/2020 19:11	WG1581709
Sulfate	191000		2970	25000	5	11/25/2020 19:24	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	235		20.0	200	1	11/23/2020 10:08	WG1579836
Calcium	102000		79.3	1000	1	11/23/2020 10:08	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	960000		3750	13300	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	172000		1900	5000	5	11/25/2020 19:49	WG1581709
Fluoride	1670		64.0	150	1	11/25/2020 19:37	WG1581709
Sulfate	8780		594	5000	1	11/25/2020 19:37	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	1820		20.0	200	1	11/23/2020 10:11	WG1579836
Calcium	17700		79.3	1000	1	11/23/2020 10:11	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	593000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	17700		379	1000	1	11/25/2020 20:02	WG1581709
Fluoride	1250		64.0	150	1	11/25/2020 20:02	WG1581709
Sulfate	28100		594	5000	1	11/25/2020 20:02	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	2290		20.0	200	1	11/23/2020 10:14	WG1579836
Calcium	23400		79.3	1000	1	11/23/2020 10:14	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	832000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	95200		379	1000	1	11/25/2020 20:53	WG1581709
Fluoride	1050		64.0	150	1	11/25/2020 20:53	WG1581709
Sulfate	3250	J	594	5000	1	11/25/2020 20:53	WG1581709

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	2200		20.0	200	1	11/23/2020 09:37	WG1579836
Calcium	26400		79.3	1000	1	11/23/2020 09:37	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	646000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	34500		379	1000	1	11/25/2020 17:00	WG1581711
Fluoride	1020		64.0	150	1	11/25/2020 17:00	WG1581711
Sulfate	U		594	5000	1	11/25/2020 17:00	WG1581711

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	2450		20.0	200	1	11/23/2020 10:17	WG1579836
Calcium	27100		79.3	1000	1	11/23/2020 10:17	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	593000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	49600		379	1000	1	11/25/2020 17:52	WG1581711
Fluoride	568		64.0	150	1	11/25/2020 17:52	WG1581711
Sulfate	25200		594	5000	1	11/25/2020 17:52	WG1581711

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	2080		20.0	200	1	11/23/2020 10:20	WG1579836
Calcium	38400		79.3	1000	1	11/23/2020 10:20	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	528000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	26700		379	1000	1	11/25/2020 18:32	WG1581711
Fluoride	401		64.0	150	1	11/25/2020 18:32	WG1581711
Sulfate	24400		594	5000	1	11/25/2020 18:32	WG1581711

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	1580		20.0	200	1	11/23/2020 10:23	WG1579836
Calcium	66200		79.3	1000	1	11/23/2020 10:23	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2210000		5640	20000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	454000		1900	5000	5	11/25/2020 19:11	WG1581711
Fluoride	129	J	64.0	150	1	11/25/2020 18:58	WG1581711
Sulfate	736000		5940	50000	10	12/01/2020 14:03	WG1584583

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	495		20.0	200	1	11/23/2020 10:26	WG1579836
Calcium	464000		79.3	1000	1	11/23/2020 10:26	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	829000		2820	10000	1	11/19/2020 17:39	WG1579274

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	86200		379	1000	1	11/25/2020 19:24	WG1581711
Fluoride	938		64.0	150	1	11/25/2020 19:24	WG1581711
Sulfate	2800	J	594	5000	1	11/25/2020 19:24	WG1581711

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	2230		20.0	200	1	11/23/2020 10:29	WG1579836
Calcium	26600		79.3	1000	1	11/23/2020 10:29	WG1579836

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3595997-1 11/19/20 19:02

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1286006-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-06 11/19/20 19:02 • (DUP) R3595997-3 11/19/20 19:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	934000	1250000	1	29.2	J3	5

L1286006-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-13 11/19/20 19:02 • (DUP) R3595997-4 11/19/20 19:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1240000	1200000	1	3.28		5

Laboratory Control Sample (LCS)

(LCS) R3595997-2 11/19/20 19:02

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



Method Blank (MB)

(MB) R3595994-1 11/19/20 17:39

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1286012-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1286012-07 11/19/20 17:39 • (DUP) R3595994-3 11/19/20 17:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	832000	861000	1	3.43		5

L1286012-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1286012-11 11/19/20 17:39 • (DUP) R3595994-4 11/19/20 17:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2210000	2260000	1	2.23		5

Laboratory Control Sample (LCS)

(LCS) R3595994-2 11/19/20 17:39

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800000	8390000	95.3	77.4-123	



Method Blank (MB)

(MB) R3598339-1 11/25/20 09:07

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1286006-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-01 11/25/20 09:46 • (DUP) R3598339-3 11/25/20 09:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Fluoride	561	596	1	6.05		15

L1286006-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-01 11/25/20 10:11 • (DUP) R3598339-4 11/25/20 10:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	205000	206000	5	0.862		15
Sulfate	133000	134000	5	0.643		15

L1286006-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-12 11/25/20 17:29 • (DUP) R3598339-7 11/25/20 17:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	40500	40300	1	0.334		15
Fluoride	384	383	1	0.0261		15
Sulfate	73800	73300	1	0.757		15

Laboratory Control Sample (LCS)

(LCS) R3598339-2 11/25/20 09:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	42400	106	80.0-120	
Fluoride	8000	8790	110	80.0-120	
Sulfate	40000	43400	109	80.0-120	



[L1286012-01,02,03,04,05,06,07](#)

L1286006-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1286006-07 11/25/20 13:10 • (MS) R3598339-5 11/25/20 13:23 • (MSD) R3598339-6 11/25/20 13:35

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 %
Chloride	50000	90200	147000	147000	114	113	1	80.0-120	E	E	0.353	15
Fluoride	5000	885	6660	6620	116	115	1	80.0-120			0.670	15
Sulfate	50000	163000	223000	222000	119	117	1	80.0-120	E	E	0.535	15

L1286012-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1286012-07 11/25/20 20:53 • (MS) R3598339-8 11/25/20 21:06 • (MSD) R3598339-9 11/25/20 21:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	95200	153000	152000	115	114	1	80.0-120	E	E	0.157	15
Fluoride	5000	1050	6910	6920	117	117	1	80.0-120			0.0795	15
Sulfate	50000	3250	59600	59600	113	113	1	80.0-120			0.0698	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3599027-1 11/25/20 11:49

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1283983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1283983-01 11/25/20 12:55 • (DUP) R3599027-3 11/25/20 13:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	16000	16000	1	0.164		15
Sulfate	23000	23000	1	0.00784		15

L1285967-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1285967-07 11/25/20 16:34 • (DUP) R3599027-6 11/25/20 16:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	1460	1500	1	3.29		15
Fluoride	91.2	94.3	1	3.34	J	15

L1285967-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1285967-07 11/25/20 21:21 • (DUP) R3599027-8 11/25/20 21:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	114000	117000	5	2.57		15

Laboratory Control Sample (LCS)

(LCS) R3599027-2 11/25/20 12:02

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	40000	38700	96.8	80.0-120	
Fluoride	8000	8030	100	80.0-120	
Sulfate	40000	39400	98.5	80.0-120	



[L1286012-08,09,10,11,12](#)

L1283983-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283983-02 11/25/20 13:21 • (MS) R3599027-4 11/25/20 13:34 • (MSD) R3599027-5 11/25/20 13:46

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	5380	56600	56900	102	103	1	80.0-120			0.450	15
Sulfate	50000	18900	70100	70400	102	103	1	80.0-120			0.451	15

L1286012-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1286012-09 11/25/20 17:52 • (MS) R3599027-7 11/25/20 18:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	49600	94700	90.3	1	80.0-120	
Fluoride	5000	568	5410	96.9	1	80.0-120	
Sulfate	50000	25200	73400	96.5	1	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3599044-1 11/30/20 12:49

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

1 Cp

2 Tc

3 Ss

L1286006-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1286006-13 11/30/20 16:28 • (DUP) R3599044-3 11/30/20 16:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	157000	160000	5	1.99		15

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3599044-2 11/30/20 13:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Sulfate	40000	39600	99.0	80.0-120	

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3599068-1 12/01/20 10:16

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

¹ Cp

² Tc

³ Ss

Laboratory Control Sample (LCS)

(LCS) R3599068-2 12/01/20 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Sulfate	40000	40500	101	80.0-120	

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3596428-1 11/23/20 09:32

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3596428-2 11/23/20 09:34

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	965	96.5	80.0-120	
Calcium	10000	9870	98.7	80.0-120	

L1286012-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1286012-07 11/23/20 09:37 • (MS) R3596428-4 11/23/20 09:43 • (MSD) R3596428-5 11/23/20 09:45

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	2200	3120	3130	92.5	92.9	1	75.0-125			0.112	20
Calcium	10000	26400	36000	35800	96.4	94.4	1	75.0-125			0.559	20



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

- 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).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

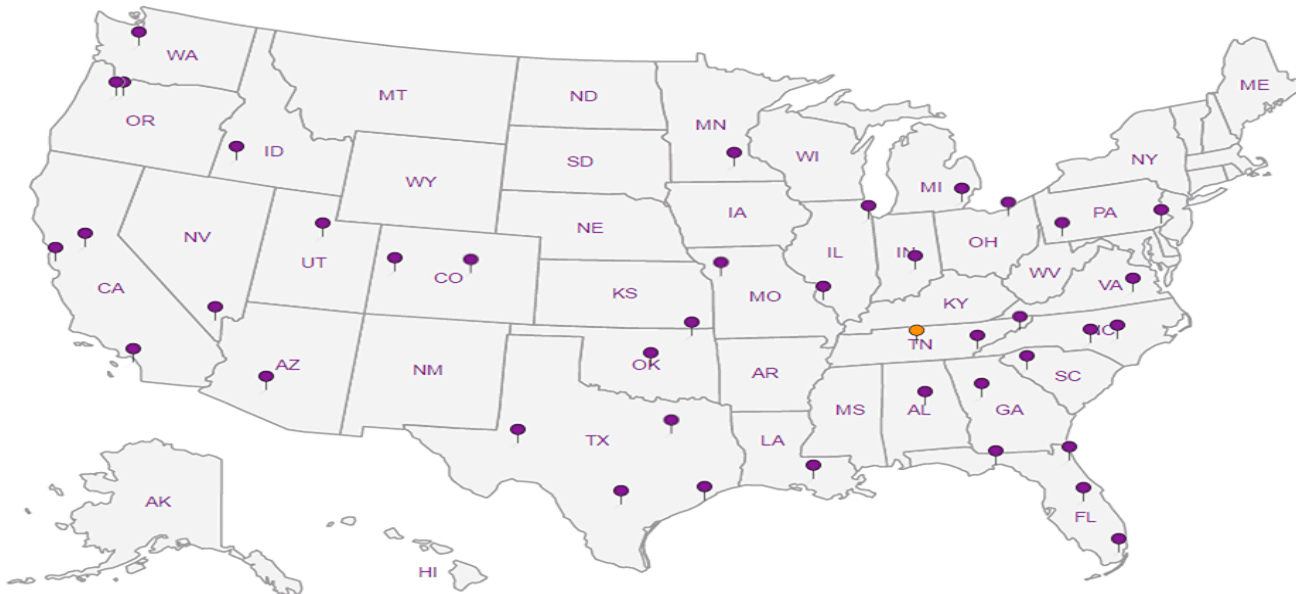
Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl


8 Al

9 Sc

SCS Engineers - KS
 8575 West 110th Street
 Suite 100
 Overland Park, KS 66210

Billing Information:
Accounts Payable
 8575 West 110th Street
 Suite 100
 Overland Park, KS 66210

Analysis / Container / Preservative										
Pres Chk										

Chain of Custody Page 1 of 2

 National Center for Testing & Innovation

Report to:
Jason Franks

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

Project Description:
KCPL - LaCygne Generating Station

City/State Collected: **LaCygne KS**

Please Circle:
 PT MT **CT** ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab/Project #
AQUAOPKS-LACYGNE

Collected by (print):
G. Penafior

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
-----------	-----------	----------	-------	------	------	--------------

MW-10	GRAB	GW		11/12/20	1220	3
MW-13		GW		11/12/20	1245	3
MW-14R		GW		11/12/20	1315	3
MW-15		GW		11/12/20	1345	3
MW-601		GW		11/12/20	1130	3
MW-602		GW		11/12/20	1200	3
MW-801		GW			1205	3
MW-802		GW			1140	3
MW-803		GW			1100	3
MW-804		GW			1035	3

Anions (Cl ⁻ , F ⁻ , SO ₄ ²⁻)	B, Ca - 6010	250mIHDPE-HNO3	TDS 250mIHDPE-NoPres																	
--	--------------	----------------	----------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

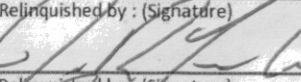
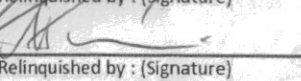
SDG # **1286012**
J049

Table
 Acctnum: **AQUAOPKS**
 Template: **T150678**
 Prelogin: **P805977**
 PM: 206 - Jeff Carr
 PB:
 Shipped Via:
 Remarks Sample # (lab only)

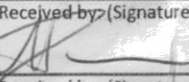
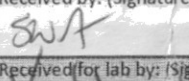

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via:
 ___ UPS ___ FedEx ___ Courier _____ Tracking # _____

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)

 Relinquished by: (Signature)

 Relinquished by: (Signature)

Date: 11/13/20
 Date: 11/13/20
 Date:

Time: 1208
 Time: 1800
 Time:
 Received by: (Signature)

 Received by: (Signature)

 Received for lab by: (Signature)


Trip Blank Received: Yes No
 HCL/MeOH
 TBR
 Temp: 15.1/16.6 °C
 Bottles Received: 39
 Date: 11/14/20 Time: 9:45

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

SCS Engineers - KS

8575 West 110th Street
Suite 100
Overland Park, KS 66210

Billing Information:
Accounts Payable
8575 West 110th Street
Suite 100
Overland Park, KS 66210

Report to:
Jason Franks

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

Project Description:
KCPL - LaCygne Generating Station

City/State Collected: **LaCygne, KS**

Please Circle:
PT MT **CT** ET

Phone: **913-681-0030**

Client Project #
27217233.20

Lab Project #
AQUAOPKS-LACYGNE

Collected by (print):
G. Penafior

Site/Facility ID #

P.O. #

Collected by (signature):
G. Penafior

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

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

MW-805	Grab	GW	-	11/12/20	1010	3
DUPLICATE #1	↓	GW	-	↓	1210	3
80 MS/MSD	↓	GW	-	↓	1215	3

Analysis / Container / Preservative						
Pres Chk						
	Amions (Cld, F, S04)	125mIHDPE-NoPres				
	B, Ca	- 6010	250mIHDPE-HNO3			
	TDS	250mIHDPE-NoPres				

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

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

SDG # **1286012**
Table #
Acctnum: **AQUAOPKS**
Template: **T150678**
Prelogin: **P805977**
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 _____
Samples returned via:
 UPS FedEx Courier
Tracking.#

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
VQA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/13/20	Time: 1208	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes/No HCL / MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/13/20	Time: 1800	Received by: (Signature) <i>[Signature]</i>	Temp: 16.5 °C Bottles Received: 39
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 11/14/20 Time: 9:45 Hold: Condition: NCF / OK

ATTACHMENT 2
Statistical Analyses

ATTACHMENT 2-1
Fall 2019 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

March 10, 2020

**To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Evergy Metro, Inc.**



From: SCS Engineers

**RE: Determination of Statistically Significant Increases –
CCR Landfill and Lower AQC Impoundment
Fall 2019 Semiannual Detection Monitoring 40 CFR 257.94**

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on November 7, 2019. Review and validation of the results from the November 2019 Detection Monitoring Event was completed on December 17, 2019, which constitutes completion and finalization of detection monitoring laboratory analyses. A statistical analysis was then conducted to determine whether there was a statistically significant increase (SSI) over background values for each constituent listed in Appendix III to Part 257-Constituents for Detection Monitoring.

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation did not identify any SSIs above background.

Attached to this memorandum are the following backup information:

Attachment 1: Sanitas™ Output:

Statistical evaluation output from Sanitas™ for the prediction limit analysis. This includes prediction limit plots, prediction limit background data, detection sample result, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.

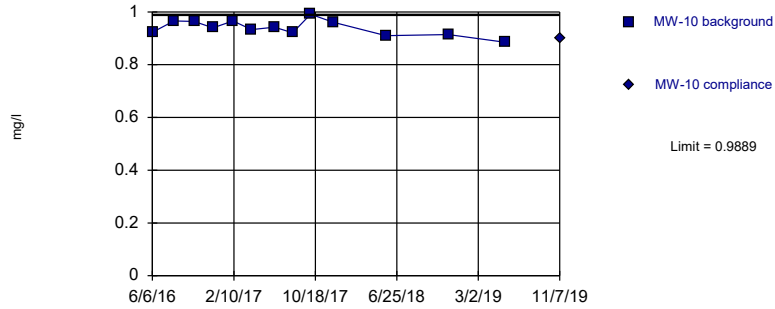
La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
March 10, 2020

ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit
Intrawell Parametric

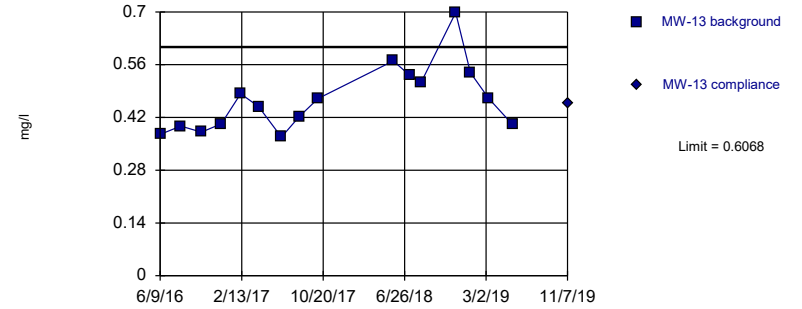


Background Data Summary: Mean=0.9397, Std. Dev.=0.02926, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

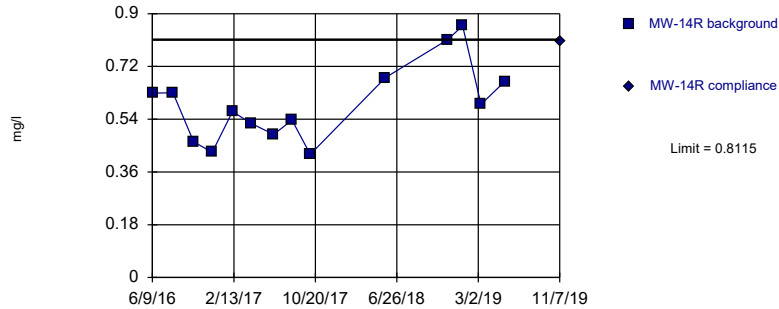


Background Data Summary: Mean=0.467, Std. Dev.=0.08842, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8992, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

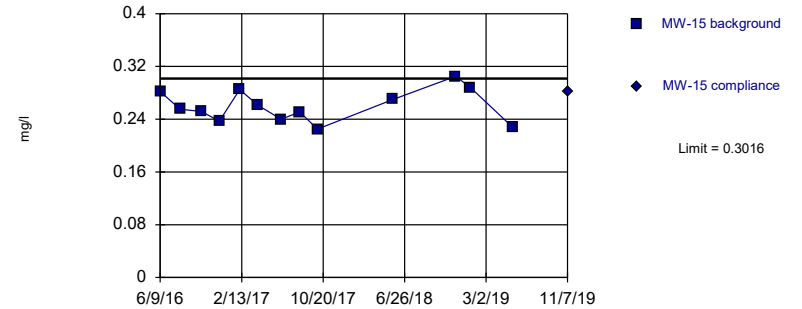


Background Data Summary: Mean=0.5928, Std. Dev.=0.1327, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=0.2599, Std. Dev.=0.02478, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.961, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

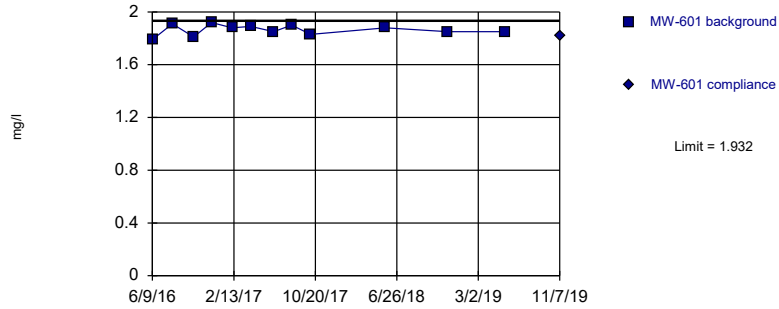
Constituent: BORON Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.923							
6/9/2016			0.375		0.629		0.282	
8/9/2016							0.255	
8/11/2016	0.966		0.397		0.63			
10/12/2016	0.964						0.252	
10/13/2016			0.381		0.463			
12/7/2016							0.237	
12/9/2016	0.94				0.427			
12/13/2016			0.403					
2/7/2017							0.285	
2/8/2017	0.966							
2/9/2017					0.566			
2/10/2017			0.483					
4/5/2017							0.261	
4/6/2017	0.933		0.449					
4/7/2017					0.526			
6/14/2017							0.24	
6/15/2017	0.942		0.368		0.488			
8/8/2017			0.422					
8/10/2017	0.921				0.537		0.251	
10/3/2017							0.225	
10/4/2017	0.991							
10/5/2017			0.47		0.42			
12/12/2017	0.961							
5/23/2018	0.91		0.57		0.682		0.27	
7/11/2018			0.533					
8/16/2018			0.513					
11/30/2018	0.914		0.698		0.812		0.305	
1/14/2019			0.539		0.859		0.288	
3/11/2019			0.47		0.591			
5/23/2019	0.885		0.401		0.669		0.228	
11/7/2019		0.898		0.458		0.807		0.282

