2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BOTTOM ASH IMPOUNDMENT
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

Presented To:
Evergy Metro, Inc.

SCS ENGINEERS

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

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

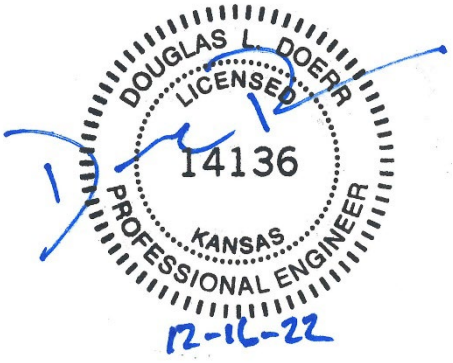
CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Professional Geologist in the State of Kansas, do hereby certify that the 2020 Annual Groundwater Monitoring and Corrective Action Report for the Bottom Ash 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 Bottom Ash 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

Revision Number	Revision Date	Revision Sections	Summary of Revisions
0	January 2021	0	Original
1	April 7, 2021	Table of Contents Appendix A	Addition of Potentiometric Surface Maps to Appendix A
2	December 16, 2022	Addendum 1	Added Addendum 1

Table of Contents

Section **Page**

Appendices

1 INTRODUCTION

This 2020 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule) published by the United States Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent revisions. Specifically, this report was prepared for Evergy Metro, Inc. (Evergy) to fulfill the requirements of 40 CFR 257.90 (e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2020 Annual Groundwater Monitoring and Corrective Action Report for the Bottom Ash 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 Impoundment was operating under a detection monitoring program in compliance with § 257.94.

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

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

At the end of the current annual reporting period, (December 31, 2020), the CCR Impoundment was not operating under a detection monitoring program or an assessment monitoring program. Following the CCR removal, post-CCR removal groundwater sampling events took place on May 19, 2020 and July 29, 2020. The CCR Impoundment was certified closed September 25, 2020, in accordance with 40 CFR 257.102 (c) Closure by Removal of CCR.

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

Not applicable because statistically significant increases over background were not identified.

(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 Bottom Ash Impoundment and all background (or upgradient) and downgradient monitoring wells with identification numbers for the Bottom Ash 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 Bottom Ash 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;

Detection monitoring was conducted during the reporting period (2020) for the Spring 2020 semiannual event only. Samples collected during the Spring 2020 event were collected and analyzed for Appendix III detection monitoring constituents as indicated in **Appendix B**, **Table 1** (Appendix III Detection with Post-CCR Removal Appendix IV Monitoring Results), and **Table 2** (Detection Monitoring Field Measurements). Additionally, in preparation for the Bottom Ash Impoundment certification of closure by removal, post-CCR removal monitoring was conducted with the Spring 2020 event. This event required the sampling of Appendix IV constituents as indicated in **Appendix B**, **Table 1.** An additional post-CCR removal event was completed on July 29, 2020 for select Appendix IV constituents. These tables include Fall 2019 semiannual detection monitoring event verification sample data collected and analyzed in 2020; Spring 2020 semiannual detection monitoring data, verification sample data, and post-CCR removal Appendix IV data; and, the July 2020 additional post-CCR removal 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. However, post-CCR removal monitoring was conducted in May and July 2020 following CCR removal in preparation for certification of closure by removal.

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 was in detection monitoring until CCR removal from the Impoundment at which time post-CCR removal sampling was performed.

Summary of Key Actions Completed.

a. completion of the Fall 2019 verification sampling and analyses per the certified statistical method,

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

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

d. completion of the Spring 2020 semiannual detection monitoring sampling and analysis event, and subsequent verification sampling per the certified statistical method,

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

f. post-CCR removal sampling and analysis event in May and July 2020 in preparation for certification of closure by removal.

g. CCR Impoundment certification of closure by CCR removal.

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).

Not applicable because the Bottom Ash Impoundment has been certified closed, and no further groundwater monitoring is required.

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.

Not applicable because no such demonstration was conducted.

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

APPENDIX A

FIGURES

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (May 2020)

LEGEND

CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF BOTTOM ASH IMPOUNDMENT)

MW–901 CCR GROUNDWATER MONITORING SYSTEM WELLS

NOTES:

1. KDHE FACILITY PERMIT AREA BOUNDARY NOT 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.

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SCALE FEET

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SHEET TITLE
SITE MAP
BOTTOM ASH IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
2020 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
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PROJ. NO. 27217233.19
DSN. BY: TGW
DRW. BY: TGW
CHK. BY: JRR
QA/A RVW BY: JRR
PROJ. MGR: JRR

CADD FILE: FIG 1 – LA CYGNE BA IMP.DWG

DATE: 1/07/20

FIGURE NO. 1

N:\KCPL\Projects\Groundwater\DWG\La Cygne\CCR Annual Report\2018\Fig 1 - La Cygne BA Imp.dwg Jan 08, 2020 - 10:58am Layout Name: Fig 1 By: 4648jdj

LEGEND

- MW–901 (843.01) — CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 823 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF BOTTOM ASH IMPOUNDMENT)

NOTES:

1. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
2. MONITOR WELL LOCATION ARE PROVIDED BY AECOM.