Within Limit

Prediction Limit
Intrawell Parametric

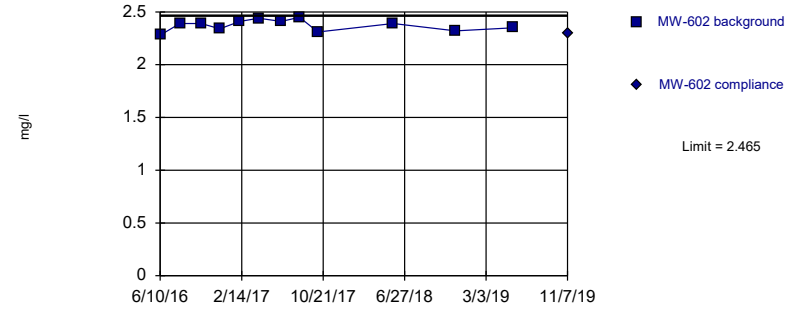


Background Data Summary: Mean=1.863, Std. Dev.=0.0403, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9586, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

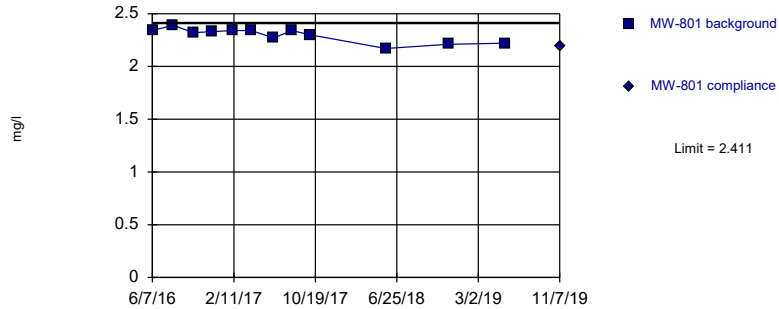


Background Data Summary: Mean=2.373, Std. Dev.=0.05314, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

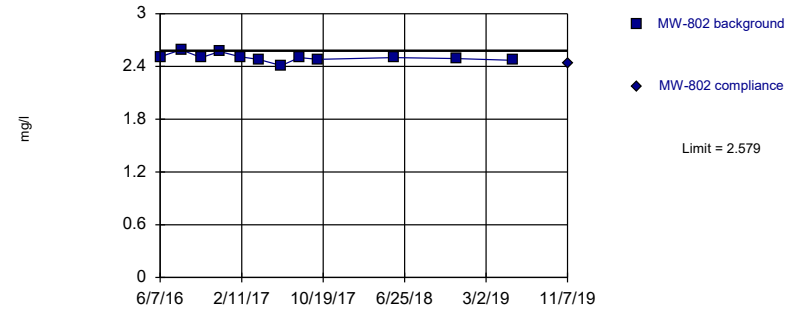


Background Data Summary: Mean=2.298, Std. Dev.=0.06608, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8916, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=2.501, Std. Dev.=0.04582, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

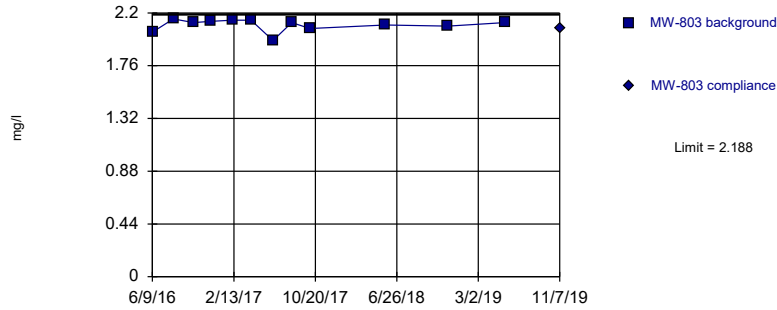
Constituent: BORON Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					2.34		2.51	
6/9/2016	1.79							
6/10/2016			2.28					
8/9/2016	1.91		2.39		2.39			
8/10/2016							2.59	
10/11/2016					2.32		2.5	
10/13/2016	1.81		2.39					
12/6/2016					2.33		2.57	
12/7/2016	1.92							
12/9/2016			2.34					
2/7/2017					2.34		2.51	
2/8/2017	1.88		2.41					
4/4/2017							2.48	
4/6/2017	1.89				2.34			
4/7/2017			2.44					
6/13/2017							2.41	
6/14/2017					2.27			
6/15/2017	1.85		2.41					
8/7/2017							2.5	
8/9/2017	1.9				2.34			
8/10/2017			2.45					
10/4/2017					2.3		2.48	
10/5/2017			2.31					
10/6/2017	1.83							
5/23/2018	1.88		2.39		2.17		2.5	
11/30/2018	1.85		2.32		2.21		2.49	
5/23/2019	1.85		2.35		2.22		2.47	
11/7/2019		1.82		2.3		2.19		2.44

Within Limit

Prediction Limit
Intrawell Parametric

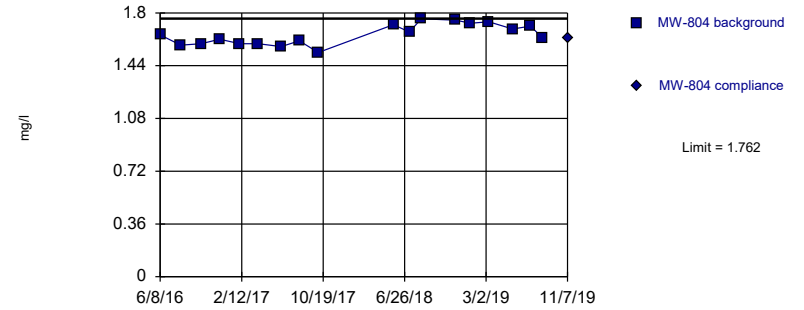


Background Data Summary: Mean=2.099, Std. Dev.=0.0516, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8353, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

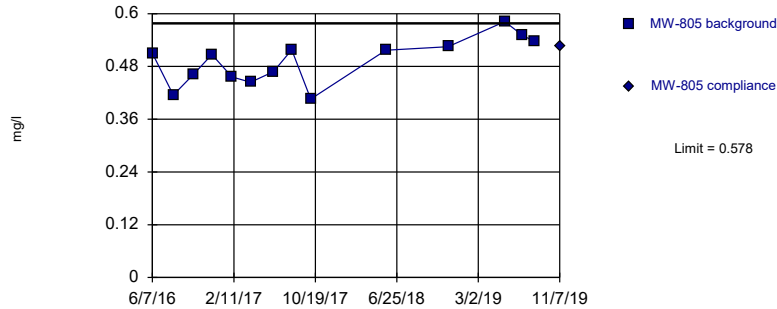


Background Data Summary: Mean=1.652, Std. Dev.=0.07131, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9373, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

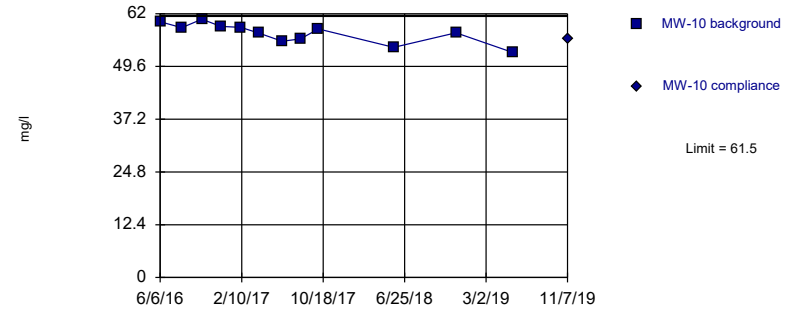


Background Data Summary: Mean=0.4926, Std. Dev.=0.05176, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9627, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=57.43, Std. Dev.=2.371, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9496, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

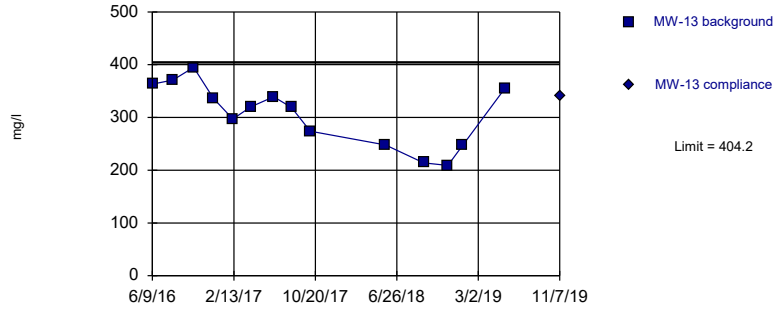
Constituent: BORON, CALCIUM Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							60.1	
6/7/2016					0.51			
6/8/2016			1.65					
6/9/2016	2.04							
8/10/2016			1.58		0.415			
8/11/2016							58.7	
8/12/2016	2.15							
10/11/2016			1.59		0.462			
10/12/2016							60.7	
10/13/2016	2.12							
12/6/2016	2.13				0.507			
12/7/2016			1.62					
12/9/2016							59	
2/6/2017					0.456			
2/7/2017			1.59					
2/8/2017	2.14						58.8	
4/4/2017			1.59		0.444			
4/6/2017							57.4	
4/7/2017	2.14							
6/13/2017	1.97		1.57		0.468			
6/15/2017							55.5	
8/8/2017			1.61		0.518			
8/9/2017	2.12							
8/10/2017							56.1	
10/4/2017	2.07						58.4	
10/5/2017			1.53		0.406			
5/23/2018	2.1		1.72		0.517		54.1	
7/11/2018			1.67					
8/16/2018			1.76					
11/30/2018	2.09		1.75		0.525		57.5	
1/14/2019			1.73					
3/11/2019			1.74					
5/23/2019	2.12		1.69		0.582		52.9	
7/17/2019			1.71		0.55			
8/22/2019			1.63		0.537			
11/7/2019		2.07		1.63		0.525		56.2

Within Limit

Prediction Limit
Intrawell Parametric

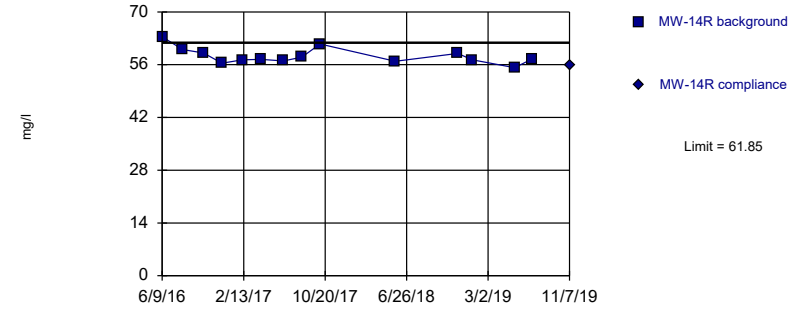


Background Data Summary: Mean=306.2, Std. Dev.=59.47, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

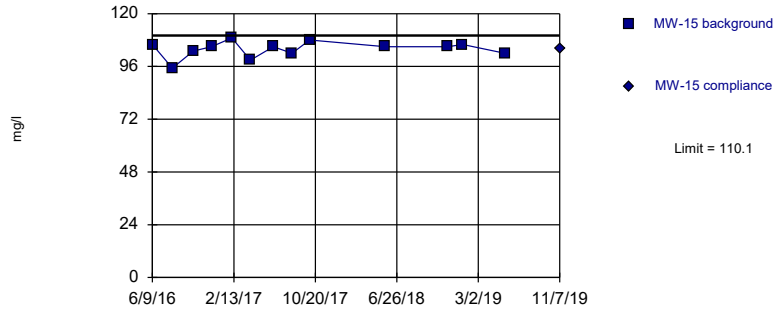


Background Data Summary: Mean=58.29, Std. Dev.=2.158, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

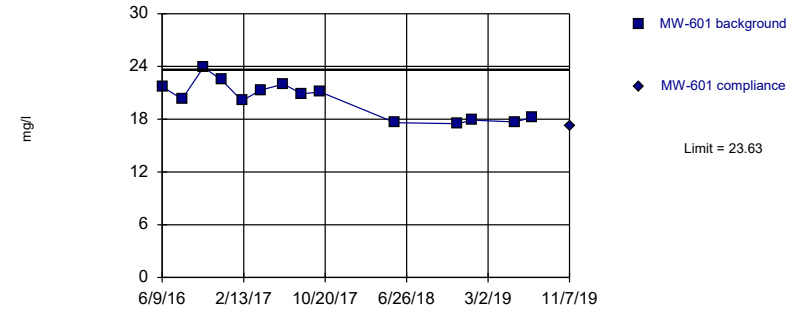


Background Data Summary: Mean=103.9, Std. Dev.=3.71, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9143, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=20.19, Std. Dev.=2.086, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9162, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

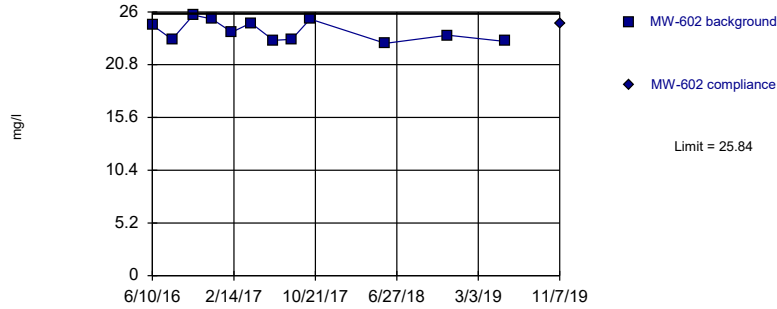
Constituent: CALCIUM Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	363		63.4		106		21.7	
8/9/2016					95.2		20.3	
8/11/2016	371		60					
10/12/2016					103			
10/13/2016	395		59.1				23.9	
12/7/2016					105		22.5	
12/9/2016			56.4					
12/13/2016	336							
2/7/2017					109			
2/8/2017							20.1	
2/9/2017			57.3					
2/10/2017	297							
4/5/2017					98.9			
4/6/2017	320						21.3	
4/7/2017			57.4					
6/14/2017					105			
6/15/2017	339		57				22	
8/8/2017	319							
8/9/2017							20.9	
8/10/2017			58		102			
10/3/2017					108			
10/5/2017	274		61.5					
10/6/2017							21.1	
5/23/2018	248		56.9		105		17.6	
9/17/2018	214							
11/30/2018	209		59		105		17.5	
1/14/2019	247		57.3		106		17.9	
5/23/2019	355		55.2		102		17.7	
7/17/2019			57.6				18.2	
11/7/2019		340		55.8		104		17.2

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

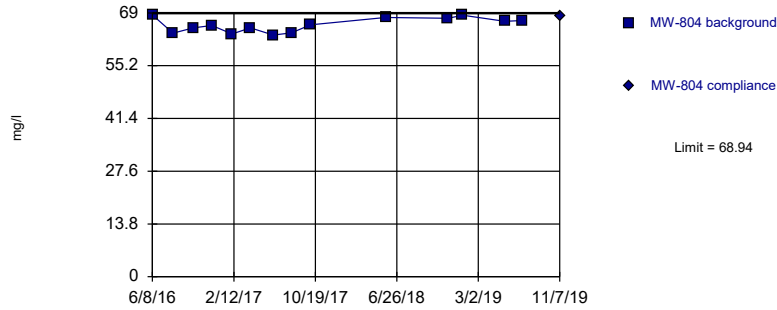
Constituent: CALCIUM Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			37.6		42.6			
6/9/2016							47.6	
6/10/2016	24.7							
8/9/2016	23.3		30.9					
8/10/2016					32.2			
8/12/2016							46.2	
10/11/2016			33.5		37.2			
10/13/2016	25.7						49.7	
12/6/2016			33.6		37.2		48.3	
12/9/2016	25.3							
2/7/2017			30.9		33.7			
2/8/2017	24						44.8	
4/4/2017					35			
4/6/2017			32.5					
4/7/2017	24.9						46.7	
6/13/2017					31.6		44.1	
6/14/2017			28.8					
6/15/2017	23.2							
8/7/2017					32.4			
8/9/2017			30.9				46.1	
8/10/2017	23.3							
10/4/2017			31.4		34.1		46.1	
10/5/2017	25.3							
5/23/2018	22.9		25.6		27.5		42.9	
11/30/2018	23.7		26.8		27.8		44.2	
5/23/2019	23.1		25.1		26.4		41.1	
11/7/2019		24.9		27.5		28		43.1

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

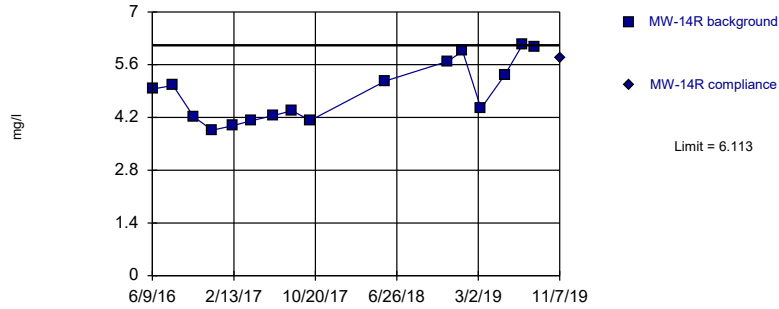
Constituent: CALCIUM, CHLORIDE Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					56.7			
6/7/2016			422					
6/8/2016	68.5							
6/9/2016							18	
8/10/2016	63.7		437					
8/11/2016					60.2		18.5	
10/11/2016	65.1		422					
10/12/2016					62.7			
10/13/2016							19.2	
12/6/2016			422					
12/7/2016	65.7							
12/9/2016					66.6			
12/13/2016							16.4	
2/6/2017			435					
2/7/2017	63.5							
2/8/2017					67			
2/10/2017							15.6	
4/4/2017	65.1		444					
4/6/2017					63.7		16.8	
6/13/2017	63.2		430					
6/15/2017					63.6		17.2	
8/8/2017	63.8		414				16.2	
8/10/2017					63.8			
10/4/2017					62.8			
10/5/2017	65.9		467				13.6	
12/12/2017			525					
1/9/2018			439					
5/23/2018	67.8		434		57.9		14.3	
9/17/2018							13.1	
11/30/2018	67.6		455		55.5		12.8	
1/14/2019	68.4		473				12.5	
3/11/2019			468					
5/23/2019	66.8		442		52.5		16.2	
7/17/2019	67		453					
11/7/2019		68.2		475		52.2		15.7

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

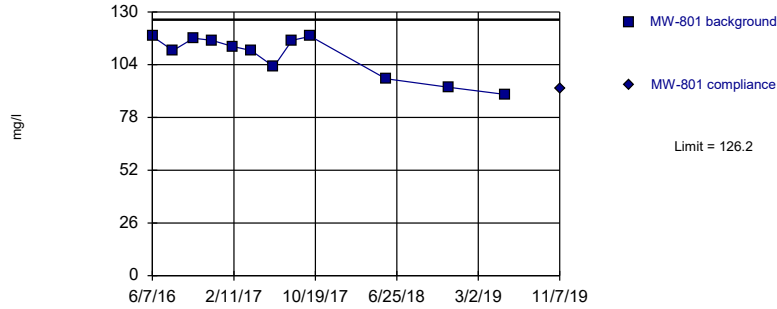
Constituent: CHLORIDE Analysis Run 2/19/2020 9:06 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	4.95		14.4		161			
6/10/2016							16.9	
8/9/2016			15.8		161		17.3	
8/11/2016	5.05							
10/12/2016			12.9					
10/13/2016	4.22				201		16.8	
12/7/2016			16.5		169			
12/9/2016	3.86						16.4	
2/7/2017			20.2					
2/8/2017					168		17.6	
2/9/2017	3.98							
4/5/2017			19.3					
4/6/2017					156			
4/7/2017	4.11						17.2	
6/14/2017			18.5					
6/15/2017	4.25				167		17.2	
8/9/2017					168			
8/10/2017	4.38		17.4				17.8	
10/3/2017			17.5					
10/5/2017	4.12						17.9	
10/6/2017					166			
5/23/2018	5.17		15.2		160		17.6	
11/30/2018	5.69		12.9		160		16.5	
1/14/2019	5.96		12.3		157			
3/11/2019	4.44							
5/23/2019	5.33		12		162		16.9	
7/17/2019	6.14				32.3			
8/23/2019	6.08							
11/7/2019		5.77		11.3		164		16.6

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

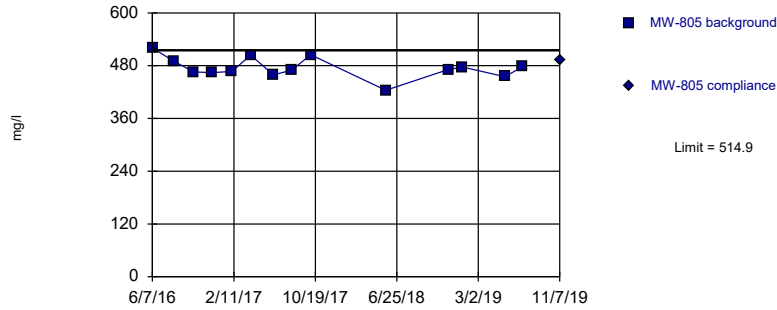
Constituent: CHLORIDE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	118		37.9					
6/8/2016							32.8	
6/9/2016					48.1			
8/9/2016	111							
8/10/2016			37.5				26.1	
8/12/2016					48.8			
10/11/2016	117		36.3				26.3	
10/13/2016					48.4			
12/6/2016	116		37.4		49.9			
12/7/2016							25.5	
2/7/2017	113		37.1				25.3	
2/8/2017					49.3			
4/4/2017			37.4				26	
4/6/2017	111							
4/7/2017					49.5			
6/13/2017			36.4		49.2		26	
6/14/2017	103							
8/7/2017			35.6					
8/8/2017							26.3	
8/9/2017	116				49.5			
10/4/2017	118		36.4		49.3			
10/5/2017							26.9	
5/23/2018	97.1		37.5		48.9		30.4	
11/30/2018	92.9		35.9		48.7		32.2	
1/14/2019							29.7	
5/23/2019	89.4		34.2		49.2		31.7	
7/17/2019							31.1	
11/7/2019		92		33.8		49.4		29

Within Limit

Prediction Limit
Intrawell Parametric

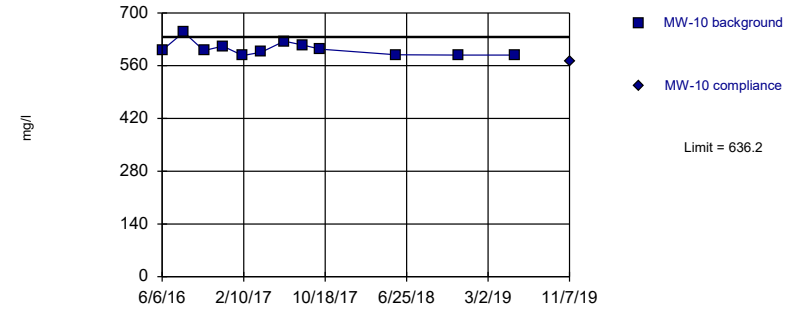


Background Data Summary: Mean=475.1, Std. Dev.=24.18, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

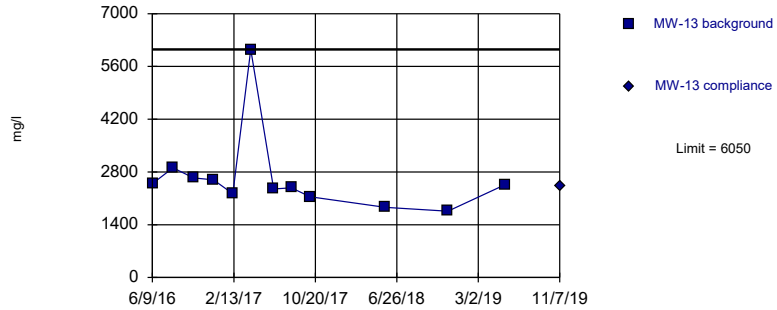


Background Data Summary: Mean=604.5, Std. Dev.=18.5, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8634, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Non-parametric

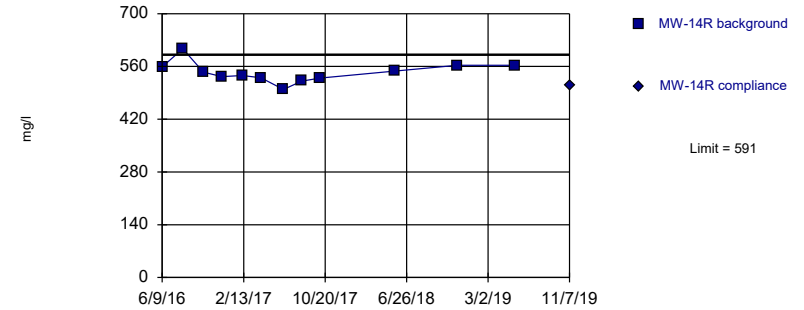


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=544.4, Std. Dev.=27.12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

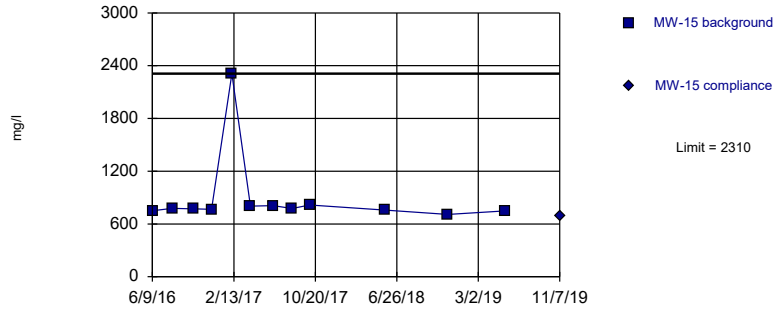
Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R
6/6/2016			601					
6/7/2016	520							
6/9/2016					2490		559	
8/10/2016	491							
8/11/2016			649		2910		607	
10/11/2016	466							
10/12/2016			600					
10/13/2016					2640		545	
12/6/2016	464							
12/9/2016			612				533	
12/13/2016					2590			
2/6/2017	467							
2/8/2017			587					
2/9/2017							536	
2/10/2017					2220			
4/4/2017	504							
4/6/2017			596		6050			
4/7/2017							530	
6/13/2017	459							
6/15/2017			625		2350		499	
8/8/2017	470				2380			
8/10/2017			615				521	
10/4/2017			604					
10/5/2017	505				2140		529	
5/23/2018	424		589		1860		548	
11/30/2018	471		588		1760		563	
1/14/2019	477							
5/23/2019	455		588		2460		563	
7/17/2019	478							
11/7/2019		492		570		2430		509

Within Limit

Prediction Limit
Intrawell Non-parametric

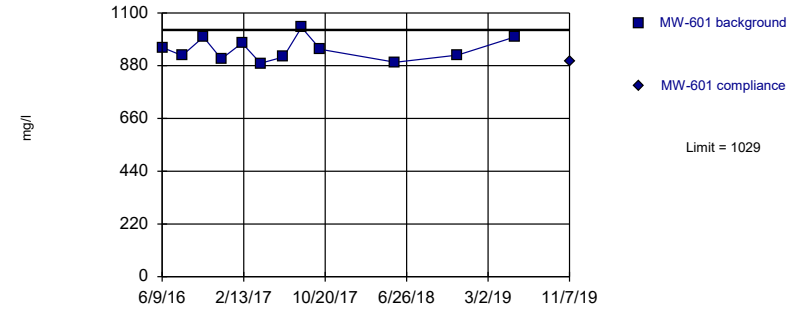


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

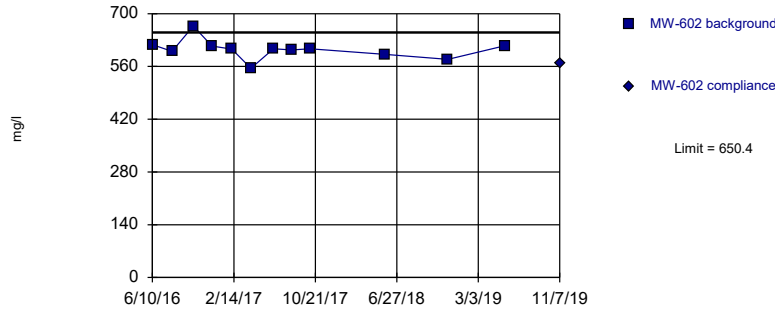


Background Data Summary: Mean=947.7, Std. Dev.=47.45, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9332, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

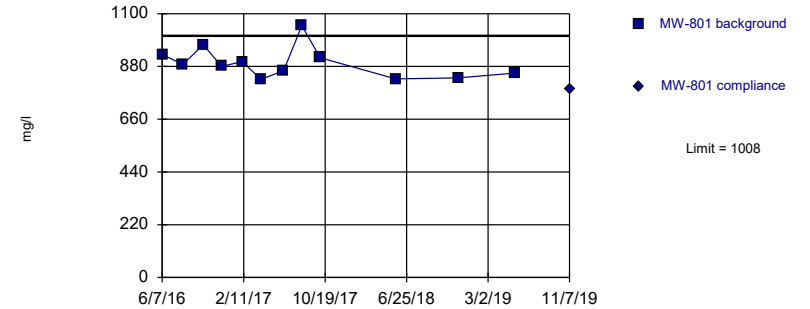


Background Data Summary: Mean=605.3, Std. Dev.=26.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=894.5, Std. Dev.=65.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:04 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

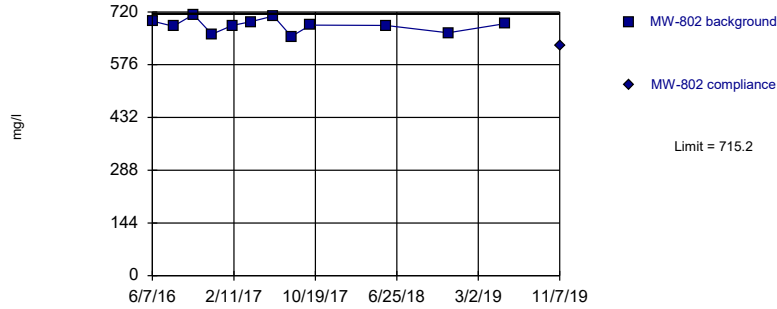
Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801
6/7/2016							930	
6/9/2016	751		956					
6/10/2016					618			
8/9/2016	777		922		600		888	
10/11/2016							970	
10/12/2016	772							
10/13/2016			1000		667			
12/6/2016							880	
12/7/2016	767		908					
12/9/2016					614			
2/7/2017	2310						900	
2/8/2017			974		606			
4/5/2017	803							
4/6/2017			890				826	
4/7/2017					555			
6/14/2017	808						862	
6/15/2017			916		607			
8/9/2017			1040				1050	
8/10/2017	775				604			
10/3/2017	815							
10/4/2017							916	
10/5/2017					607			
10/6/2017			948					
5/23/2018	757		894		592		828	
11/30/2018	709		924		579		832	
5/23/2019	748		1000		615		852	
11/7/2019		692		900		569		785

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805
6/7/2016	695						2070	
6/8/2016					562			
6/9/2016			594					
8/10/2016	681				554		2440	
8/12/2016			591					
10/11/2016	713				577		1820	
10/13/2016			592					
12/6/2016	659		603				2420	
12/7/2016					518			
2/6/2017							2140	
2/7/2017	683				559			
2/8/2017			599					
4/4/2017	693				555		2270	
4/7/2017			605					
6/13/2017	709		627		575		2420	
8/7/2017	653							
8/8/2017					548		2150	
8/9/2017			709					
10/4/2017	684		625					
10/5/2017					577		2110	
5/23/2018	683		606		551		1810	
11/30/2018	663		601		550		2070	
5/23/2019	688		621		558		2180	
11/7/2019		627		563		501		2070

Prediction Limit

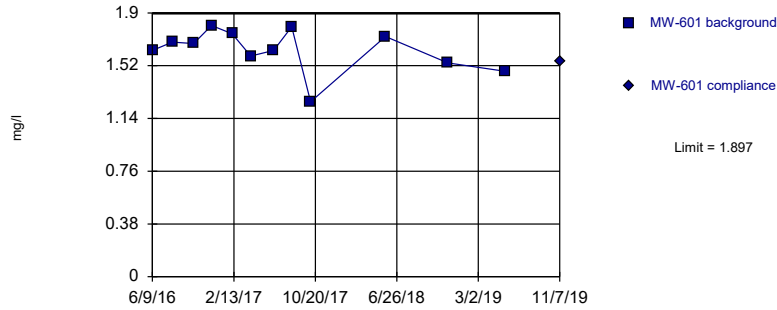
Constituent: FLUORIDE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.365							
6/9/2016			0.17		0.265		0.257	
8/9/2016							0.22	
8/11/2016	0.38		0.128		0.299			
10/12/2016	0.376						0.232	
10/13/2016			0.171		0.215			
12/7/2016							0.262	
12/9/2016	0.299				0.178			
12/13/2016			0.142					
2/7/2017							0.258	
2/8/2017	0.362							
2/9/2017					0.211			
2/10/2017			0.167					
4/5/2017							0.235	
4/6/2017	0.338		0.171					
4/7/2017					0.201			
6/14/2017							0.304	
6/15/2017	0.401		0.137		0.237			
8/8/2017			0.139					
8/10/2017	0.417				0.239		0.28	
10/3/2017							0.244	
10/4/2017	0.377							
10/5/2017			0.138		0.169			
5/23/2018	0.414		0.227		0.287		0.283	
7/11/2018			0.181					
11/30/2018	0.3		0.191		0.231		0.206	
1/14/2019			0.208					
3/11/2019			0.194					
5/23/2019	0.353		0.176		0.265		0.251	
11/7/2019		0.36		0.182		0.303		0.25

Within Limit

Prediction Limit Intrawell Parametric

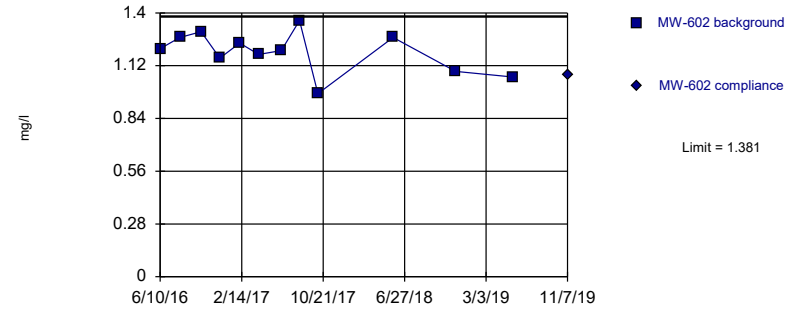


Background Data Summary: Mean=1.633, Std. Dev.=0.154, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9058, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric

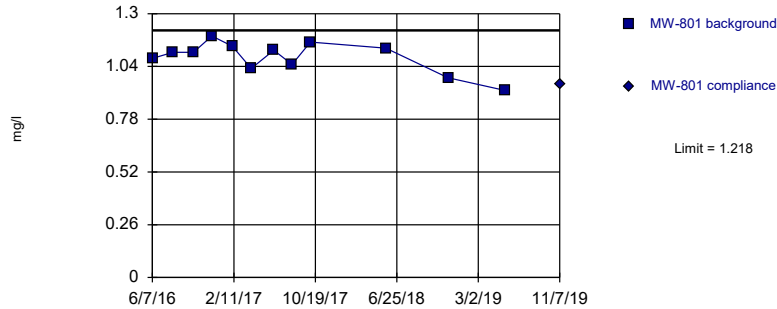


Background Data Summary: Mean=1.193, Std. Dev.=0.1096, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9686, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric

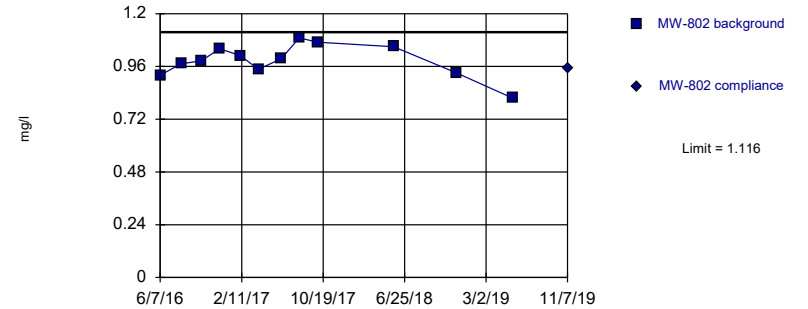


Background Data Summary: Mean=1.086, Std. Dev.=0.077, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=0.9857, Std. Dev.=0.07594, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9549, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

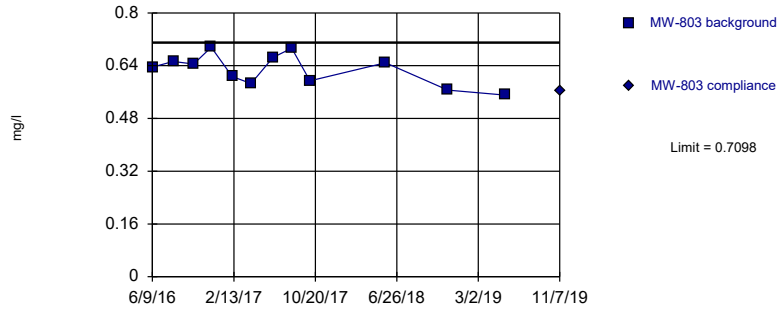
Constituent: FLUORIDE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					1.08		0.92	
6/9/2016	1.63							
6/10/2016			1.21					
8/9/2016	1.69		1.27		1.11			
8/10/2016							0.972	
10/11/2016					1.11		0.986	
10/13/2016	1.68		1.3					
12/6/2016					1.19		1.04	
12/7/2016	1.81							
12/9/2016			1.16					
2/7/2017					1.14		1.01	
2/8/2017	1.75		1.24					
4/4/2017							0.947	
4/6/2017	1.59				1.03			
4/7/2017			1.18					
6/13/2017							0.995	
6/14/2017					1.12			
6/15/2017	1.63		1.2					
8/7/2017							1.09	
8/9/2017	1.8				1.05			
8/10/2017			1.36					
10/4/2017					1.16		1.07	
10/5/2017			0.972					
10/6/2017	1.26							
5/23/2018	1.73		1.27		1.13		1.05	
11/30/2018	1.54		1.09		0.984		0.932	
5/23/2019	1.48		1.06		0.922		0.816	
11/7/2019		1.55		1.07		0.951		0.952

Within Limit

Prediction Limit
Intrawell Parametric

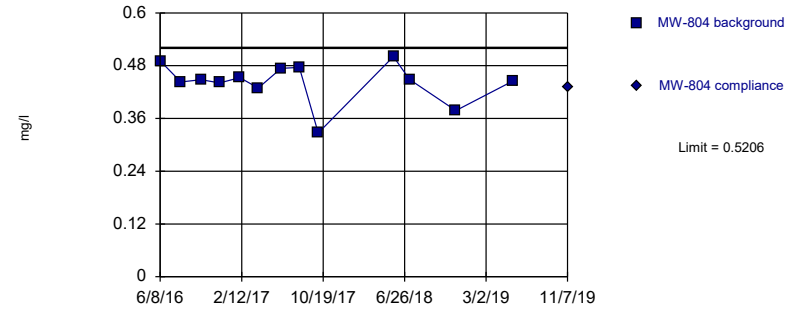


Background Data Summary: Mean=0.6284, Std. Dev.=0.04745, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9533, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

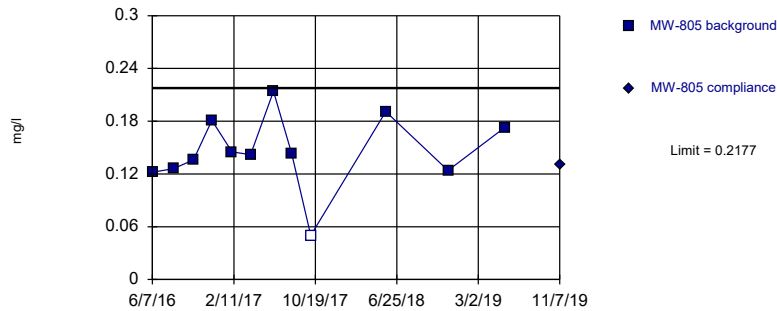


Background Data Summary: Mean=0.4427, Std. Dev.=0.04633, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8629, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

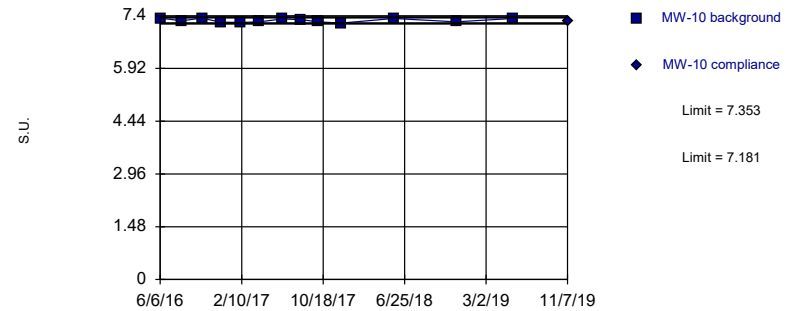


Background Data Summary: Mean=0.1456, Std. Dev.=0.042, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9313, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=7.267, Std. Dev.=0.05122, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.88, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

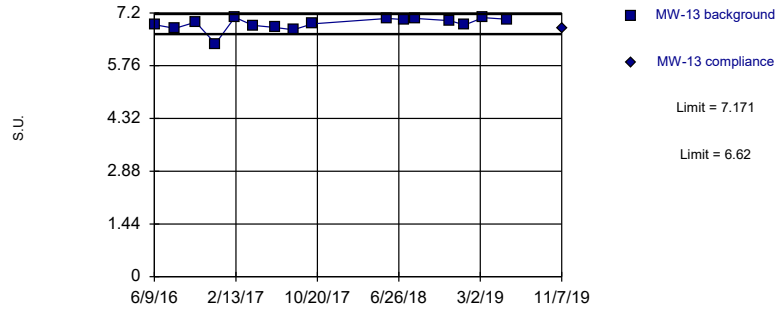
Constituent: FLUORIDE, pH Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							7.33	
6/7/2016					0.122			
6/8/2016			0.491					
6/9/2016	0.636							
8/10/2016			0.443		0.126			
8/11/2016							7.26	
8/12/2016	0.653							
10/11/2016			0.448		0.136			
10/12/2016							7.33	
10/13/2016	0.645							
12/6/2016	0.696				0.181			
12/7/2016			0.441					
12/9/2016							7.22	
2/6/2017					0.145			
2/7/2017			0.453					
2/8/2017	0.607						7.21	
4/4/2017			0.429		0.142			
4/6/2017							7.23	
4/7/2017	0.586							
6/13/2017	0.665		0.474		0.214			
6/15/2017							7.31	
8/8/2017			0.476		0.143			
8/9/2017	0.693							
8/10/2017							7.29	
10/4/2017	0.594						7.23	
10/5/2017			0.327		<0.1			
12/12/2017							7.19	
5/23/2018	0.649		0.501		0.191		7.32	
7/11/2018			0.449					
11/30/2018	0.566		0.378		0.124		7.23	
5/23/2019	0.551		0.445		0.173		7.32	
11/7/2019		0.563		0.43		0.13		7.24

Within Limits

Prediction Limit
Intrawell Parametric

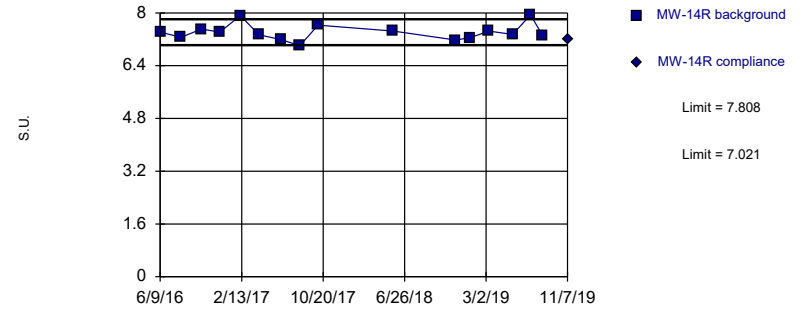


Background Data Summary (based on cube transformation): Mean=329.4, Std. Dev.=24.85, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.845, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric

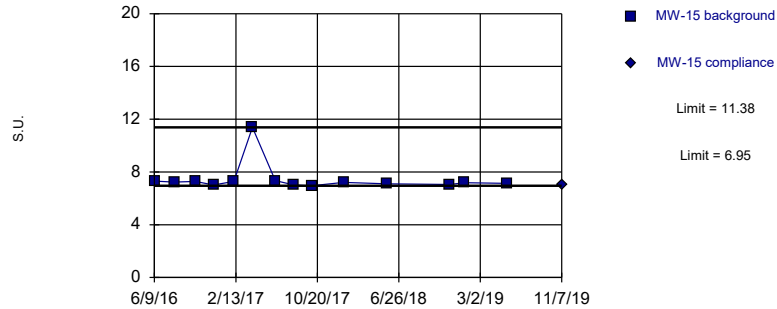


Background Data Summary: Mean=7.414, Std. Dev.=0.2491, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Non-parametric

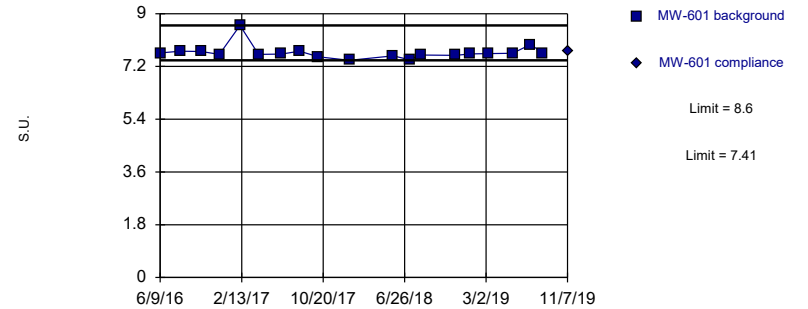


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 14 background values. Well-constituent pair annual alpha = 0.006393. Individual comparison alpha = 0.003199 (1 of 3).