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2020)

PROJECT TITLE
BOTTOM ASH IMPOUNDMENT

CLIENT
EVERGY METRO, INC
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LA CYGNE, KANSAS

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DSN. BY: DAW
DWN. BY: MBJ
CHK. BY: JRR
QA/A RVW BY: JRR
PROJ. MGR: JRF

CADD FILE:
LA CYGNE BA KDHE GW_MAY2020.DWG

DATE:
7/16/20

FIGURE NO.
2

APPENDIX B

TABLES

Table 1: Appendix III Detection with Post-CCR Removal Appendix IV Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 1
Bottom Ash Impoundment
Appendix III Detection with Post-CCR Removal Appendix IV Monitoring Results
Evergy LaCygne Generating Station

		Appendix III Constituents							Appendix IV Constituents															
Well Number	Sample Date	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Radium Combined (pCi/L)
MW-901	5/19/2020	1.07	54.9	24.0	0.572	7.39	23.7	513	<0.00400	<0.00200	0.165	<0.00200	<0.00100	<0.0100	<0.0100	0.572	<0.00500	0.0604	<0.000200	<0.00500	<0.00200	<0.00200	1.9
MW-901	7/13/2020	---	---	---	*0.562	**7.19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-901	7/29/2020	---	---	---	---	**7.63	---	---	---	---	---	---	---	---	<0.00200	---	---	---	---	---	---	---	---
MW-901	8/27/2020	---	---	---	*0.500	**6.95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-902	5/19/2020	1.04	64.0	23.2	0.521	7.20	22.3	495	<0.00400	<0.00200	0.126	<0.00200	<0.00100	<0.0100	<0.0100	0.521	<0.00500	0.0333	<0.000200	<0.00500	<0.00200	<0.00200	1.33
MW-902	7/29/2020	---	---	---	---	**7.27	---	---	---	---	---	---	---	---	<0.00200	---	---	---	---	---	---	---	---
MW-903	1/14/2020	---	---	---	*0.149	**7.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-903	2/3/2020	---	---	---	*0.130	**6.79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-903	5/19/2020	0.447	361	25.0	<0.150	6.91	993	2120	<0.00400	<0.00200	0.0157	<0.00200	<0.00100	<0.0100	<0.0100	<0.150	<0.00500	0.0506	<0.000200	<0.00500	<0.00200	<0.00200	0.509
MW-903	7/29/2020	---	---	---	---	**7.10	---	---	---	---	---	---	---	---	<0.00200	---	---	---	---	---	---	---	---
MW-904	1/14/2020	---	---	---	---	*7.61	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-904	2/3/2020	---	---	---	---	*7.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-904	5/19/2020	0.958	67.8	32.9	0.418	7.31	78.8	684	<0.00400	<0.00200	0.0729	<0.00200	<0.00100	<0.0100	<0.0100	0.418	<0.00500	0.0411	<0.000200	0.00864	<0.00200	<0.00200	0.215
MW-904	7/29/2020	---	---	---	---	**7.32	---	---	---	---	---	---	---	---	<0.00200	---	---	---	---	---	---	---	---
MW-905	5/19/2020	1.70	46.4	52.8	0.565	7.61	30.2	624	<0.00400	0.00246	0.136	<0.00200	<0.00100	<0.0100	<0.0100	0.565	<0.00500	0.0633	<0.000200	<0.00500	<0.00200	<0.00200	0.281
MW-905	7/29/2020	---	---	---	---	**7.82	---	---	---	---	---	---	---	---	<0.00200	---	---	---	---	---	---	---	---

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

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

mg/L - miligrams per liter

pCi/L - picocuries per liter

S.U. - Standard Units

--- Not Sampled

Table 2
Bottom Ash Impoundment
Detection Monitoring Field Measurements
Evergy LaCygne 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-901	5/19/2020	7.39	861	19.51	3.3	109	0.00	23.95	830.34
MW-901	7/13/2020	**7.19	884	19.96	0.0	102	1.59	9.57	844.72
MW-901	7/29/2020	**7.63	923	21.39	0.0	132	0.41	10.37	843.92
MW-901	8/27/2020	**6.95	920	22.75	0.0	167	3.91	11.13	843.16
MW-902	5/19/2020	7.20	804	19.80	0.0	-41	1.22	17.55	837.52
MW-902	7/29/2020	**7.27	869	21.30	1.5	-35	0.59	13.45	841.62
MW-903	1/14/2020	**7.02	2510	14.76	6.4	36	0.00	12.90	841.50
MW-903	2/3/2020	**6.79	2490	15.65	2.4	44	0.00	11.80	842.60
MW-903	5/19/2020	6.91	2300	18.70	0.0	36	3.45	17.80	836.60
MW-903	7/29/2020	**7.10	2520	21.68	0.0	18	0.64	12.82	841.58
MW-904	1/14/2020	*7.61	1190	15.40	17.3	-40	0.00	17.99	837.06
MW-904	2/3/2020	*7.00	1180	16.91	13.0	-25	0.00	19.78	835.27
MW-904	5/19/2020	7.31	1120	16.49	0.0	-90	2.93	20.47	834.58
MW-904	7/29/2020	**7.32	1140	20.86	10.5	-113	3.30	26.13	828.92
MW-905	5/19/2020	7.61	1060	17.58	12.3	-8	3.53	16.84	837.38
MW-905	7/29/2020	**7.82	1070	21.72	18.2	-54	1.12	12.74	841.48