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 19 background values. Well-constituent pair annual alpha = 0.002713. Individual comparison alpha = 0.001357 (1 of 3).

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

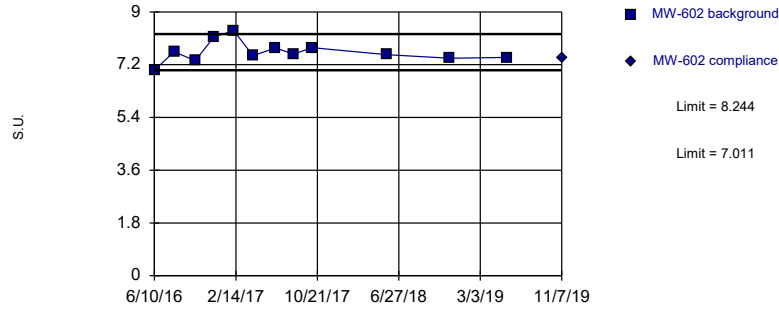
Constituent: pH Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	6.88		7.42		7.31		7.66	
8/9/2016					7.23		7.72	
8/11/2016	6.78		7.26					
10/12/2016					7.28			
10/13/2016	6.95		7.51				7.71	
12/7/2016					7.02		7.61	
12/9/2016			7.42					
12/13/2016	6.36							
2/7/2017					7.28			
2/8/2017							8.6	
2/9/2017			7.92					
2/10/2017	7.08							
4/5/2017					11.38			
4/6/2017	6.86						7.61	
4/7/2017			7.34					
6/14/2017					7.34			
6/15/2017	6.8		7.19				7.62	
8/8/2017	6.74							
8/9/2017							7.72	
8/10/2017			7.01		7.02			
10/3/2017					6.95			
10/5/2017	6.9		7.63					
10/6/2017							7.53	
1/9/2018					7.21		7.41	
5/23/2018	7.05		7.45		7.1		7.56	
7/11/2018	7.02						7.43	
8/16/2018	7.05						7.59	
11/30/2018	6.99		7.18		7.05		7.58	
1/14/2019	6.87		7.25		7.18		7.63	
3/11/2019	7.07		7.45				7.64	
5/23/2019	7.03		7.35		7.14		7.65	
7/17/2019			7.94				7.95	
8/23/2019			7.31				7.66	
11/7/2019		6.79		7.2		7.03		7.72

Within Limits

Prediction Limit
Intrawell Parametric

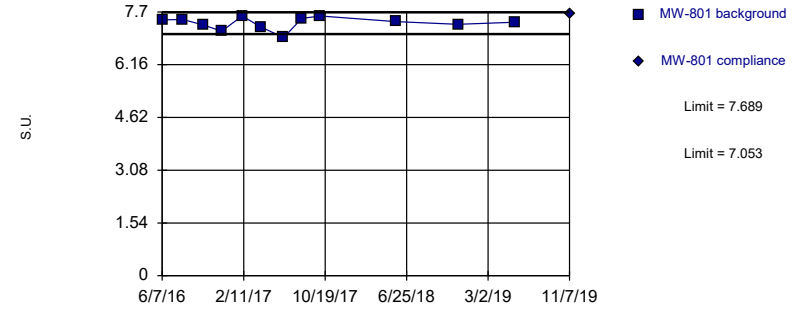


Background Data Summary: Mean=7.628, Std. Dev.=0.359, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric

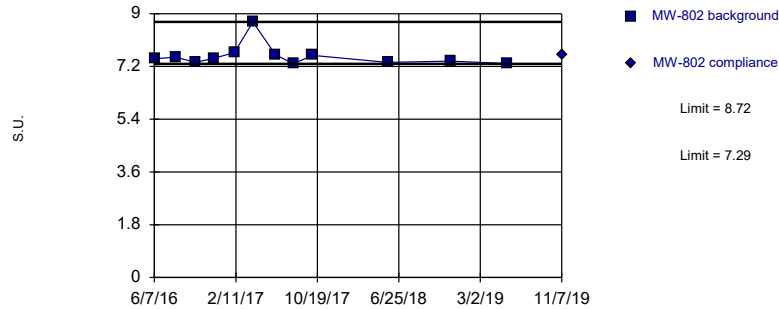


Background Data Summary: Mean=7.371, Std. Dev.=0.1854, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.914, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Non-parametric

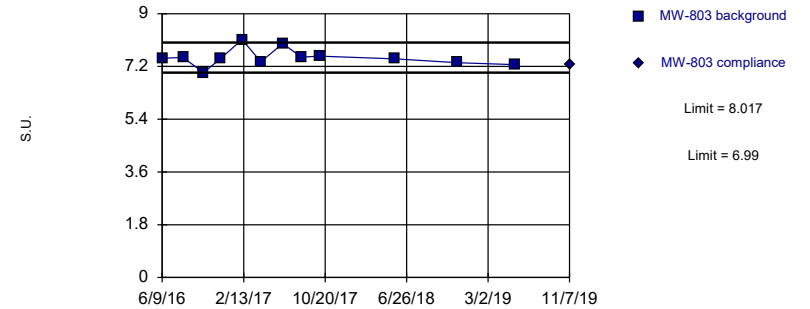


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 12 background values. Well-constituent pair annual alpha = 0.008684. Individual comparison alpha = 0.004347 (1 of 3).

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=7.503, Std. Dev.=0.2994, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8953, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

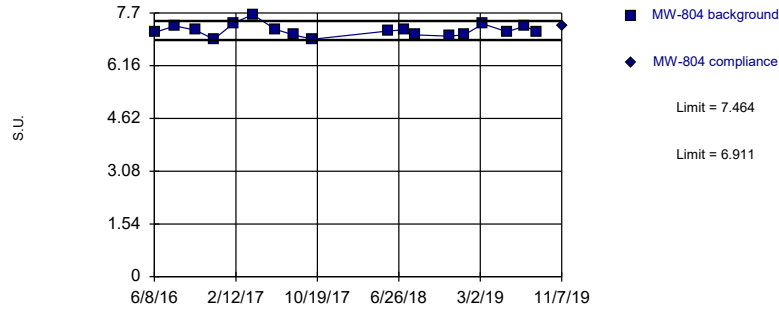
Constituent: pH Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			7.47		7.46			
6/9/2016							7.48	
6/10/2016	7.01							
8/9/2016	7.64		7.48					
8/10/2016					7.52			
8/12/2016							7.51	
10/11/2016			7.32		7.34			
10/13/2016	7.34						6.99	
12/6/2016			7.14		7.48		7.48	
12/9/2016	8.15							
2/7/2017			7.58		7.67			
2/8/2017	8.36						8.12	
4/5/2017					8.72			
4/6/2017			7.26					
4/7/2017	7.51						7.36	
6/13/2017					7.6		7.98	
6/14/2017			6.95					
6/15/2017	7.77							
8/7/2017					7.29			
8/8/2017							7.52	
8/9/2017			7.51					
8/10/2017	7.56							
10/4/2017			7.58		7.58		7.55	
10/5/2017	7.78							
5/23/2018	7.54		7.42		7.34		7.46	
11/30/2018	7.42		7.34		7.38		7.33	
5/23/2019	7.45		7.4		7.3		7.26	
11/7/2019		7.44		7.63		7.58		7.26

Within Limits

Prediction Limit Intrawell Parametric



Prediction Limit

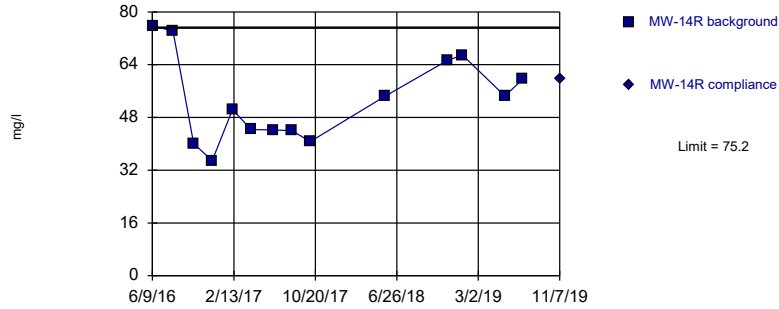
Constituent: pH, SULFATE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					15.9			
6/7/2016			6.52					
6/8/2016	7.13							
6/9/2016							1830	
8/10/2016	7.32		6.35					
8/11/2016					19.9		1730	
10/11/2016	7.2		6.36					
10/12/2016					21.6			
10/13/2016							1830	
12/6/2016			6.36					
12/7/2016	6.93							
12/9/2016					26.8			
12/13/2016							1270	
2/6/2017			6.62					
2/7/2017	7.41							
2/8/2017					30.7			
2/10/2017							1950	
4/5/2017	7.65		6.9					
4/6/2017					31.6		1480	
6/13/2017	7.22		6.43					
6/15/2017					31.1		1630	
8/8/2017	7.06		6.49				1410	
8/10/2017					27.6			
10/4/2017					25.5			
10/5/2017	6.93		5.99				1330	
12/12/2017			6.35					
1/9/2018			6.76					
5/23/2018	7.17		6.52		26.7		1070	
7/11/2018	7.21							
8/16/2018	7.06							
9/17/2018							1010	
11/30/2018	7.02		6.31		17.8		978	
1/14/2019	7.07		6.32				1120	
3/11/2019	7.38		6.4					
5/23/2019	7.15		6.44		23.1		1520	
7/17/2019	7.31		6.48					
8/22/2019	7.16		6.4					
11/7/2019		7.34		6.52		5.64		1450

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

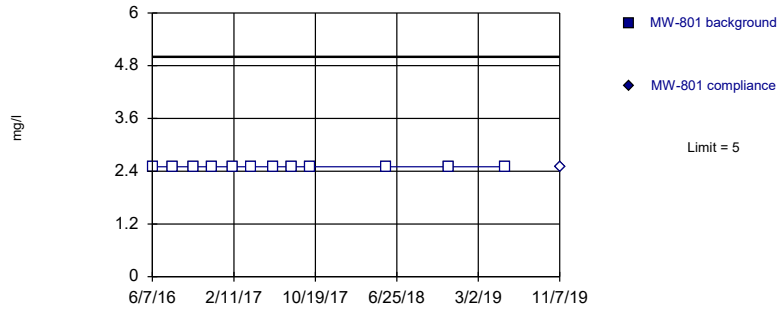
Constituent: SULFATE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	75.8		200		<5			
6/10/2016							25.1	
8/9/2016			219		<5		25.2	
8/11/2016	74.2							
10/12/2016			200					
10/13/2016	40.1				<5		23.4	
12/7/2016			224		<5			
12/9/2016	34.9						24.2	
2/7/2017			270					
2/8/2017					<5		27.5	
2/9/2017	50.4							
4/5/2017			221					
4/6/2017					<5			
4/7/2017	44.3						23.8	
6/14/2017			212					
6/15/2017	44.2				<5		24.4	
8/9/2017					<5			
8/10/2017	44		228				24.8	
10/3/2017			222					
10/5/2017	40.7						26.9	
10/6/2017					<5			
5/23/2018	54.5		209		<5		23.9	
11/30/2018	65.4		191		5.98		24.2	
1/14/2019	66.9		195		5.97			
3/11/2019					5.89			
5/23/2019	54.5		189		6.76		24.2	
7/17/2019	59.6				5.75			
8/23/2019					6.32			
11/7/2019		59.7		175		6.33		24.5

Within Limit

Prediction Limit
Intrawell Non-parametric

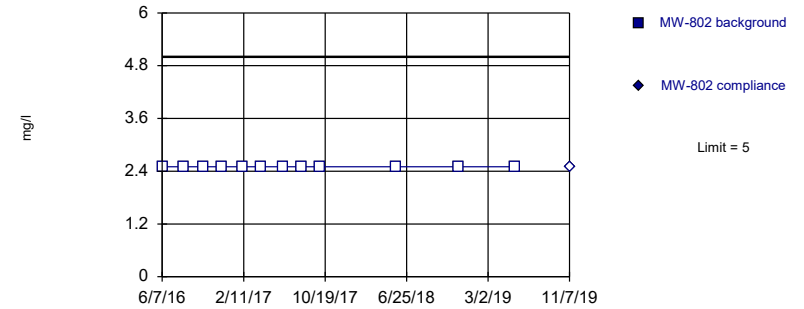


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: SULFATE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Non-parametric

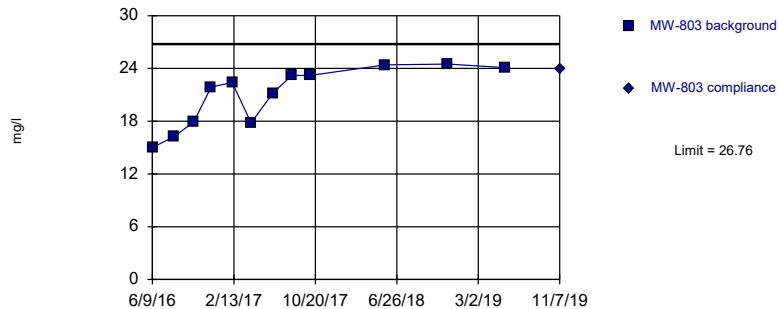


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: SULFATE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

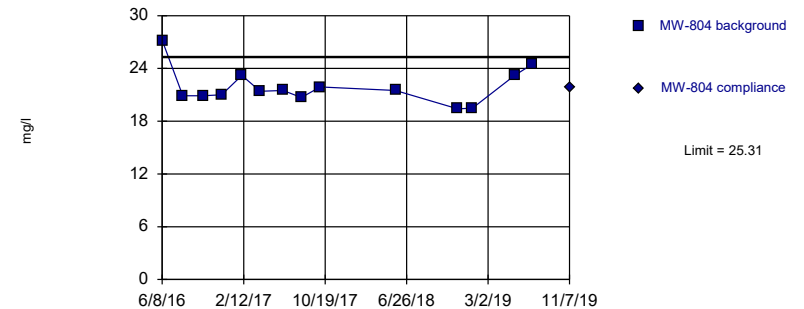


Background Data Summary: Mean=20.98, Std. Dev.=3.368, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8745, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=21.91, Std. Dev.=2.058, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

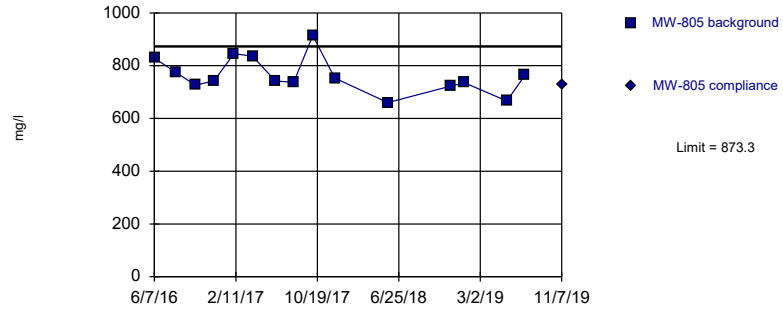
Constituent: SULFATE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	<5		<5					
6/8/2016							27.2	
6/9/2016					15			
8/9/2016	<5							
8/10/2016			<5				20.9	
8/12/2016					16.2			
10/11/2016	<5		<5				20.9	
10/13/2016					17.9			
12/6/2016	<5		<5		21.9			
12/7/2016							21	
2/7/2017	<5		<5				23.2	
2/8/2017					22.4			
4/4/2017			<5				21.4	
4/6/2017	<5							
4/7/2017					17.8			
6/13/2017			<5		21.2		21.5	
6/14/2017	<5							
8/7/2017			<5					
8/8/2017							20.7	
8/9/2017	<5				23.2			
10/4/2017	<5		<5		23.2			
10/5/2017							21.9	
5/23/2018	<5		<5		24.4		21.5	
11/30/2018	<5		<5		24.5		19.4	
1/14/2019							19.5	
5/23/2019	<5		<5		24.1		23.2	
7/17/2019							24.5	
11/7/2019		<5		<5		24		21.9

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=763.2, Std. Dev.=68.17, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9341, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 2/19/2020 9:05 AM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 2/19/2020 9:07 AM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805
6/7/2016	829	
8/10/2016	776	
10/11/2016	726	
12/6/2016	742	
2/6/2017	846	
4/4/2017	836	
6/13/2017	742	
8/8/2017	737	
10/5/2017	914	
12/12/2017	753	
5/23/2018	660	
11/30/2018	722	
1/14/2019	735	
5/23/2019	666	
7/17/2019	764	
11/7/2019		730

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 2/19/2020, 9:07 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>
BORON (mg/l)	MW-10	0.9889	n/a	11/7/2019	0.898	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-13	0.6068	n/a	11/7/2019	0.458	No	16	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-14R	0.8115	n/a	11/7/2019	0.807	No	14	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-15	0.3016	n/a	11/7/2019	0.282	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-601	1.932	n/a	11/7/2019	1.82	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-602	2.465	n/a	11/7/2019	2.3	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-801	2.411	n/a	11/7/2019	2.19	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-802	2.579	n/a	11/7/2019	2.44	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-803	2.188	n/a	11/7/2019	2.07	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-804	1.762	n/a	11/7/2019	1.63	No	18	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-805	0.578	n/a	11/7/2019	0.525	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-10	61.5	n/a	11/7/2019	56.2	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-13	404.2	n/a	11/7/2019	340	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-14R	61.85	n/a	11/7/2019	55.8	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-15	110.1	n/a	11/7/2019	104	No	13	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-601	23.63	n/a	11/7/2019	17.2	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-602	25.84	n/a	11/7/2019	24.9	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-801	36.84	n/a	11/7/2019	27.5	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-802	41.1	n/a	11/7/2019	28	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-803	49.74	n/a	11/7/2019	43.1	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-804	68.94	n/a	11/7/2019	68.2	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-805	487.8	n/a	11/7/2019	475	No	17	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-10	68.87	n/a	11/7/2019	52.2	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-13	19.33	n/a	11/7/2019	15.7	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-14R	6.113	n/a	11/7/2019	5.77	No	16	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-15	20.38	n/a	11/7/2019	11.3	No	13	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-601	201	n/a	11/7/2019	164	No	14	0	n/a	0.0016	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-602	18.02	n/a	11/7/2019	16.6	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-801	126.2	n/a	11/7/2019	92	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-802	38.44	n/a	11/7/2019	33.8	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-803	49.94	n/a	11/7/2019	49.4	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-804	32.96	n/a	11/7/2019	29	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-805	514.9	n/a	11/7/2019	492	No	14	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-10	636.2	n/a	11/7/2019	570	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-13	6050	n/a	11/7/2019	2430	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-14R	591	n/a	11/7/2019	509	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-15	2310	n/a	11/7/2019	692	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-601	1029	n/a	11/7/2019	900	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-602	650.4	n/a	11/7/2019	569	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-801	1008	n/a	11/7/2019	785	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-802	715.2	n/a	11/7/2019	627	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-803	709	n/a	11/7/2019	563	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-804	584.6	n/a	11/7/2019	501	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-805	2518	n/a	11/7/2019	2070	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-10	0.4313	n/a	11/7/2019	0.36	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-13	0.2156	n/a	11/7/2019	0.182	No	15	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-14R	0.3031	n/a	11/7/2019	0.303	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-15	0.3004	n/a	11/7/2019	0.25	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-601	1.897	n/a	11/7/2019	1.55	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-602	1.381	n/a	11/7/2019	1.07	No	12	0	No	0.001075	Param Intra 1 of 3

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 2/19/2020, 9:07 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>
FLUORIDE (mg/l)	MW-801	1.218	n/a	11/7/2019	0.951	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-802	1.116	n/a	11/7/2019	0.952	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-803	0.7098	n/a	11/7/2019	0.563	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-804	0.5206	n/a	11/7/2019	0.43	No	13	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-805	0.2177	n/a	11/7/2019	0.13	No	12	8.333	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-10	7.353	7.181	11/7/2019	7.24	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-13	7.171	6.62	11/7/2019	6.79	No	16	0	x^3	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-14R	7.808	7.021	11/7/2019	7.2	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-15	11.38	6.95	11/7/2019	7.03	No	14	0	n/a	0.003199	NP Intra (normality) ...
pH (S.U.)	MW-601	8.6	7.41	11/7/2019	7.72	No	19	0	n/a	0.001357	NP Intra (normality) ...
pH (S.U.)	MW-602	8.244	7.011	11/7/2019	7.44	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-801	7.689	7.053	11/7/2019	7.63	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-802	8.72	7.29	11/7/2019	7.58	No	12	0	n/a	0.004347	NP Intra (normality) ...
pH (S.U.)	MW-803	8.017	6.99	11/7/2019	7.26	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-804	7.464	6.911	11/7/2019	7.34	No	18	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-805	6.741	6.148	11/7/2019	6.52	No	18	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-10	33.85	n/a	11/7/2019	5.64	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-13	1975	n/a	11/7/2019	1450	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-14R	75.2	n/a	11/7/2019	59.7	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-15	249.9	n/a	11/7/2019	175	No	13	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-601	6.76	n/a	11/7/2019	6.33	No	16	62.5	n/a	0.001026	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-602	26.93	n/a	11/7/2019	24.5	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-801	5	n/a	11/7/2019	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-802	5	n/a	11/7/2019	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-803	26.76	n/a	11/7/2019	24	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-804	25.31	n/a	11/7/2019	21.9	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-805	873.3	n/a	11/7/2019	730	No	15	0	No	0.001075	Param Intra 1 of 3

La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
March 10, 2020

ATTACHMENT 2

Sanitas™ Configuration Settings

Exclude data flags:

Observations with flags containing the following characters will be deselected: 'i', 'I'.

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...

Test Residuals For Normality (Parametric test only) at Alpha = 0.01

Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- Use Ladder of Powers
- Natural Log or No Transformation
- Never Transform
- Use Specific Transformation:

- Use Best W Statistic
- Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent >

Include % 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 > 0

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

ATTACHMENT 2-2
Spring 2020 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

September 28, 2020

**To: La Cygne Generating Station
25166 East 2200 Road
La Cygne, Kansas 66040
Evergy Metro, Inc.**



From: SCS Engineers

**RE: Determination of Statistically Significant Increases –
CCR Landfill and Lower AQC Impoundment
Spring 2020 Semiannual Detection Monitoring 40 CFR 257.94**

Statistical analysis of monitoring data from the groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station has been completed in substantial compliance with the “Statistical Method Certification by A Qualified Professional Engineer” dated October 12, 2017. Detection monitoring groundwater samples were collected on May 19, 2020. Review and validation of the results from the May 2019 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 27, 2020.

The completed statistical evaluation identified two Appendix III constituents above the prediction limits established for monitoring well MW-14R.

Constituent/Monitoring Well	*UPL	Observation May 19, 2020	1st Verification July 13, 2020	2nd Verification August 27, 2020
Chloride				
MW-14R	6.113	6.21	6.38	6.25
Fluoride				
MW-14R	0.3031	0.329	0.336	0.312

*UPL – Upper Prediction Limit

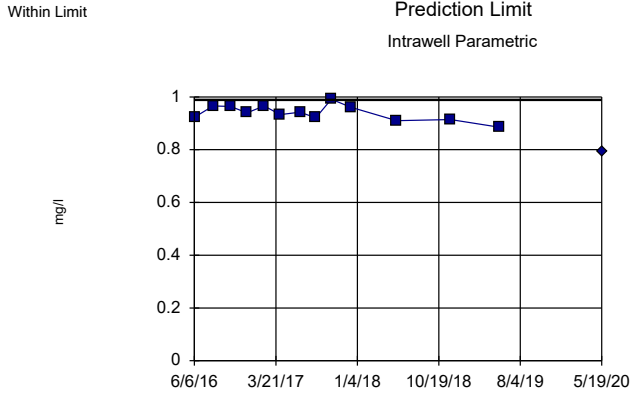
Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified two SSIs above the background prediction limit for chloride and fluoride in monitoring well MW-14R.

Attached to this memorandum are the following backup information:

La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
September 28, 2020

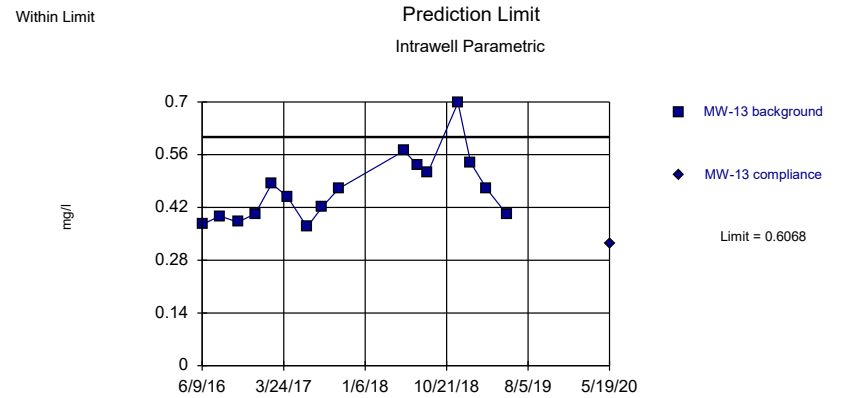
ATTACHMENT 1

Sanitas™ Output



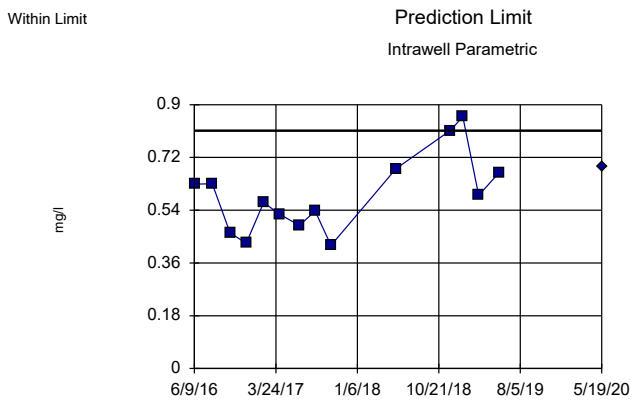
Background Data Summary: Mean=0.9397, Std. Dev.=0.02926, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9728, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data



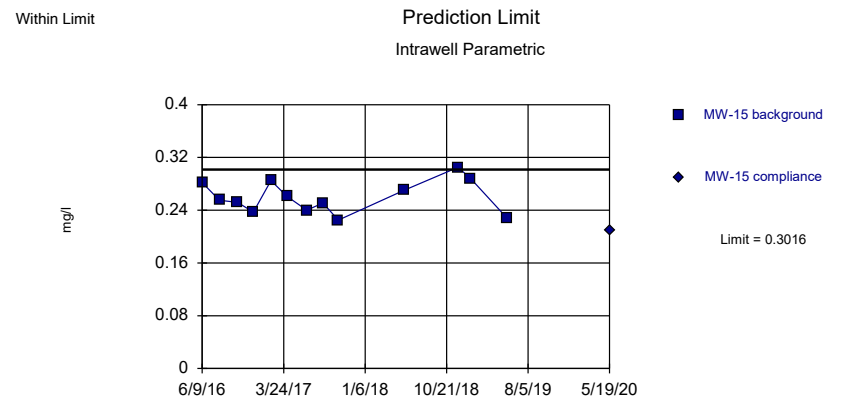
Background Data Summary: Mean=0.467, Std. Dev.=0.08842, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8992, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data



Background Data Summary: Mean=0.5928, Std. Dev.=0.1327, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data



Background Data Summary: Mean=0.2599, Std. Dev.=0.02478, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.961, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

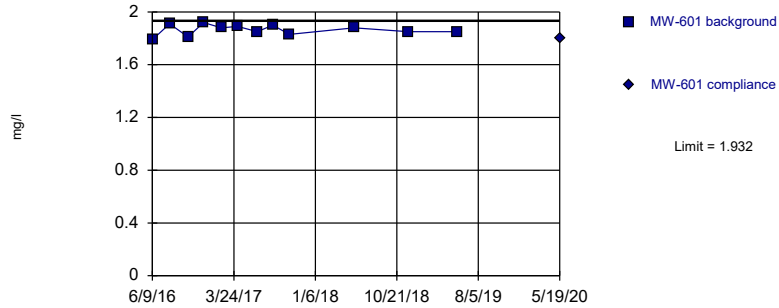
Constituent: BORON Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.923							
6/9/2016			0.375		0.629		0.282	
8/9/2016							0.255	
8/11/2016	0.966		0.397		0.63			
10/12/2016	0.964						0.252	
10/13/2016			0.381		0.463			
12/7/2016							0.237	
12/9/2016	0.94				0.427			
12/13/2016			0.403					
2/7/2017							0.285	
2/8/2017	0.966							
2/9/2017					0.566			
2/10/2017			0.483					
4/5/2017							0.261	
4/6/2017	0.933		0.449					
4/7/2017					0.526			
6/14/2017							0.24	
6/15/2017	0.942		0.368		0.488			
8/8/2017			0.422					
8/10/2017	0.921				0.537		0.251	
10/3/2017							0.225	
10/4/2017	0.991							
10/5/2017			0.47		0.42			
12/12/2017	0.961							
5/23/2018	0.91		0.57		0.682		0.27	
7/11/2018			0.533					
8/16/2018			0.513					
11/30/2018	0.914		0.698		0.812		0.305	
1/14/2019			0.539		0.859		0.288	
3/11/2019			0.47		0.591			
5/23/2019	0.885		0.401		0.669		0.228	
5/19/2020		0.791		0.324		0.688		0.209

Within Limit

Prediction Limit
Intrawell Parametric

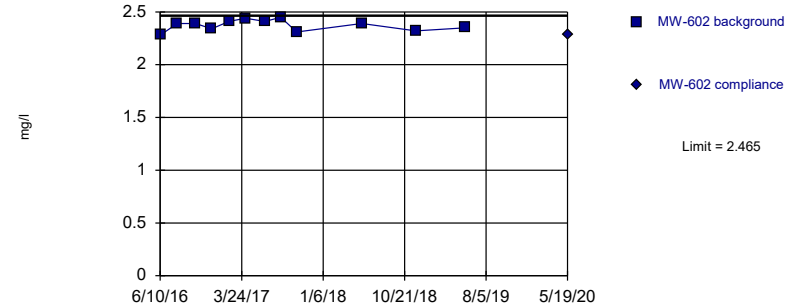


Background Data Summary: Mean=1.863, Std. Dev.=0.0403, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9586, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

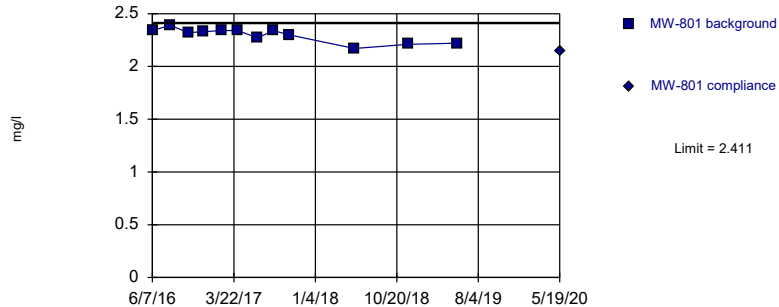


Background Data Summary: Mean=2.373, Std. Dev.=0.05314, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9546, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

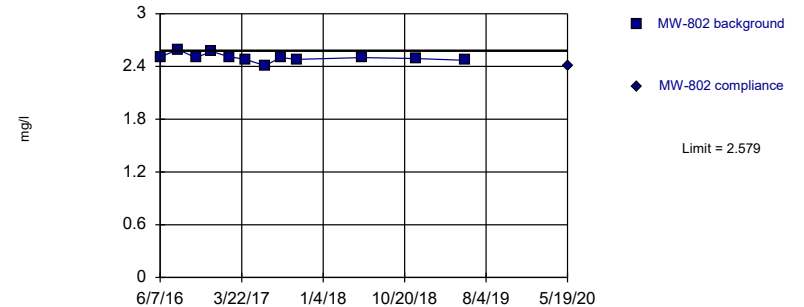


Background Data Summary: Mean=2.298, Std. Dev.=0.06608, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8916, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=2.501, Std. Dev.=0.04582, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: BORON Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

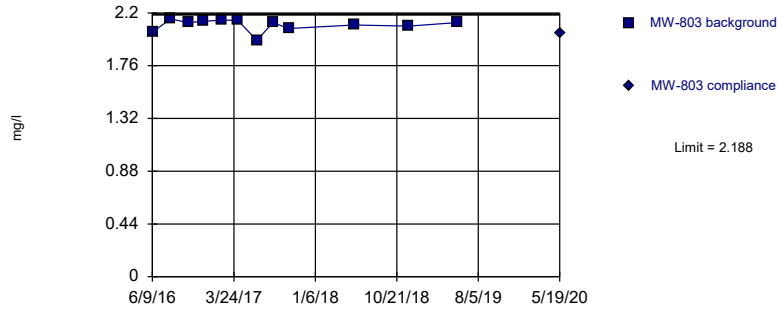
Constituent: BORON Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					2.34		2.51	
6/9/2016	1.79							
6/10/2016			2.28					
8/9/2016	1.91		2.39		2.39			
8/10/2016							2.59	
10/11/2016					2.32		2.5	
10/13/2016	1.81		2.39					
12/6/2016					2.33		2.57	
12/7/2016	1.92							
12/9/2016			2.34					
2/7/2017					2.34		2.51	
2/8/2017	1.88		2.41					
4/4/2017							2.48	
4/6/2017	1.89				2.34			
4/7/2017			2.44					
6/13/2017							2.41	
6/14/2017					2.27			
6/15/2017	1.85		2.41					
8/7/2017							2.5	
8/9/2017	1.9				2.34			
8/10/2017			2.45					
10/4/2017					2.3		2.48	
10/5/2017			2.31					
10/6/2017	1.83							
5/23/2018	1.88		2.39		2.17		2.5	
11/30/2018	1.85		2.32		2.21		2.49	
5/23/2019	1.85		2.35		2.22		2.47	
5/19/2020		1.8		2.28		2.14		2.41

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

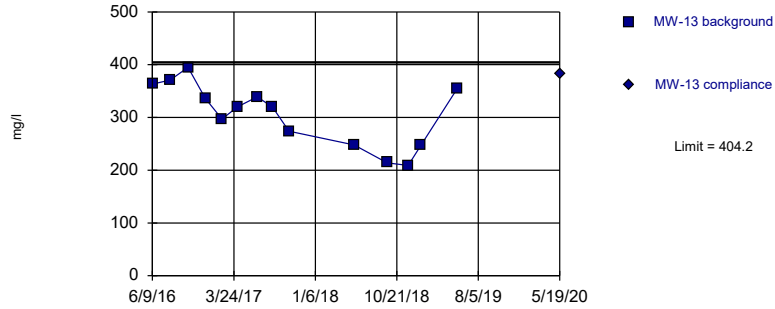
Constituent: BORON, CALCIUM Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							60.1	
6/7/2016					0.51			
6/8/2016			1.65					
6/9/2016	2.04							
8/10/2016			1.58		0.415			
8/11/2016							58.7	
8/12/2016	2.15							
10/11/2016			1.59		0.462			
10/12/2016							60.7	
10/13/2016	2.12							
12/6/2016	2.13				0.507			
12/7/2016			1.62					
12/9/2016							59	
2/6/2017					0.456			
2/7/2017			1.59					
2/8/2017	2.14						58.8	
4/4/2017			1.59		0.444			
4/6/2017							57.4	
4/7/2017	2.14							
6/13/2017	1.97		1.57		0.468			
6/15/2017							55.5	
8/8/2017			1.61		0.518			
8/9/2017	2.12							
8/10/2017							56.1	
10/4/2017	2.07						58.4	
10/5/2017			1.53		0.406			
5/23/2018	2.1		1.72		0.517		54.1	
7/11/2018			1.67					
8/16/2018			1.76					
11/30/2018	2.09		1.75		0.525		57.5	
1/14/2019			1.73					
3/11/2019			1.74					
5/23/2019	2.12		1.69		0.582		52.9	
7/17/2019			1.71		0.55			
8/22/2019			1.63		0.537			
5/19/2020		2.03		1.56		0.503		52.1

Within Limit

Prediction Limit Intrawell Parametric

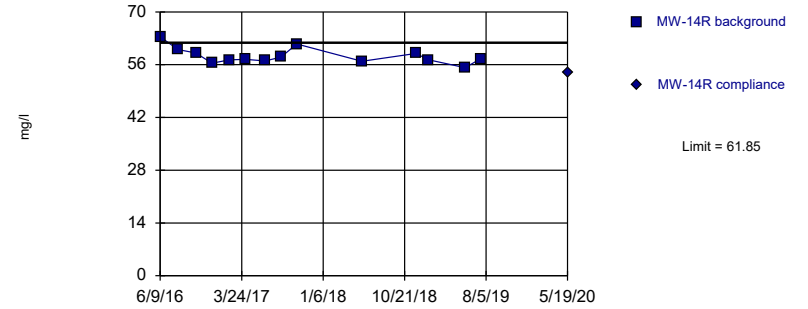


Background Data Summary: Mean=306.2, Std. Dev.=59.47, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric

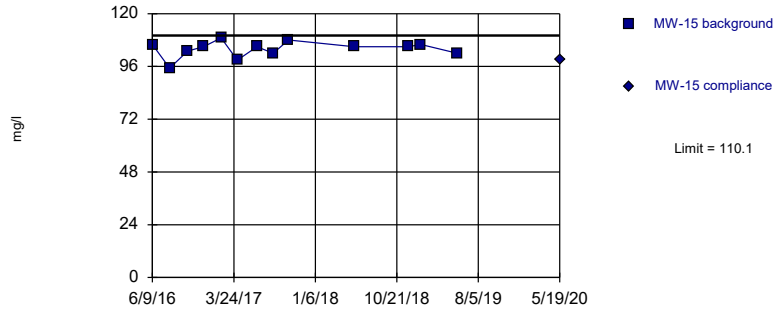


Background Data Summary: Mean=58.29, Std. Dev.=2.158, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric

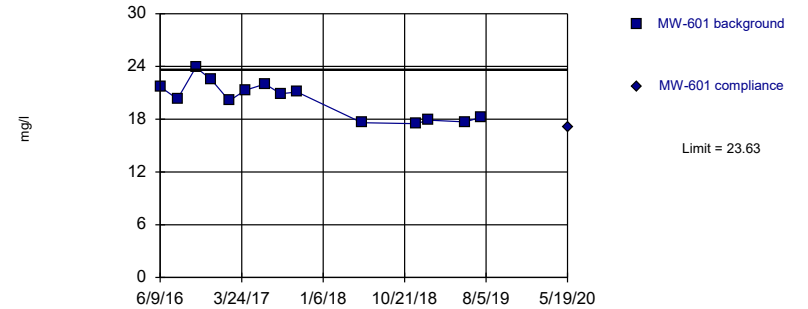


Background Data Summary: Mean=103.9, Std. Dev.=3.71, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9143, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=20.19, Std. Dev.=2.086, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9162, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CALCIUM Analysis Run 9/9/2020 9:50 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	363		63.4		106		21.7	
8/9/2016					95.2		20.3	
8/11/2016	371		60					
10/12/2016					103			
10/13/2016	395		59.1				23.9	
12/7/2016					105		22.5	
12/9/2016			56.4					
12/13/2016	336							
2/7/2017					109			
2/8/2017							20.1	
2/9/2017			57.3					
2/10/2017	297							
4/5/2017					98.9			
4/6/2017	320						21.3	
4/7/2017			57.4					
6/14/2017					105			
6/15/2017	339		57				22	
8/8/2017	319							
8/9/2017							20.9	
8/10/2017			58		102			
10/3/2017					108			
10/5/2017	274		61.5					
10/6/2017							21.1	
5/23/2018	248		56.9		105		17.6	
9/17/2018	214							
11/30/2018	209		59		105		17.5	
1/14/2019	247		57.3		106		17.9	
5/23/2019	355		55.2		102		17.7	
7/17/2019			57.6				18.2	
5/19/2020		382		53.9		99.3		17.1

Prediction Limit

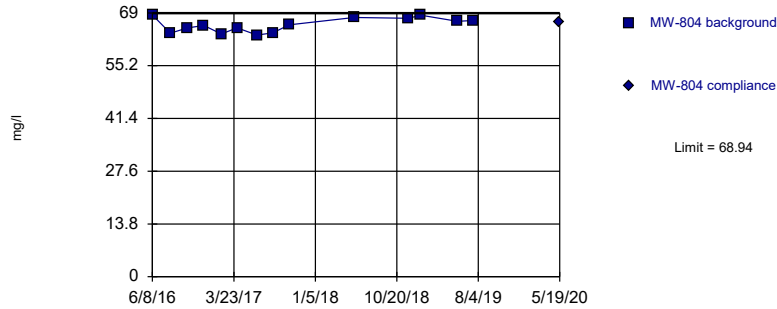
Constituent: CALCIUM Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			37.6		42.6			
6/9/2016							47.6	
6/10/2016	24.7							
8/9/2016	23.3		30.9					
8/10/2016					32.2			
8/12/2016							46.2	
10/11/2016			33.5		37.2			
10/13/2016	25.7						49.7	
12/6/2016			33.6		37.2		48.3	
12/9/2016	25.3							
2/7/2017			30.9		33.7			
2/8/2017	24						44.8	
4/4/2017					35			
4/6/2017			32.5					
4/7/2017	24.9						46.7	
6/13/2017					31.6		44.1	
6/14/2017			28.8					
6/15/2017	23.2							
8/7/2017					32.4			
8/9/2017			30.9				46.1	
8/10/2017	23.3							
10/4/2017			31.4		34.1		46.1	
10/5/2017	25.3							
5/23/2018	22.9		25.6		27.5		42.9	
11/30/2018	23.7		26.8		27.8		44.2	
5/23/2019	23.1		25.1		26.4		41.1	
5/19/2020		23.8		26.2		27.8		38.7