* 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

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.
Bottom Ash Impoundment
La Cygne Generating Station - La Cygne, Kansas

The Bottom Ash 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 Bottom Ash Impoundment was completed and placed in the facility's operating record on January 29, 2020, as required by the Rule. The report was subsequently revised and placed in the operating record April 7, 2021. The Annual GWMCA report was to fulfill the requirements specified in 40 CFR 257.90(e).

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

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

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

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:

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

  - January 2020 – First verification sampling for the Fall 2019 detection monitoring sampling event.
  - February 2020 – Second verification sampling for the Fall 2019 detection monitoring sampling event.
  - May 2020 – Spring 2020 semiannual detection monitoring sampling event and post-CCR removal Appendix IV closure monitoring sampling event
  - July 2020 – First verification sampling for the Spring 2020 detection monitoring sampling event and first verification sampling for post -CCR removal Appendix IV closure monitoring sampling event.
  - August 2020 - Second verification sampling for the Spring 2020 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.
  - Determination of Appendix IV Groundwater Protection Standards.

- 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.

Jared Morrison
December 16, 2022

ATTACHMENT 1

Laboratory Analytical Reports

Jared Morrison
December 16, 2022

ATTACHMENT 1-1

January 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 22, 2020

SCS Engineers - KS

Sample Delivery Group:	L1180158
Samples Received:	01/16/2020
Project Number:	27217233.19
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

TABLE OF CONTENTS

MW-706 L1180158-01 GW

Collected by: G. Penaflor | Collected date/time: 01/14/20 12:50 | Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 16:08	01/20/20 16:08	ST	Mt. Juliet, TN

MW-708 L1180158-02 GW

Collected by: G. Penaflor | Collected date/time: 01/14/20 12:15 | Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 16:43	01/20/20 16:43	ST	Mt. Juliet, TN

DUPLICATE 1 L1180158-03 GW

Collected by: G. Penaflor | Collected date/time: 01/14/20 12:20 | Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 17:18	01/20/20 17:18	ST	Mt. Juliet, TN

MW-903 L1180158-04 GW

Collected by: G. Penaflor | Collected date/time: 01/14/20 11:25 | Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 17:30	01/20/20 17:30	ST	Mt. Juliet, TN

DUPLICATE 2 L1180158-05 GW

Collected by: G. Penaflor | Collected date/time: 01/14/20 11:30 | Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 18:05	01/20/20 18:05	ST	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	9780		5000	1	01/20/2020 16:08	WG1412890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	9450		5000	1	01/20/2020 16:43	WG1412890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	9570		5000	1	01/20/2020 17:18	WG1412890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	149		100	1	01/20/2020 17:30	WG1412890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	136		100	1	01/20/2020 18:05	WG1412890

Method Blank (MB)

(MB) R3492459-1 01/20/20 13:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1180161-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1180161-02 01/20/20 18:28 • (DUP) R3492459-10 01/20/20 19:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Fluoride	577	582	1	0.811		15
Sulfate	9530	9420	1	1.16		15

Laboratory Control Sample (LCS)

(LCS) R3492459-2 01/20/20 13:48

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Fluoride	8000	8170	102	80.0-120	
Sulfate	40000	40800	102	80.0-120	

L1180152-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180152-01 01/20/20 15:10 • (MS) R3492459-4 01/20/20 15:22 • (MSD) R3492459-5 01/20/20 15:34

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	%	%		%			%	%
Fluoride	5000	207	4770	4780	91.2	91.4	1	80.0-120			0.203	15
Sulfate	50000	1810000	1770000	1780000	0.000	0.000	1	80.0-120	E V	E V	0.286	15

L1180158-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180158-02 01/20/20 16:43 • (MS) R3492459-6 01/20/20 16:55 • (MSD) R3492459-7 01/20/20 17:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Fluoride	5000	595	5630	5680	101	102	1	80.0-120			0.817	15
Sulfate	50000	9450	59500	59900	100	101	1	80.0-120			0.587	15

L1180158-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180158-04 01/20/20 17:30 • (MS) R3492459-8 01/20/20 17:41 • (MSD) R3492459-9 01/20/20 17:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	149	4860	4970	94.2	96.3	1	80.0-120			2.12	15
Sulfate	50000	1040000	1080000	1080000	85.3	85.7	1	80.0-120	E	E	0.0167	15

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

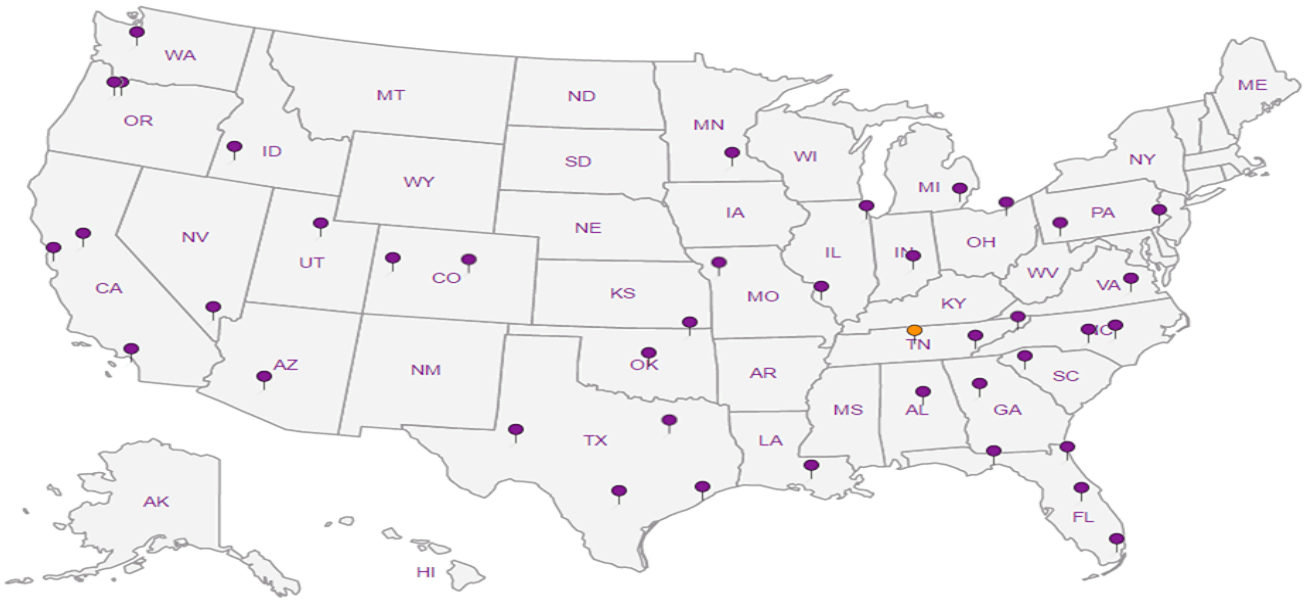
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS
8575 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@kcpl.com;

Project Description: Evergy - LaCygne Generating St

City/State Collected:

Please Circle: PT MT CT ET

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

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): G. Penaflor

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

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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 # L1180158

1144

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P750327
PM: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-706	GRAB	GW	-	1/14/20	1250	1		X		-01
MW-708		GW	-		1215	1		X		-02
DUPLICATE 1		GW	-		1220	1		X		-03
708 MS/MSD		GW	-		1225	1		X		-02
MW-~~904~~ 903		GW	-		1125	1	X			-04
DUPLICATE 2		GW	-		1130	1	X			-05
MW-~~904~~ MS/MSD 903		GW	-		1135	1	X			-04

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # N/A

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	1/15/20	13:24		1-15-20 1325
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.2 °C Bottles Received: 7
	1/15/20	1800		1.4+0=1.4
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1/16/20 Time: 10:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 22, 2020

SCS Engineers - KS

Sample Delivery Group:	L1180161
Samples Received:	01/16/2020
Project Number:	27217233.19
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

TABLE OF CONTENTS

MW-706 L1180161-01 GW

Collected by: G. Penaflor
Collected date/time: 01/14/20 12:50
Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1412856	1	01/17/20 14:22	01/17/20 14:22	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1412890	10	01/20/20 18:16	01/20/20 18:16	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1412643	1	01/20/20 12:24	01/21/20 00:46	CCE	Mt. Juliet, TN

MW-708 L1180161-02 GW

Collected by: G. Penaflor
Collected date/time: 01/14/20 12:15
Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1412856	1	01/17/20 14:29	01/17/20 14:29	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 18:28	01/20/20 18:28	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1412643	1	01/20/20 12:24	01/21/20 00:48	CCE	Mt. Juliet, TN