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

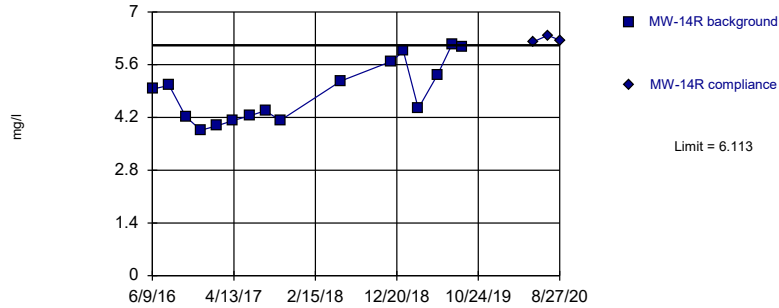
Constituent: CALCIUM, CHLORIDE Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					56.7			
6/7/2016			422					
6/8/2016	68.5							
6/9/2016							18	
8/10/2016	63.7		437					
8/11/2016					60.2		18.5	
10/11/2016	65.1		422					
10/12/2016					62.7			
10/13/2016							19.2	
12/6/2016			422					
12/7/2016	65.7							
12/9/2016					66.6			
12/13/2016							16.4	
2/6/2017			435					
2/7/2017	63.5							
2/8/2017					67			
2/10/2017							15.6	
4/4/2017	65.1		444					
4/6/2017					63.7		16.8	
6/13/2017	63.2		430					
6/15/2017					63.6		17.2	
8/8/2017	63.8		414				16.2	
8/10/2017					63.8			
10/4/2017					62.8			
10/5/2017	65.9		467				13.6	
12/12/2017			525					
1/9/2018			439					
5/23/2018	67.8		434		57.9		14.3	
9/17/2018							13.1	
11/30/2018	67.6		455		55.5		12.8	
1/14/2019	68.4		473				12.5	
3/11/2019			468					
5/23/2019	66.8		442		52.5		16.2	
7/17/2019	67		453					
5/19/2020		66.7		450		51.8		19.5
7/13/2020								18.8 1st Verification Sample

Exceeds Limit

Prediction Limit
Intrawell Parametric

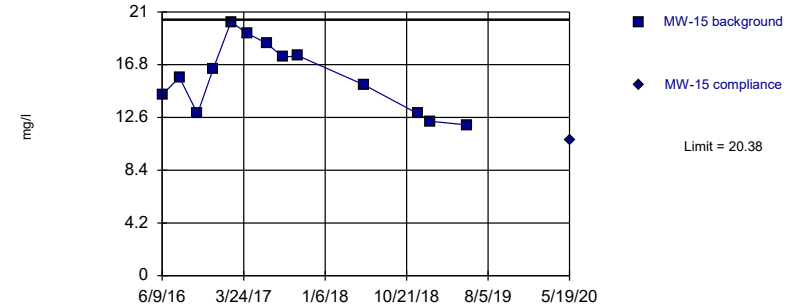


Background Data Summary: Mean=4.858, Std. Dev.=0.7941, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8996, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: CHLORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

Constituent: CHLORIDE Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	4.95		14.4		161			
6/10/2016							16.9	
8/9/2016			15.8		161		17.3	
8/11/2016	5.05							
10/12/2016			12.9					
10/13/2016	4.22				201		16.8	
12/7/2016			16.5		169			
12/9/2016	3.86						16.4	
2/7/2017			20.2					
2/8/2017					168		17.6	
2/9/2017	3.98							
4/5/2017			19.3					
4/6/2017					156			
4/7/2017	4.11						17.2	
6/14/2017			18.5					
6/15/2017	4.25				167		17.2	
8/9/2017					168			
8/10/2017	4.38		17.4				17.8	
10/3/2017			17.5					
10/5/2017	4.12						17.9	
10/6/2017					166			
5/23/2018	5.17		15.2		160		17.6	
11/30/2018	5.69		12.9		160		16.5	
1/14/2019	5.96		12.3		157			
3/11/2019	4.44							
5/23/2019	5.33		12		162		16.9	
7/17/2019	6.14				32.3			
8/23/2019	6.08							
5/19/2020		6.21		10.8		161		17.1
7/13/2020		6.38	1st Verification Sample					
8/27/2020		6.25	2nd Verification Sample					

Prediction Limit

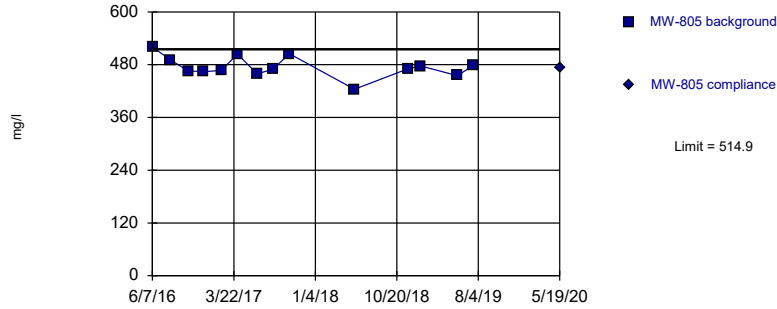
Constituent: CHLORIDE Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	118		37.9					
6/8/2016							32.8	
6/9/2016					48.1			
8/9/2016	111							
8/10/2016			37.5				26.1	
8/12/2016					48.8			
10/11/2016	117		36.3				26.3	
10/13/2016					48.4			
12/6/2016	116		37.4		49.9			
12/7/2016							25.5	
2/7/2017	113		37.1				25.3	
2/8/2017					49.3			
4/4/2017			37.4				26	
4/6/2017	111							
4/7/2017					49.5			
6/13/2017			36.4		49.2		26	
6/14/2017	103							
8/7/2017			35.6					
8/8/2017							26.3	
8/9/2017	116				49.5			
10/4/2017	118		36.4		49.3			
10/5/2017							26.9	
5/23/2018	97.1		37.5		48.9		30.4	
11/30/2018	92.9		35.9		48.7		32.2	
1/14/2019							29.7	
5/23/2019	89.4		34.2		49.2		31.7	
7/17/2019							31.1	
5/19/2020		91.4		36.2		49.8		29.1

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

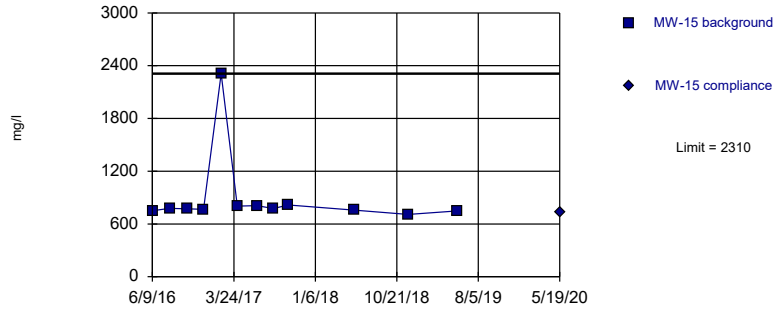
Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 9/9/2020 9:52 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R
6/6/2016			601					
6/7/2016	520							
6/9/2016					2490		559	
8/10/2016	491							
8/11/2016			649		2910		607	
10/11/2016	466							
10/12/2016			600					
10/13/2016					2640		545	
12/6/2016	464							
12/9/2016			612				533	
12/13/2016					2590			
2/6/2017	467							
2/8/2017			587					
2/9/2017							536	
2/10/2017					2220			
4/4/2017	504							
4/6/2017			596		6050			
4/7/2017							530	
6/13/2017	459							
6/15/2017			625		2350		499	
8/8/2017	470				2380			
8/10/2017			615				521	
10/4/2017			604					
10/5/2017	505				2140		529	
5/23/2018	424		589		1860		548	
11/30/2018	471		588		1760		563	
1/14/2019	477							
5/23/2019	455		588		2460		563	
7/17/2019	478							
5/19/2020		472		584		2710		579

Within Limit

Prediction Limit
Intrawell Non-parametric

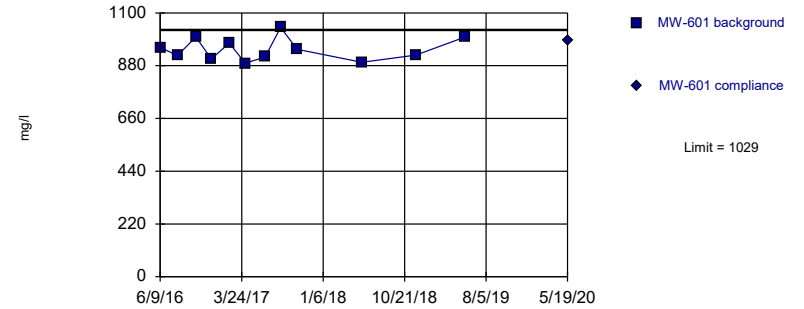


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

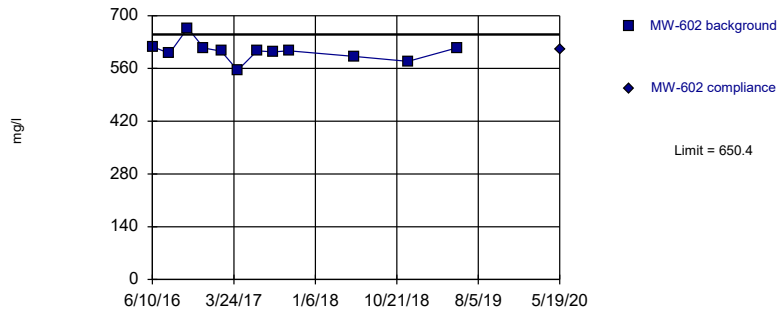


Background Data Summary: Mean=947.7, Std. Dev.=47.45, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9332, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

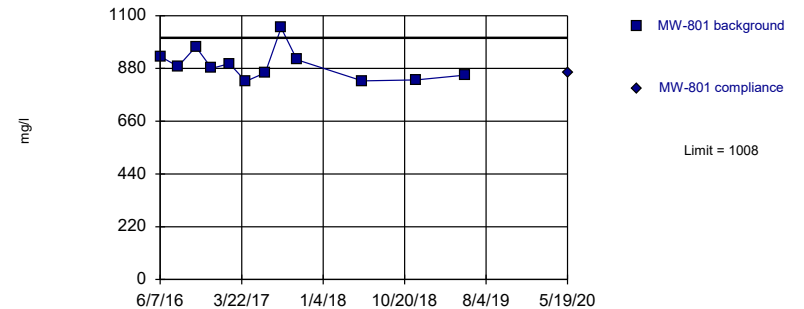


Background Data Summary: Mean=605.3, Std. Dev.=26.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=894.5, Std. Dev.=65.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

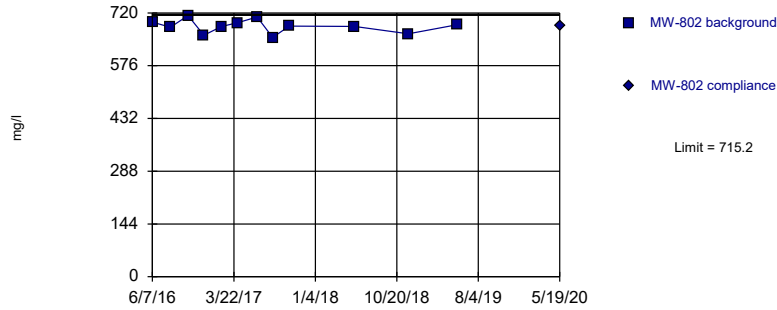
Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801
6/7/2016							930	
6/9/2016	751		956					
6/10/2016					618			
8/9/2016	777		922		600		888	
10/11/2016							970	
10/12/2016	772							
10/13/2016			1000		667			
12/6/2016							880	
12/7/2016	767		908					
12/9/2016					614			
2/7/2017	2310						900	
2/8/2017			974		606			
4/5/2017	803							
4/6/2017			890				826	
4/7/2017					555			
6/14/2017	808						862	
6/15/2017			916		607			
8/9/2017			1040				1050	
8/10/2017	775				604			
10/3/2017	815							
10/4/2017							916	
10/5/2017					607			
10/6/2017			948					
5/23/2018	757		894		592		828	
11/30/2018	709		924		579		832	
5/23/2019	748		1000		615		852	
5/19/2020		734		986		611		860

Within Limit

Prediction Limit
Intrawell Parametric



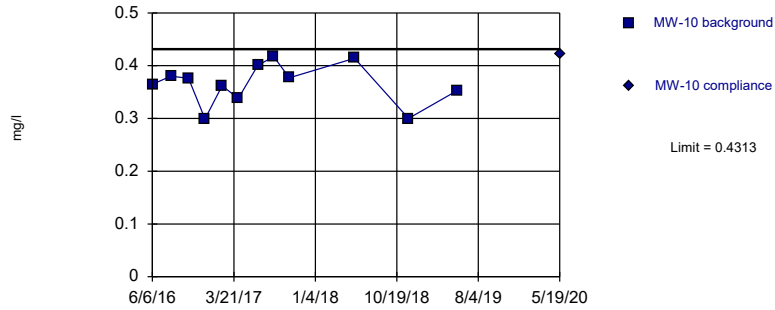
Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 9:53 PM View: LF LAQC III
 LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805
6/7/2016	695						2070	
6/8/2016					562			
6/9/2016			594					
8/10/2016	681				554		2440	
8/12/2016			591					
10/11/2016	713				577		1820	
10/13/2016			592					
12/6/2016	659		603				2420	
12/7/2016					518			
2/6/2017							2140	
2/7/2017	683				559			
2/8/2017			599					
4/4/2017	693				555		2270	
4/7/2017			605					
6/13/2017	709		627		575		2420	
8/7/2017	653							
8/8/2017					548		2150	
8/9/2017			709					
10/4/2017	684		625					
10/5/2017					577		2110	
5/23/2018	683		606		551		1810	
11/30/2018	663		601		550		2070	
5/23/2019	688		621		558		2180	
5/19/2020		685		603		553		2220

Within Limit

Prediction Limit
Intrawell Parametric

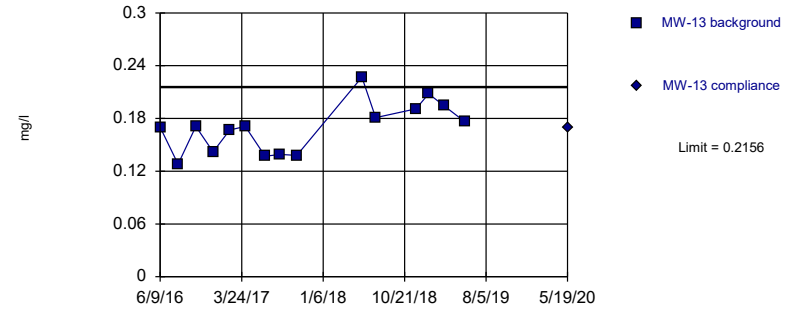


Background Data Summary: Mean=0.3652, Std. Dev.=0.03856, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9296, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

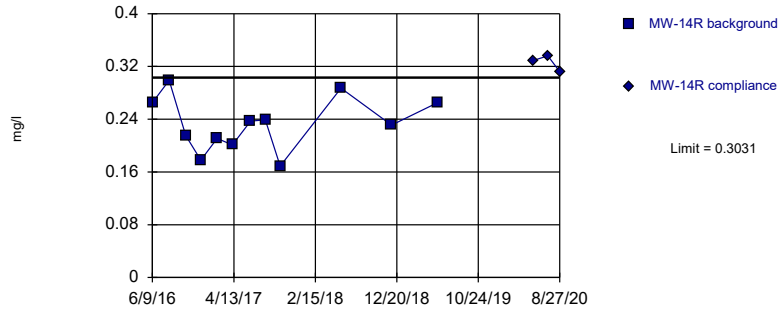


Background Data Summary: Mean=0.1693, Std. Dev.=0.02865, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9466, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Exceeds Limit

Prediction Limit
Intrawell Parametric

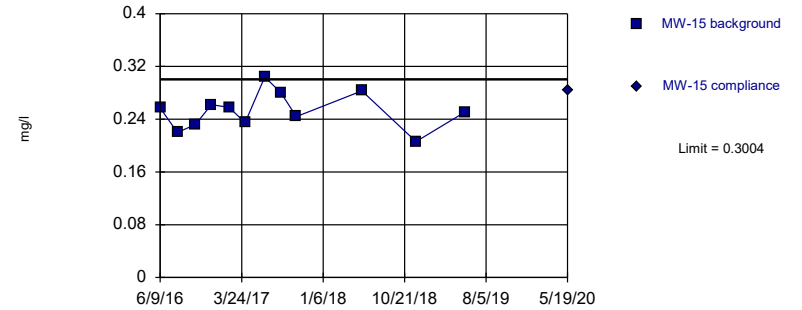


Background Data Summary: Mean=0.2331, Std. Dev.=0.04082, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9709, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=0.2527, Std. Dev.=0.0278, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9878, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

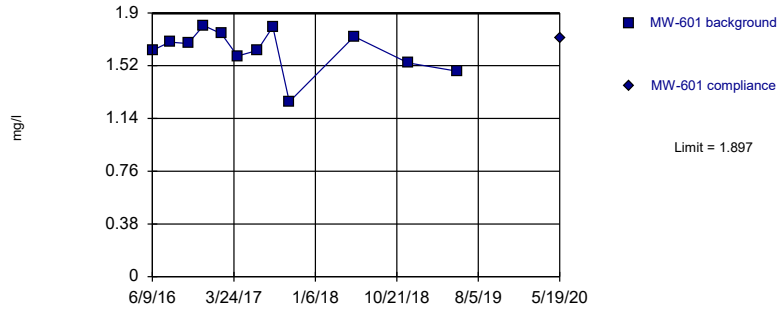
Constituent: FLUORIDE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-10	MW-10	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15
6/6/2016	0.365							
6/9/2016			0.17		0.265		0.257	
8/9/2016							0.22	
8/11/2016	0.38		0.128		0.299			
10/12/2016	0.376						0.232	
10/13/2016			0.171		0.215			
12/7/2016							0.262	
12/9/2016	0.299				0.178			
12/13/2016			0.142					
2/7/2017							0.258	
2/8/2017	0.362							
2/9/2017					0.211			
2/10/2017			0.167					
4/5/2017							0.235	
4/6/2017	0.338		0.171					
4/7/2017					0.201			
6/14/2017							0.304	
6/15/2017	0.401		0.137		0.237			
8/8/2017			0.139					
8/10/2017	0.417				0.239		0.28	
10/3/2017							0.244	
10/4/2017	0.377							
10/5/2017			0.138		0.169			
5/23/2018	0.414		0.227		0.287		0.283	
7/11/2018			0.181					
11/30/2018	0.3		0.191		0.231		0.206	
1/14/2019			0.208					
3/11/2019			0.194					
5/23/2019	0.353		0.176		0.265		0.251	
5/19/2020		0.422		0.169		0.329		0.284
7/13/2020						0.336	1st Verification Sample	
8/27/2020						0.312	2nd Verification Sample	

Within Limit

Prediction Limit
Intrawell Parametric

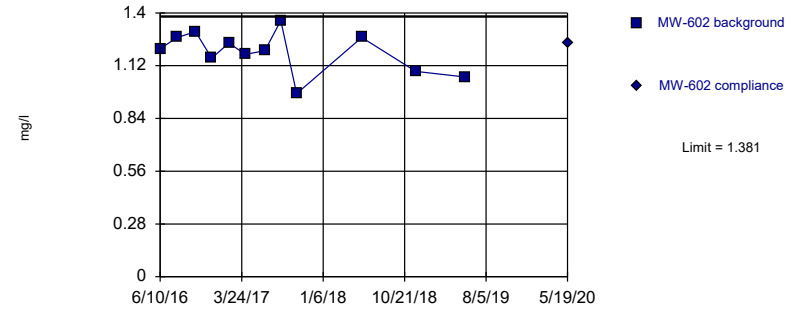


Background Data Summary: Mean=1.633, Std. Dev.=0.154, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9058, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

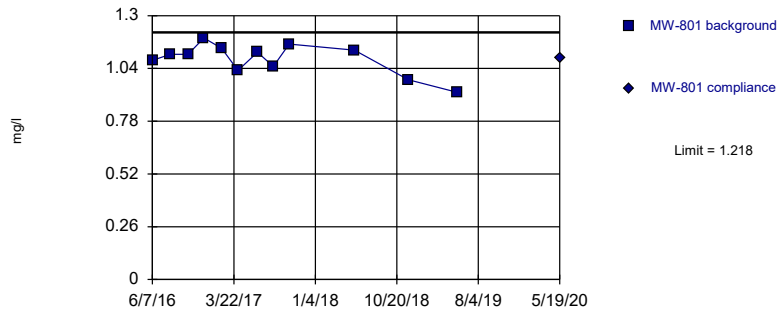


Background Data Summary: Mean=1.193, Std. Dev.=0.1096, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9686, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