MW-903 L1180161-03 GW

Collected by: G. Penaflor
Collected date/time: 01/14/20 11:25
Received date/time: 01/16/20 10:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1412856	1	01/17/20 14:36	01/17/20 14:36	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1412890	1	01/20/20 19:14	01/20/20 19:14	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1412890	20	01/20/20 19:26	01/20/20 19:26	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1412643	1	01/20/20 12:24	01/21/20 00:51	CCE	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	767000		20000	1	01/17/2020 14:22	WG1412856
Alkalinity,Carbonate	ND		20000	1	01/17/2020 14:22	WG1412856

Sample Narrative:

L1180161-01 WG1412856: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	247000		10000	10	01/20/2020 18:16	WG1412890

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	24400		1000	1	01/21/2020 00:46	WG1412643
Magnesium	19300		1000	1	01/21/2020 00:46	WG1412643
Potassium	6180		1000	1	01/21/2020 00:46	WG1412643
Sodium	422000		1000	1	01/21/2020 00:46	WG1412643

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	523000		20000	1	01/17/2020 14:29	WG1412856
Alkalinity,Carbonate	ND		20000	1	01/17/2020 14:29	WG1412856

Sample Narrative:

L1180161-02 WG1412856: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	46000		1000	1	01/20/2020 18:28	WG1412890

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	29500		1000	1	01/21/2020 00:48	WG1412643
Magnesium	33500		1000	1	01/21/2020 00:48	WG1412643
Potassium	4350		1000	1	01/21/2020 00:48	WG1412643
Sodium	181000		1000	1	01/21/2020 00:48	WG1412643

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	474000		20000	1	01/17/2020 14:36	WG1412856
Alkalinity,Carbonate	ND		20000	1	01/17/2020 14:36	WG1412856

Sample Narrative:

L1180161-03 WG1412856: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	25500		1000	1	01/20/2020 19:14	WG1412890
Sulfate	1090000		100000	20	01/20/2020 19:26	WG1412890

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	365000		1000	1	01/21/2020 00:51	WG1412643
Magnesium	115000		1000	1	01/21/2020 00:51	WG1412643
Potassium	5890		1000	1	01/21/2020 00:51	WG1412643
Sodium	113000		1000	1	01/21/2020 00:51	WG1412643

Method Blank (MB)

(MB) R3491844-1 01/17/20 13:29

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

Sample Narrative:

BLANK: Endpoint pH 4.5

L1180222-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1180222-01 01/17/20 15:05 • (DUP) R3491844-3 01/17/20 17:42

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	90400	91200	1	0.887		20
Alkalinity,Carbonate	U	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L1180327-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1180327-05 01/17/20 19:47 • (DUP) R3491844-4 01/17/20 20:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	U	0.000	1	0.000		20
Alkalinity,Carbonate	102000	97900	1	4.44		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3492459-1 01/20/20 13:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Sulfate	U		77.4	5000

L1179868-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1179868-01 01/20/20 14:47 • (DUP) R3492459-3 01/20/20 14:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35500	35600	1	0.269		15
Sulfate	12200	12100	1	0.0972		15

L1180161-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1180161-02 01/20/20 18:28 • (DUP) R3492459-10 01/20/20 19:03

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46000	45600	1	0.977		15
Sulfate	9530	9420	1	1.16		15

Laboratory Control Sample (LCS)

(LCS) R3492459-2 01/20/20 13:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40200	100	80.0-120	
Sulfate	40000	40800	102	80.0-120	

L1180152-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180152-01 01/20/20 15:10 • (MS) R3492459-4 01/20/20 15:22 • (MSD) R3492459-5 01/20/20 15:34

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	60500	108000	108000	95.4	94.9	1	80.0-120	E	E	0.234	15
Sulfate	50000	1810000	1770000	1780000	0.000	0.000	1	80.0-120	E V	E V	0.286	15

L1180158-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180158-02 01/20/20 16:43 • (MS) R3492459-6 01/20/20 16:55 • (MSD) R3492459-7 01/20/20 17:06

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	45900	94100	94100	96.4	96.4	1	80.0-120			0.0346	15
Sulfate	50000	9450	59500	59900	100	101	1	80.0-120			0.587	15

L1180158-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180158-04 01/20/20 17:30 • (MS) R3492459-8 01/20/20 17:41 • (MSD) R3492459-9 01/20/20 17:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	25400	74800	74900	98.8	99.0	1	80.0-120			0.159	15
Sulfate	50000	1040000	1080000	1080000	85.3	85.7	1	80.0-120	E	E	0.0167	15

Method Blank (MB)

(MB) R3492482-1 01/20/20 23:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		46.3	1000
Magnesium	18.0	J	11.1	1000
Potassium	175	J	102	1000
Sodium	189	J	98.5	1000

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

(LCS) R3492482-2 01/20/20 23:39 • (LCSD) R3492482-3 01/20/20 23:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium	10000	9650	9540	96.5	95.4	80.0-120			1.15	20
Magnesium	10000	9670	9610	96.7	96.1	80.0-120			0.689	20
Potassium	10000	9130	9100	91.3	91.0	80.0-120			0.345	20
Sodium	10000	9700	9590	97.0	95.9	80.0-120			1.11	20

L1180058-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1180058-02 01/20/20 23:44 • (MS) R3492482-5 01/20/20 23:49 • (MSD) R3492482-6 01/20/20 23:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	150000	157000	156000	71.7	56.6	1	75.0-125	V	V	0.965	20
Magnesium	10000	15600	24700	24700	90.6	91.1	1	75.0-125			0.219	20
Potassium	10000	6060	14900	14900	88.6	88.5	1	75.0-125			0.0168	20
Sodium	10000	63100	70900	70500	77.3	73.5	1	75.0-125		V	0.538	20

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

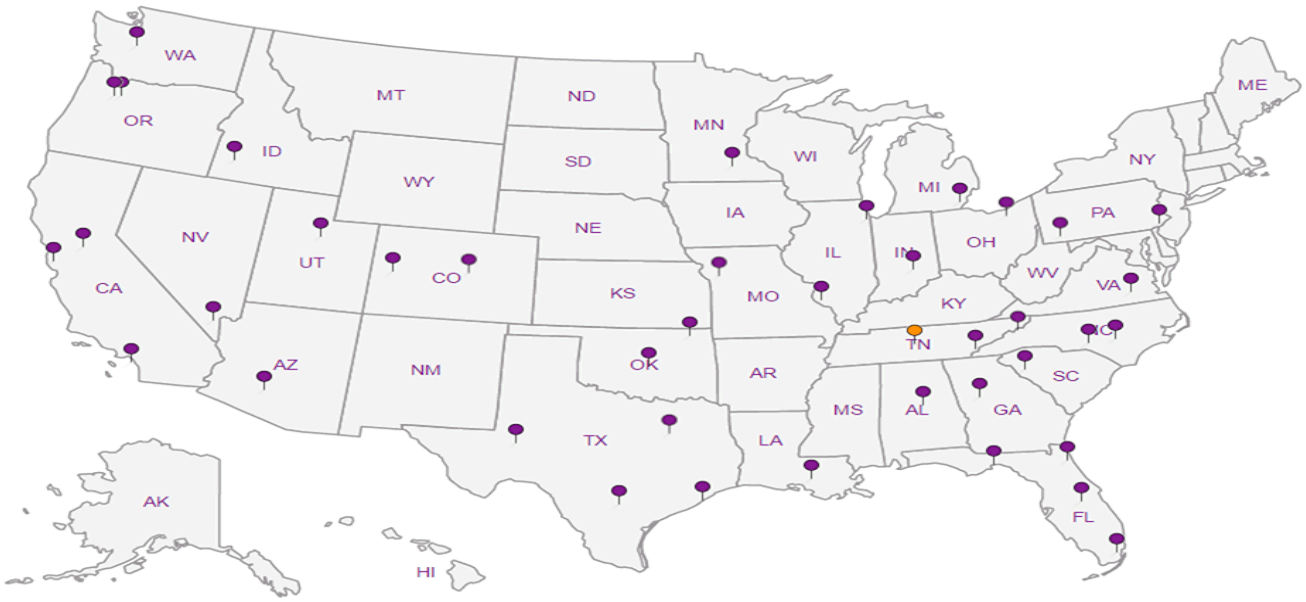
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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@kcpl.com;

Project Description: Evergy - LaCygne Generating St

City/State Collected:

Please Circle: PT MT CT ET

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

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): G. Penaflor

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

Analysis / Container / Preservative

Pres Chk: L2

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	Remarks	Sample # (lab only)
MW-706	GRAB	GW	-	1/14/20	1250	3	X	X	X			-01
MW-708	↓	GW	-	↓	1215	3	X	X	X			-02
MW-~~904~~ 903	↓	GW	-	↓	1125	3	X	X		X		-07

Chain of Custody Page ___ of ___

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 # L1150161

1145

Acctnum: AQUAOPKS

Template: T152974

Prelogin: P750334

PM: 206 - Jeff Carr

PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # N/A

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	1/15/20	13:24		1-15-20 1325
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.2 °C Bottles Received: 9
	1/15/20	1800		1.4+0=1.4
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				1/16/20 10:45

If preservation required by login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-2

February 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 06, 2020

SCS Engineers - KS

Sample Delivery Group:	L1186202
Samples Received:	02/05/2020
Project Number:	27217233.19
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

TABLE OF CONTENTS

MW-706 L1186202-01 GW

Collected by: Jason R. Franks | Collected date/time: 02/03/20 15:35 | Received date/time: 02/05/20 10:35

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 03:24	02/06/20 03:24	ELN	Mt. Juliet, TN

DUPLICATE 1 L1186202-02 GW

Collected by: Jason R. Franks | Collected date/time: 02/03/20 15:35 | Received date/time: 02/05/20 10:35

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 04:07	02/06/20 04:07	ELN	Mt. Juliet, TN