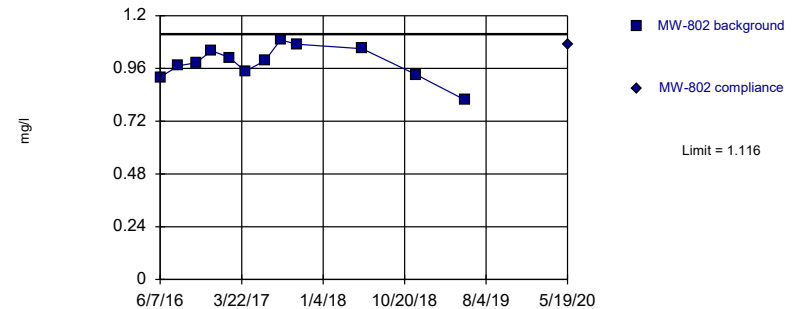


Background Data Summary: Mean=1.086, Std. Dev.=0.077, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=0.9857, Std. Dev.=0.07594, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9549, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: FLUORIDE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

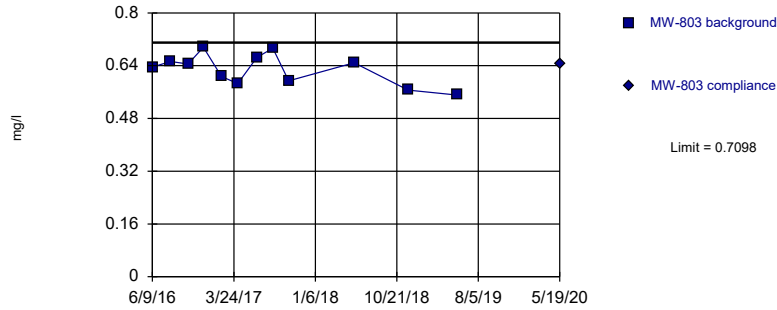
Constituent: FLUORIDE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-601	MW-601	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802
6/7/2016					1.08		0.92	
6/9/2016	1.63							
6/10/2016			1.21					
8/9/2016	1.69		1.27		1.11			
8/10/2016							0.972	
10/11/2016					1.11		0.986	
10/13/2016	1.68		1.3					
12/6/2016					1.19		1.04	
12/7/2016	1.81							
12/9/2016			1.16					
2/7/2017					1.14		1.01	
2/8/2017	1.75		1.24					
4/4/2017							0.947	
4/6/2017	1.59				1.03			
4/7/2017			1.18					
6/13/2017							0.995	
6/14/2017					1.12			
6/15/2017	1.63		1.2					
8/7/2017							1.09	
8/9/2017	1.8				1.05			
8/10/2017			1.36					
10/4/2017					1.16		1.07	
10/5/2017			0.972					
10/6/2017	1.26							
5/23/2018	1.73		1.27		1.13		1.05	
11/30/2018	1.54		1.09		0.984		0.932	
5/23/2019	1.48		1.06		0.922		0.816	
5/19/2020		1.72		1.24		1.09		1.07

Within Limit

Prediction Limit
Intrawell Parametric



Prediction Limit

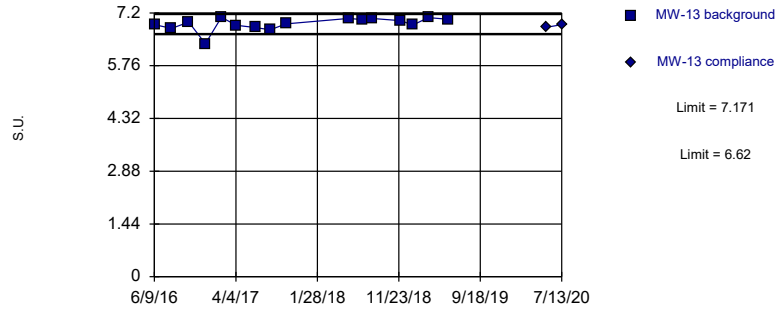
Constituent: FLUORIDE, pH Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-803	MW-803	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10
6/6/2016							7.33	
6/7/2016					0.122			
6/8/2016			0.491					
6/9/2016	0.636							
8/10/2016			0.443		0.126			
8/11/2016							7.26	
8/12/2016	0.653							
10/11/2016			0.448		0.136			
10/12/2016							7.33	
10/13/2016	0.645							
12/6/2016	0.696				0.181			
12/7/2016			0.441					
12/9/2016							7.22	
2/6/2017					0.145			
2/7/2017			0.453					
2/8/2017	0.607						7.21	
4/4/2017			0.429		0.142			
4/6/2017							7.23	
4/7/2017	0.586							
6/13/2017	0.665		0.474		0.214			
6/15/2017							7.31	
8/8/2017			0.476		0.143			
8/9/2017	0.693							
8/10/2017							7.29	
10/4/2017	0.594						7.23	
10/5/2017			0.327		<0.1			
12/12/2017							7.19	
5/23/2018	0.649		0.501		0.191		7.32	
7/11/2018			0.449					
11/30/2018	0.566		0.378		0.124		7.23	
5/23/2019	0.551		0.445		0.173		7.32	
5/19/2020		0.647		0.489		0.176		7.34

Within Limits

Prediction Limit Intrawell Parametric

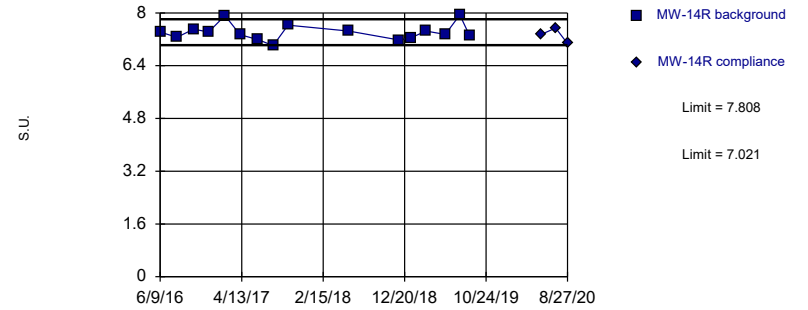


Background Data Summary (based on cube transformation): Mean=329.4, Std. Dev.=24.85, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.845, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit Intrawell Parametric

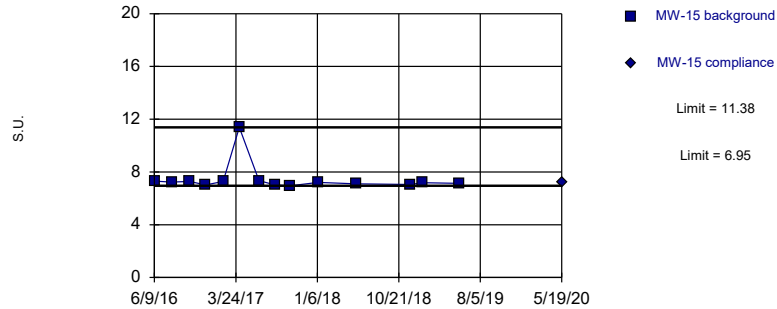


Background Data Summary: Mean=7.414, Std. Dev.=0.2491, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.915, critical = 0.844. Kappa = 1.581 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit Intrawell Non-parametric

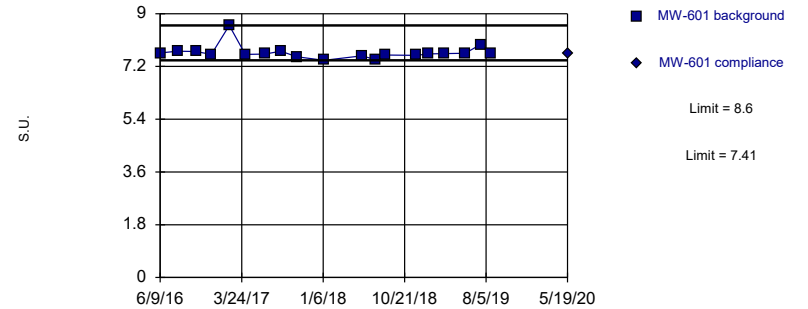


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 14 background values. Well-constituent pair annual alpha = 0.006393. Individual comparison alpha = 0.003199 (1 of 3).

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 19 background values. Well-constituent pair annual alpha = 0.002713. Individual comparison alpha = 0.001357 (1 of 3).

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

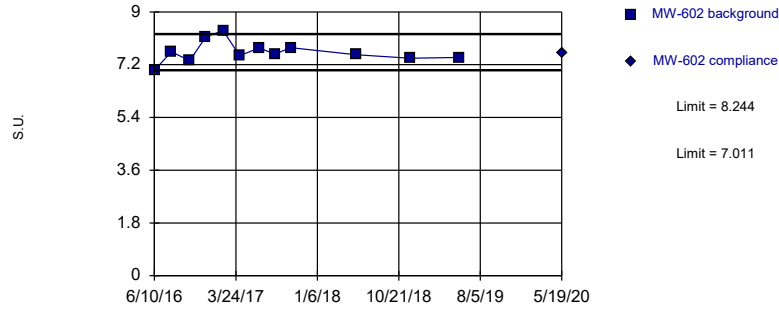
Constituent: pH Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-13	MW-13	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601
6/9/2016	6.88		7.42		7.31		7.66	
8/9/2016					7.23		7.72	
8/11/2016	6.78		7.26					
10/12/2016					7.28			
10/13/2016	6.95		7.51				7.71	
12/7/2016					7.02		7.61	
12/9/2016			7.42					
12/13/2016	6.36							
2/7/2017					7.28			
2/8/2017							8.6	
2/9/2017			7.92					
2/10/2017	7.08							
4/5/2017					11.38			
4/6/2017	6.86						7.61	
4/7/2017			7.34					
6/14/2017					7.34			
6/15/2017	6.8		7.19				7.62	
8/8/2017	6.74							
8/9/2017							7.72	
8/10/2017			7.01		7.02			
10/3/2017					6.95			
10/5/2017	6.9		7.63					
10/6/2017							7.53	
1/9/2018					7.21		7.41	
5/23/2018	7.05		7.45		7.1		7.56	
7/11/2018	7.02						7.43	
8/16/2018	7.05						7.59	
11/30/2018	6.99		7.18		7.05		7.58	
1/14/2019	6.87		7.25		7.18		7.63	
3/11/2019	7.07		7.45				7.64	
5/23/2019	7.03		7.35		7.14		7.65	
7/17/2019			7.94				7.95	
8/23/2019			7.31				7.66	
5/19/2020		6.81		7.35		7.25		7.63
7/13/2020		6.88 Extra Sample		7.54 Extra Sample				
8/27/2020				7.07 Extra Sample				

Within Limits

Prediction Limit
Intrawell Parametric

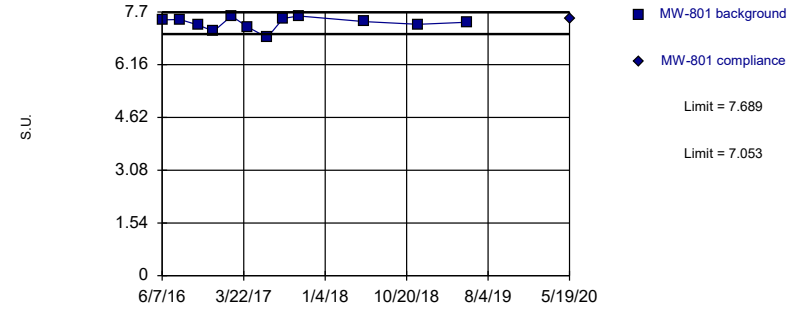


Background Data Summary: Mean=7.628, Std. Dev.=0.359, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.943, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric

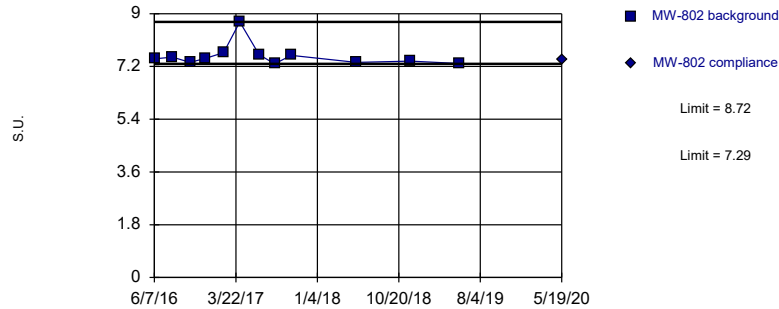


Background Data Summary: Mean=7.371, Std. Dev.=0.1854, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.914, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Non-parametric

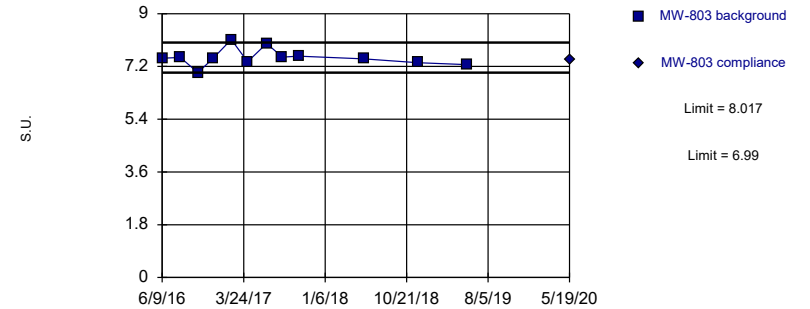


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 12 background values. Well-constituent pair annual alpha = 0.008684. Individual comparison alpha = 0.004347 (1 of 3).

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=7.503, Std. Dev.=0.2994, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8953, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

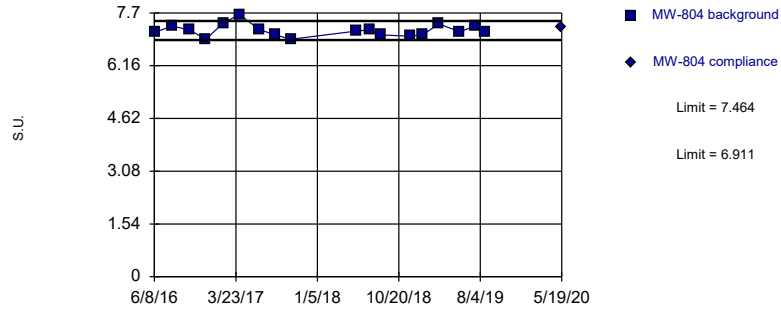
Constituent: pH Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-602	MW-602	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803
6/7/2016			7.47		7.46			
6/9/2016							7.48	
6/10/2016	7.01							
8/9/2016	7.64		7.48					
8/10/2016					7.52			
8/12/2016							7.51	
10/11/2016			7.32		7.34			
10/13/2016	7.34						6.99	
12/6/2016			7.14		7.48		7.48	
12/9/2016	8.15							
2/7/2017			7.58		7.67			
2/8/2017	8.36						8.12	
4/5/2017					8.72			
4/6/2017			7.26					
4/7/2017	7.51						7.36	
6/13/2017					7.6		7.98	
6/14/2017			6.95					
6/15/2017	7.77							
8/7/2017					7.29			
8/8/2017							7.52	
8/9/2017			7.51					
8/10/2017	7.56							
10/4/2017			7.58		7.58		7.55	
10/5/2017	7.78							
5/23/2018	7.54		7.42		7.34		7.46	
11/30/2018	7.42		7.34		7.38		7.33	
5/23/2019	7.45		7.4		7.3		7.26	
5/19/2020		7.6		7.52		7.44		7.41

Within Limits

Prediction Limit
Intrawell Parametric

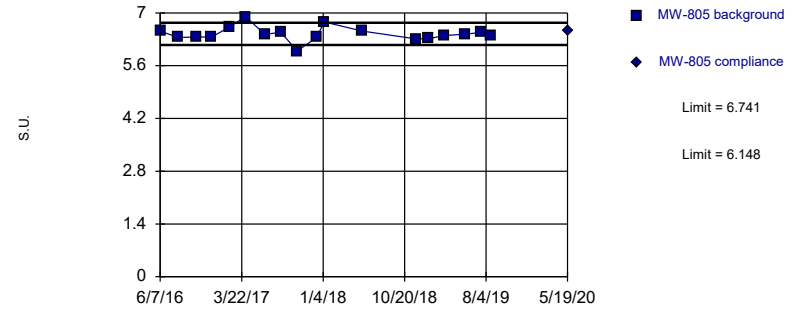


Background Data Summary: Mean=7.188, Std. Dev.=0.1795, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9456, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit
Intrawell Parametric

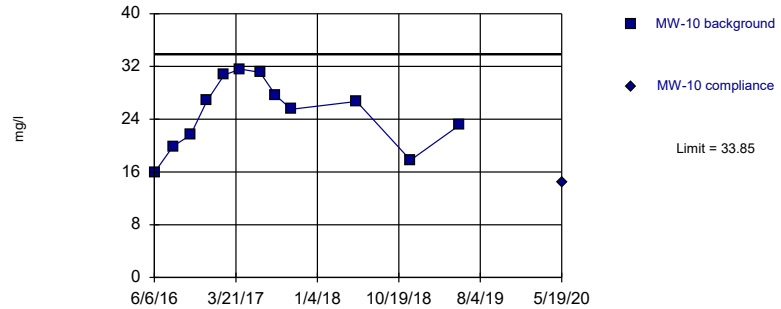


Background Data Summary: Mean=6.444, Std. Dev.=0.1924, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9113, critical = 0.858. Kappa = 1.541 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: pH Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

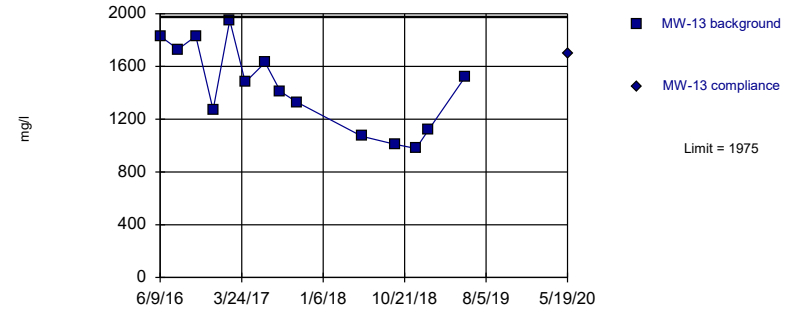


Background Data Summary: Mean=24.86, Std. Dev.=5.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9437, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=1440, Std. Dev.=324.9, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

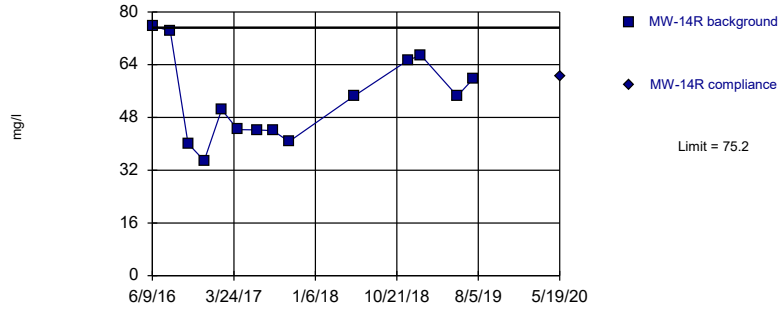
Constituent: pH, SULFATE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-804	MW-804	MW-805	MW-805	MW-10	MW-10	MW-13	MW-13
6/6/2016					15.9			
6/7/2016			6.52					
6/8/2016	7.13							
6/9/2016							1830	
8/10/2016	7.32		6.35					
8/11/2016					19.9		1730	
10/11/2016	7.2		6.36					
10/12/2016					21.6			
10/13/2016							1830	
12/6/2016			6.36					
12/7/2016	6.93							
12/9/2016					26.8			
12/13/2016							1270	
2/6/2017			6.62					
2/7/2017	7.41							
2/8/2017					30.7			
2/10/2017							1950	
4/5/2017	7.65		6.9					
4/6/2017					31.6		1480	
6/13/2017	7.22		6.43					
6/15/2017					31.1		1630	
8/8/2017	7.06		6.49				1410	
8/10/2017					27.6			
10/4/2017					25.5			
10/5/2017	6.93		5.99				1330	
12/12/2017			6.35					
1/9/2018			6.76					
5/23/2018	7.17		6.52		26.7		1070	
7/11/2018	7.21							
8/16/2018	7.06							
9/17/2018							1010	
11/30/2018	7.02		6.31		17.8		978	
1/14/2019	7.07		6.32				1120	
3/11/2019	7.38		6.4					
5/23/2019	7.15		6.44		23.1		1520	
7/17/2019	7.31		6.48					
8/22/2019	7.16		6.4					
5/19/2020		7.28		6.52		14.4		1700

Within Limit

Prediction Limit Intrawell Parametric

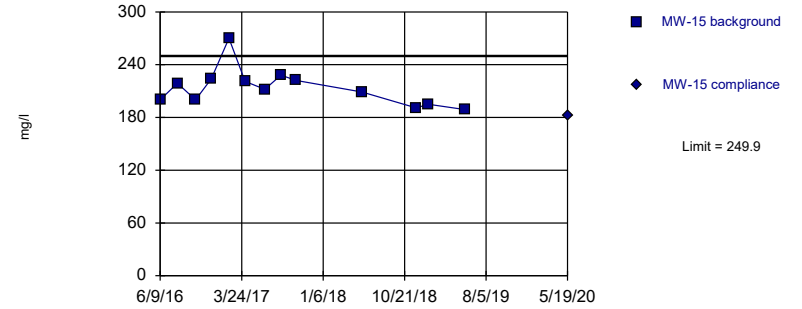


Background Data Summary: Mean=53.54, Std. Dev.=13.15, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9355, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Parametric

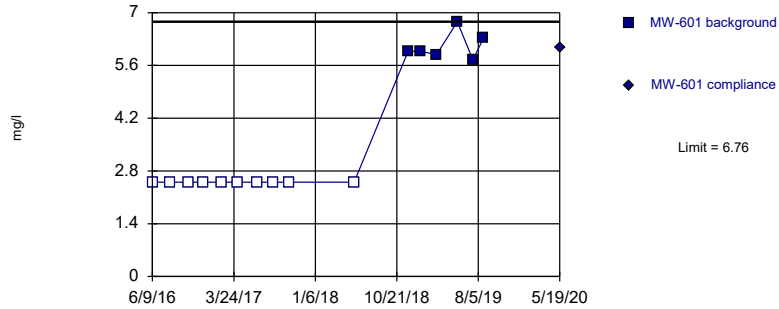


Background Data Summary: Mean=213.8, Std. Dev.=21.42, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8725, critical = 0.814. Kappa = 1.682 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit Intrawell Non-parametric