MW-903 L1186202-03 GW

Collected by: Jason R. Franks | Collected date/time: 02/03/20 15:50 | Received date/time: 02/05/20 10:35

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 04:51	02/06/20 04:51	ELN	Mt. Juliet, TN

DUPLICATE 2 L1186202-04 GW

Collected by: Jason R. Franks | Collected date/time: 02/03/20 15:50 | Received date/time: 02/05/20 10:35

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1423103	1	02/06/20 05:34	02/06/20 05:34	ELN	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	32800	J6	5000	1	02/06/2020 03:24	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	33700		5000	1	02/06/2020 04:07	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	130		100	1	02/06/2020 04:51	WG1423103

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	134		100	1	02/06/2020 05:34	WG1423103

Method Blank (MB)

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

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

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

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

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	744	745	1	0.188		15
Sulfate	19400	19200	1	0.982		15

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

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

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	845	852	1	0.837		15
Sulfate	11100	11200	1	0.615		15

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluoride	8000	8070	101	80.0-120	
Sulfate	40000	38700	96.7	80.0-120	

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	323	4730	4780	88.1	89.1	1	80.0-120			0.981	15
Sulfate	50000	61600	98100	98700	73.1	74.2	1	80.0-120	J6	J6	0.569	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	337	4800	4890	89.2	91.0	1	80.0-120			1.82	15
Sulfate	50000	ND	46500	46700	88.3	88.7	1	80.0-120			0.398	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	209	4350	4470	82.8	85.3	1	80.0-120			2.83	15
Sulfate	50000	2000000	1980000	1980000	0.000	0.000	1	80.0-120	E V	E V	0.0504	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	1050	5500	5530	89.0	89.6	1	80.0-120			0.493	15
Sulfate	50000	32800	72500	71900	79.4	78.3	1	80.0-120	J6	J6	0.804	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	130	4630	4690	90.1	91.2	1	80.0-120			1.17	15
Sulfate	50000	1180000	1200000	1190000	30.6	24.6	1	80.0-120	E V	E V	0.250	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	329	4880	4940	90.9	92.1	1	80.0-120			1.24	15
Sulfate	50000	30100	71600	72000	83.1	83.8	1	80.0-120			0.503	15

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

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

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5000	792	5410	5420	92.3	92.6	1	80.0-120			0.272	15
Sulfate	50000	193000	208000	207000	29.4	28.8	1	80.0-120	E J6	E J6	0.142	15

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).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

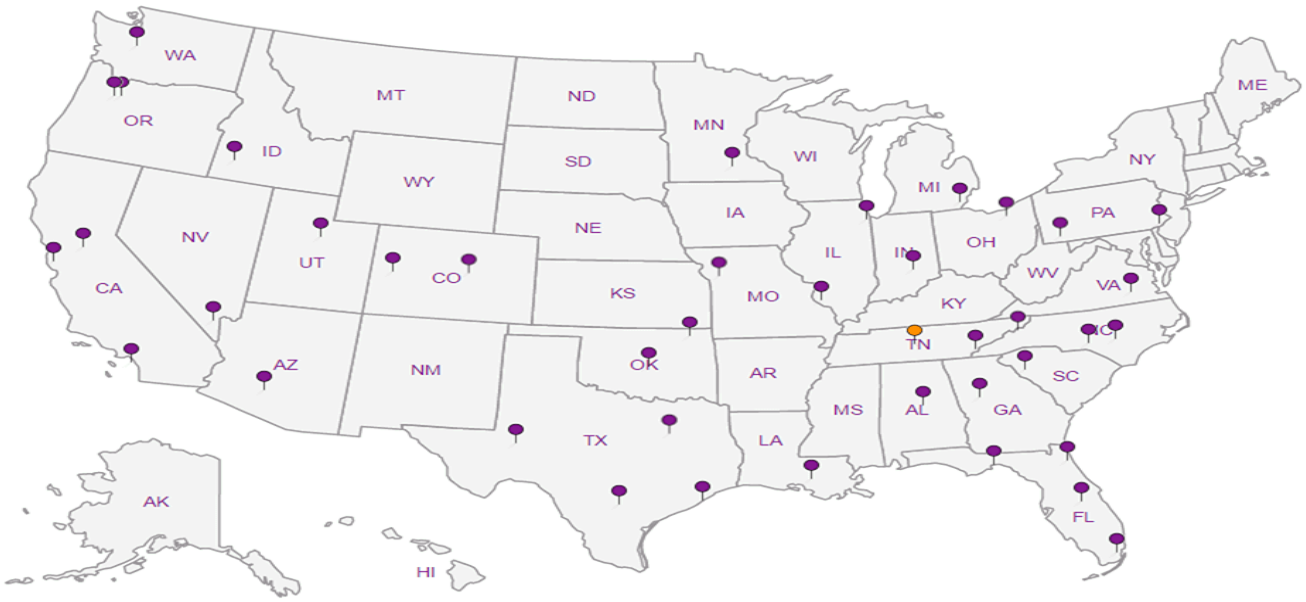
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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@kcpl.com;