Prediction Limit

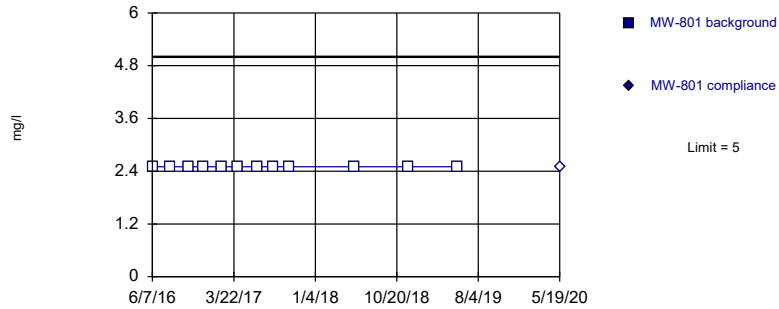
Constituent: SULFATE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-14R	MW-14R	MW-15	MW-15	MW-601	MW-601	MW-602	MW-602
6/9/2016	75.8		200		<5			
6/10/2016							25.1	
8/9/2016			219		<5		25.2	
8/11/2016	74.2							
10/12/2016			200					
10/13/2016	40.1				<5		23.4	
12/7/2016			224		<5			
12/9/2016	34.9						24.2	
2/7/2017			270					
2/8/2017					<5		27.5	
2/9/2017	50.4							
4/5/2017			221					
4/6/2017					<5			
4/7/2017	44.3						23.8	
6/14/2017			212					
6/15/2017	44.2				<5		24.4	
8/9/2017					<5			
8/10/2017	44		228				24.8	
10/3/2017			222					
10/5/2017	40.7						26.9	
10/6/2017					<5			
5/23/2018	54.5		209		<5		23.9	
11/30/2018	65.4		191		5.98		24.2	
1/14/2019	66.9		195		5.97			
3/11/2019					5.89			
5/23/2019	54.5		189		6.76		24.2	
7/17/2019	59.6				5.75			
8/23/2019					6.32			
5/19/2020		60.5		182		6.07		25.7

Within Limit

Prediction Limit
Intrawell Non-parametric

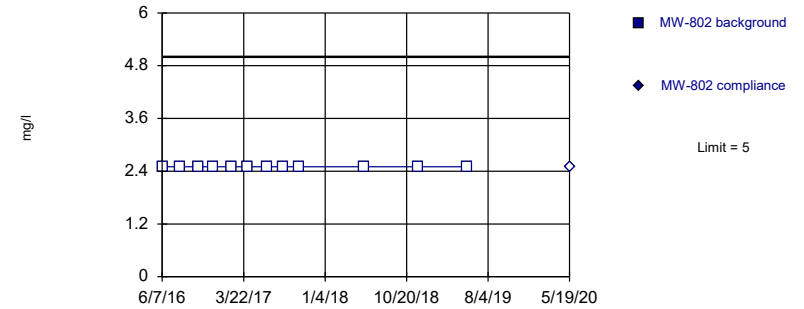


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Non-parametric

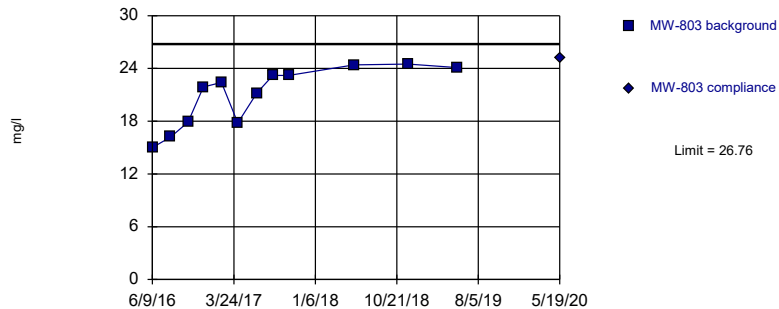


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 12) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric

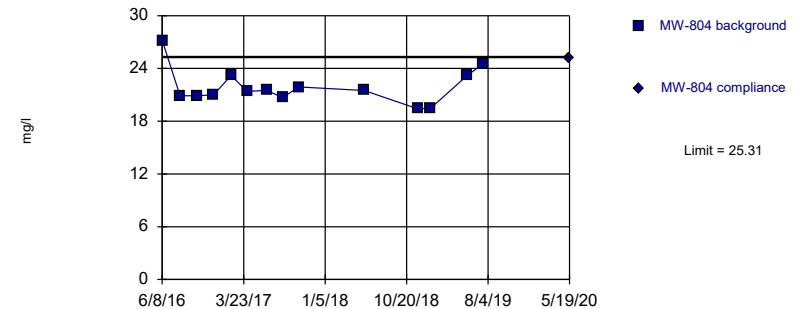


Background Data Summary: Mean=20.98, Std. Dev.=3.368, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8745, critical = 0.805. Kappa = 1.716 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=21.91, Std. Dev.=2.058, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.825. Kappa = 1.648 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

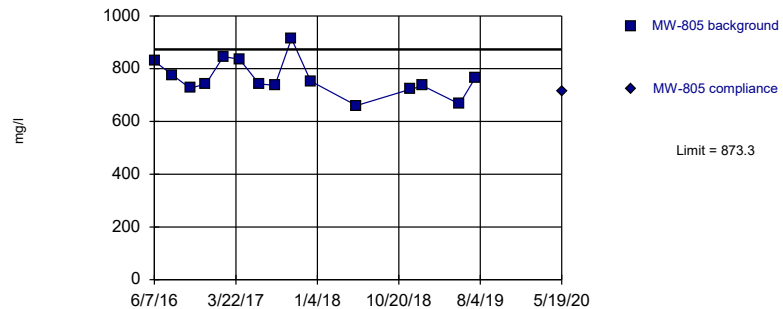
Constituent: SULFATE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-801	MW-801	MW-802	MW-802	MW-803	MW-803	MW-804	MW-804
6/7/2016	<5		<5					
6/8/2016							27.2	
6/9/2016					15			
8/9/2016	<5							
8/10/2016			<5				20.9	
8/12/2016					16.2			
10/11/2016	<5		<5				20.9	
10/13/2016					17.9			
12/6/2016	<5		<5		21.9			
12/7/2016							21	
2/7/2017	<5		<5				23.2	
2/8/2017					22.4			
4/4/2017			<5				21.4	
4/6/2017	<5							
4/7/2017					17.8			
6/13/2017			<5		21.2		21.5	
6/14/2017	<5							
8/7/2017			<5					
8/8/2017							20.7	
8/9/2017	<5				23.2			
10/4/2017	<5		<5		23.2			
10/5/2017							21.9	
5/23/2018	<5		<5		24.4		21.5	
11/30/2018	<5		<5		24.5		19.4	
1/14/2019							19.5	
5/23/2019	<5		<5		24.1		23.2	
7/17/2019							24.5	
5/19/2020		<5		<5		25.2		25.2

Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=763.2, Std. Dev.=68.17, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9341, critical = 0.835. Kappa = 1.615 (c=7, w=7, 1 of 3, event alpha = 0.05132). Report alpha = 0.001075.

Constituent: SULFATE Analysis Run 9/9/2020 9:51 PM View: LF LAQC III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 9/9/2020 9:53 PM View: LF LAQC III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-805	MW-805
6/7/2016	829	
8/10/2016	776	
10/11/2016	726	
12/6/2016	742	
2/6/2017	846	
4/4/2017	836	
6/13/2017	742	
8/8/2017	737	
10/5/2017	914	
12/12/2017	753	
5/23/2018	660	
11/30/2018	722	
1/14/2019	735	
5/23/2019	666	
7/17/2019	764	
5/19/2020		713

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/9/2020, 9:53 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-10	0.9889	n/a	5/19/2020	0.791	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-13	0.6068	n/a	5/19/2020	0.324	No	16	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-14R	0.8115	n/a	5/19/2020	0.688	No	14	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-15	0.3016	n/a	5/19/2020	0.209	No	13	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-601	1.932	n/a	5/19/2020	1.8	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-602	2.465	n/a	5/19/2020	2.28	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-801	2.411	n/a	5/19/2020	2.14	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-802	2.579	n/a	5/19/2020	2.41	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-803	2.188	n/a	5/19/2020	2.03	No	12	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-804	1.762	n/a	5/19/2020	1.56	No	18	0	No	0.001075	Param Intra 1 of 3
BORON (mg/l)	MW-805	0.578	n/a	5/19/2020	0.503	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-10	61.5	n/a	5/19/2020	52.1	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-13	404.2	n/a	5/19/2020	382	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-14R	61.85	n/a	5/19/2020	53.9	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-15	110.1	n/a	5/19/2020	99.3	No	13	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-601	23.63	n/a	5/19/2020	17.1	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-602	25.84	n/a	5/19/2020	23.8	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-801	36.84	n/a	5/19/2020	26.2	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-802	41.1	n/a	5/19/2020	27.8	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-803	49.74	n/a	5/19/2020	38.7	No	12	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-804	68.94	n/a	5/19/2020	66.7	No	14	0	No	0.001075	Param Intra 1 of 3
CALCIUM (mg/l)	MW-805	487.8	n/a	5/19/2020	450	No	17	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-10	68.87	n/a	5/19/2020	51.8	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-13	19.33	n/a	7/13/2020	18.8	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-14R	6.113	n/a	8/27/2020	6.25	Yes	16	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-15	20.38	n/a	5/19/2020	10.8	No	13	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-601	201	n/a	5/19/2020	161	No	14	0	n/a	0.0016	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-602	18.02	n/a	5/19/2020	17.1	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-801	126.2	n/a	5/19/2020	91.4	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-802	38.44	n/a	5/19/2020	36.2	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-803	49.94	n/a	5/19/2020	49.8	No	12	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-804	32.96	n/a	5/19/2020	29.1	No	14	0	No	0.001075	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-805	514.9	n/a	5/19/2020	472	No	14	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-10	636.2	n/a	5/19/2020	584	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-13	6050	n/a	5/19/2020	2710	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-14R	591	n/a	5/19/2020	579	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-15	2310	n/a	5/19/2020	734	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-601	1029	n/a	5/19/2020	986	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-602	650.4	n/a	5/19/2020	611	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-801	1008	n/a	5/19/2020	860	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-802	715.2	n/a	5/19/2020	685	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-803	709	n/a	5/19/2020	603	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-804	584.6	n/a	5/19/2020	553	No	12	0	No	0.001075	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-805	2518	n/a	5/19/2020	2220	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-10	0.4313	n/a	5/19/2020	0.422	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-13	0.2156	n/a	5/19/2020	0.169	No	15	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-14R	0.3031	n/a	8/27/2020	0.312	Yes	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-15	0.3004	n/a	5/19/2020	0.284	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-601	1.897	n/a	5/19/2020	1.72	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-602	1.381	n/a	5/19/2020	1.24	No	12	0	No	0.001075	Param Intra 1 of 3

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/9/2020, 9:53 PM

<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>
FLUORIDE (mg/l)	MW-801	1.218	n/a	5/19/2020	1.09	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-802	1.116	n/a	5/19/2020	1.07	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-803	0.7098	n/a	5/19/2020	0.647	No	12	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-804	0.5206	n/a	5/19/2020	0.489	No	13	0	No	0.001075	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-805	0.2177	n/a	5/19/2020	0.176	No	12	8.333	No	0.001075	Param Intra 1 of 3
pH (S.U.)	MW-10	7.353	7.181	5/19/2020	7.34	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-13	7.171	6.62	7/13/2020	6.88	No	16	0	x^3	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-14R	7.808	7.021	8/27/2020	7.07	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-15	11.38	6.95	5/19/2020	7.25	No	14	0	n/a	0.003199	NP Intra (normality) ...
pH (S.U.)	MW-601	8.6	7.41	5/19/2020	7.63	No	19	0	n/a	0.001357	NP Intra (normality) ...
pH (S.U.)	MW-602	8.244	7.011	5/19/2020	7.6	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-801	7.689	7.053	5/19/2020	7.52	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-802	8.72	7.29	5/19/2020	7.44	No	12	0	n/a	0.004347	NP Intra (normality) ...
pH (S.U.)	MW-803	8.017	6.99	5/19/2020	7.41	No	12	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-804	7.464	6.911	5/19/2020	7.28	No	18	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-805	6.741	6.148	5/19/2020	6.52	No	18	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-10	33.85	n/a	5/19/2020	14.4	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-13	1975	n/a	5/19/2020	1700	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-14R	75.2	n/a	5/19/2020	60.5	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-15	249.9	n/a	5/19/2020	182	No	13	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-601	6.76	n/a	5/19/2020	6.07	No	16	62.5	n/a	0.001026	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-602	26.93	n/a	5/19/2020	25.7	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-801	5	n/a	5/19/2020	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-802	5	n/a	5/19/2020	2.5ND	No	12	100	n/a	0.002173	NP Intra (NDs) 1 of 3
SULFATE (mg/l)	MW-803	26.76	n/a	5/19/2020	25.2	No	12	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-804	25.31	n/a	5/19/2020	25.2	No	14	0	No	0.001075	Param Intra 1 of 3
SULFATE (mg/l)	MW-805	873.3	n/a	5/19/2020	713	No	15	0	No	0.001075	Param Intra 1 of 3

La Cygne Generating Station
Determination of Statistically Significant Increases
CCR Landfill and Lower AQC Impoundment
September 28, 2020

ATTACHMENT 2

Sanitas™ Configuration Settings

Exclude data flags:

Observations with flags containing the following characters will be deselected: 'i', 'I'.

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...

Test Residuals For Normality (Parametric test only) at Alpha = 0.01

Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- Use Ladder of Powers
- Natural Log or No Transformation
- Never Transform
- Use Specific Transformation:
- Use Best W Statistic
- Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent >

Include % 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 > 0

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

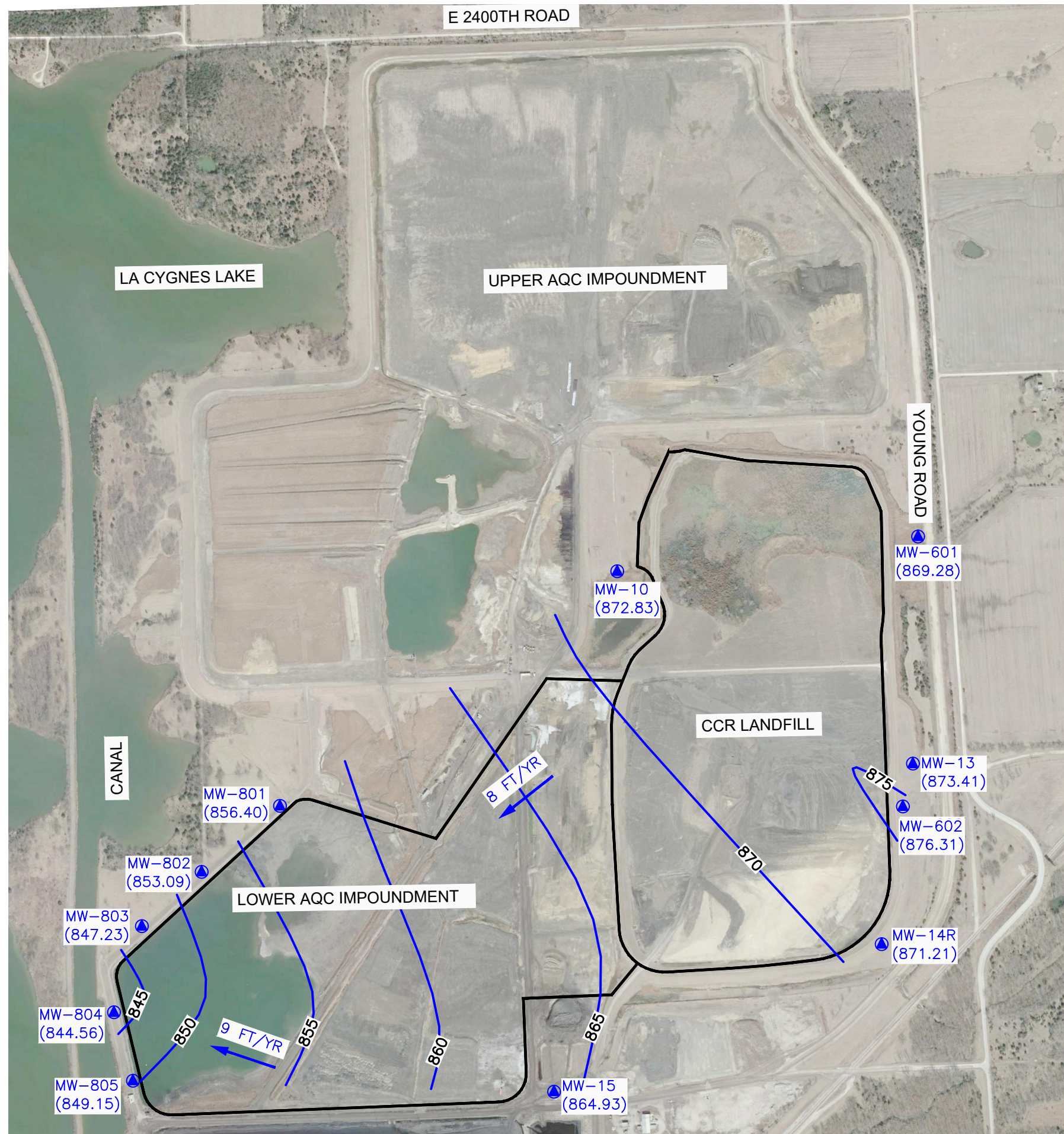
- EPA 1989 Outlier Screening (fixed alpha of 0.05)
- Dixon's at $\alpha=$ or if $n >$ Rosner's at $\alpha=$ Use EPA Screening to establish Suspected Outliers
- Tukey's Outlier Screening, with IQR Multiplier = Use Ladder of Powers to achieve Best W Stat
- Test For Normality at Alpha =
 - Stop if Non-Normal
 - 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

ATTACHMENT 3
Groundwater Potentiometric Surface Maps

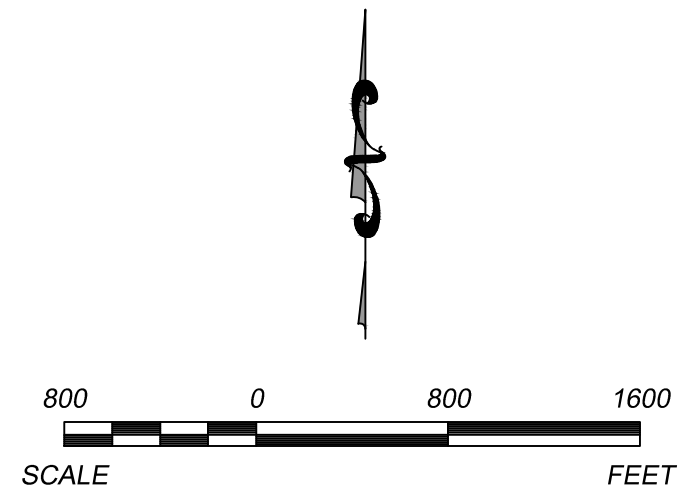
N:\KCP\Projects\Groundwater\DWG\La Cygne\2020\La Cygne LF LAQC Imp & UAQC Fig _May 2020 combined V2.dwg Nov 29, 2022 - 4:29pm Layout Name: Fig 2 Lower By: swly



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- 9 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
 2. GOOGLE EARTH IMAGE DATED MARCH 2020. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
 4. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 19, 2020.



SHEET TITLE	POTENTIOMETRIC SURFACE MAP (MAY 2020)	REV.	DATE	CK.	BY
	CCR LANDFILL & LOWER AQC IMPOUNDMENT	△	-	-	-
PROJECT TITLE	2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM	△	-	-	-
CLIENT	EVERGY METRO, INC LA CYGNE GENERATING STATION LA CYGNE, KANSAS	△	-	-	-
SCS ENGINEERS	6875 W. 110th St, Ste. 100 PH: (913) 681-0030 FAX: (913) 681-0012	△	-	-	-
	PROJ. NO. 27217233.20 DWN. BY: MBEJ CHK. BY: JF	△	-	-	-
CADD FILE:	LA CYGNE LF LAQC Imp & UAQC FIG _MAY 2020 COMBINED V2.DWG	△	-	-	-
DATE:	11/29/22	△	-	-	-
FIGURE NO.	2	△	-	-	-

N:\KCP\Projects\Groundwater\DWG\La Cygne\2020\La Cygne LF LAQC Imp & UAQC Fig 1_NOVEMBER 2020 - COMBINED V2.dwg Nov 29, 2022 - 7:53pm Layout Name: Fig 1 Lower By: swly



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF UPPER AQC IMPOUNDMENT)
- MW-703 (877.00) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE FOR THIS UNIT)
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- 9 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 12, 2020.



SHEET TITLE	POTENTIOMETRIC SURFACE MAP (NOVEMBER 2020)	REV.	DATE	CK.	BY
	CCR LANDFILL & UPPER AQC IMPOUNDMENT	△	-	-	-
PROJECT TITLE	2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM	△	-	-	-
		△	-	-	-
CLIENT	EVERGY METRO, INC	△	-	-	-
	LA CYGNE GENERATING STATION LA CYGNE, KANSAS	△	-	-	-
SCS ENGINEERS	6875 W. 110th St, Ste. 100 PH. (913) 681-0030 FAX: (913) 681-0012	△	-	-	-
	PROJ. NO. 27517233.20 DWN. BY: MBEJ CHK. BY: JF	△	-	-	-
CADD FILE:	LA CYGNE LF LAQC IMP & UAQC FIG 1 NOVEMBER 2020 - COMBINED V2.DWG	△	-	-	-
DATE:	11/29/22	△	-	-	-
FIGURE NO.	3	△	-	-	-