Project Description: Evergy - LaCygne Generating St

City/State Collected: LaCygne KS

Please Circle: PT MT CT ET

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

Client Project # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): JASON R FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-706	GRAB	GW		02/03/20	1535	1		X		-01
MW-706 MS/MSD		GW			1535	1		X		01
DUPLICATE 1		GW			1535	1		X		02
MW-903		GW			1550	1	X			03
MW-903 MS/MSD		GW			1550	1	X			03
DUPLICATE 2		GW			1550	1	X			04

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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

SDG # L1186202

C049

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P753045
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier SWA

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	2/4/20	1238			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.3 °C	Bottles Received: 6
	2/4/20	1800	FedEx	1.5+1=1.6	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				2-5-20	1035

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-3

May 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 29, 2020

SCS Engineers - KS

Sample Delivery Group:	L1221029
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

TABLE OF CONTENTS

MW-901 L1221029-01 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
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	05/25/20 21:41	05/25/20 21:41	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:09	EL	Mt. Juliet, TN

MW-902 L1221029-02 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
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	05/25/20 21:59	05/25/20 21:59	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:17	EL	Mt. Juliet, TN

MW-903 L1221029-03 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
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	05/25/20 22:17	05/25/20 22:17	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1481857	50	05/25/20 22:34	05/25/20 22:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:20	EL	Mt. Juliet, TN

MW-904 L1221029-04 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
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	05/25/20 22:52	05/25/20 22:52	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480612	1	05/27/20 18:40	05/28/20 10:16	EL	Mt. Juliet, TN

MW-905 L1221029-05 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
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 00:22	05/26/20 00:22	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:22	EL	Mt. Juliet, TN

DUPLICATE #3 L1221029-06 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
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 00:40	05/26/20 00:40	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1480611	1	05/27/20 07:12	05/27/20 20:25	EL	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	513000		10000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	24000		1000	1	05/25/2020 21:41	WG1481857
Fluoride	572		150	1	05/25/2020 21:41	WG1481857
Sulfate	23700		5000	1	05/25/2020 21:41	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1070		200	1	05/27/2020 20:09	WG1480611
Calcium	54900		1000	1	05/27/2020 20:09	WG1480611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	495000		10000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	23200		1000	1	05/25/2020 21:59	WG1481857
Fluoride	521		150	1	05/25/2020 21:59	WG1481857
Sulfate	22300		5000	1	05/25/2020 21:59	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1040		200	1	05/27/2020 20:17	WG1480611
Calcium	64000		1000	1	05/27/2020 20:17	WG1480611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2120000		25000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	25000		1000	1	05/25/2020 22:17	WG1481857
Fluoride	ND		150	1	05/25/2020 22:17	WG1481857
Sulfate	993000		250000	50	05/25/2020 22:34	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	447		200	1	05/27/2020 20:20	WG1480611
Calcium	361000		1000	1	05/27/2020 20:20	WG1480611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	684000		10000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	32900		1000	1	05/25/2020 22:52	WG1481857
Fluoride	418		150	1	05/25/2020 22:52	WG1481857
Sulfate	78800	J6	5000	1	05/25/2020 22:52	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	958		200	1	05/28/2020 10:16	WG1480612
Calcium	67800	O1	1000	1	05/28/2020 10:16	WG1480612

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	624000		10000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	52800		1000	1	05/26/2020 00:22	WG1481857
Fluoride	565		150	1	05/26/2020 00:22	WG1481857
Sulfate	30200		5000	1	05/26/2020 00:22	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1700		200	1	05/27/2020 20:22	WG1480611
Calcium	46400		1000	1	05/27/2020 20:22	WG1480611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	695000		10000	1	05/23/2020 01:36	WG1480834

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	35000		1000	1	05/26/2020 00:40	WG1481857
Fluoride	418		150	1	05/26/2020 00:40	WG1481857
Sulfate	79100		5000	1	05/26/2020 00:40	WG1481857

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	910		200	1	05/27/2020 20:25	WG1480611
Calcium	65100		1000	1	05/27/2020 20:25	WG1480611

Method Blank (MB)

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

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

Laboratory Control Sample (LCS)

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

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

Method Blank (MB)

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

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

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 ug/l	DUP Result ug/l	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 ug/l	LCS Result ug/l	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 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	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 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	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 %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	ND	49100	49300	90.2	90.6	1	80.0-120			0.401	15

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

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

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	

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

(OS) L1221029-04 05/28/20 10:16 • (MS) R3532782-4 05/28/20 10:22 • (MSD) R3532782-5 05/28/20 10:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	958	1920	1950	96.0	99.2	1	75.0-125			1.69	20
Calcium	10000	67800	76600	77200	87.6	93.7	1	75.0-125			0.791	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).
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.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

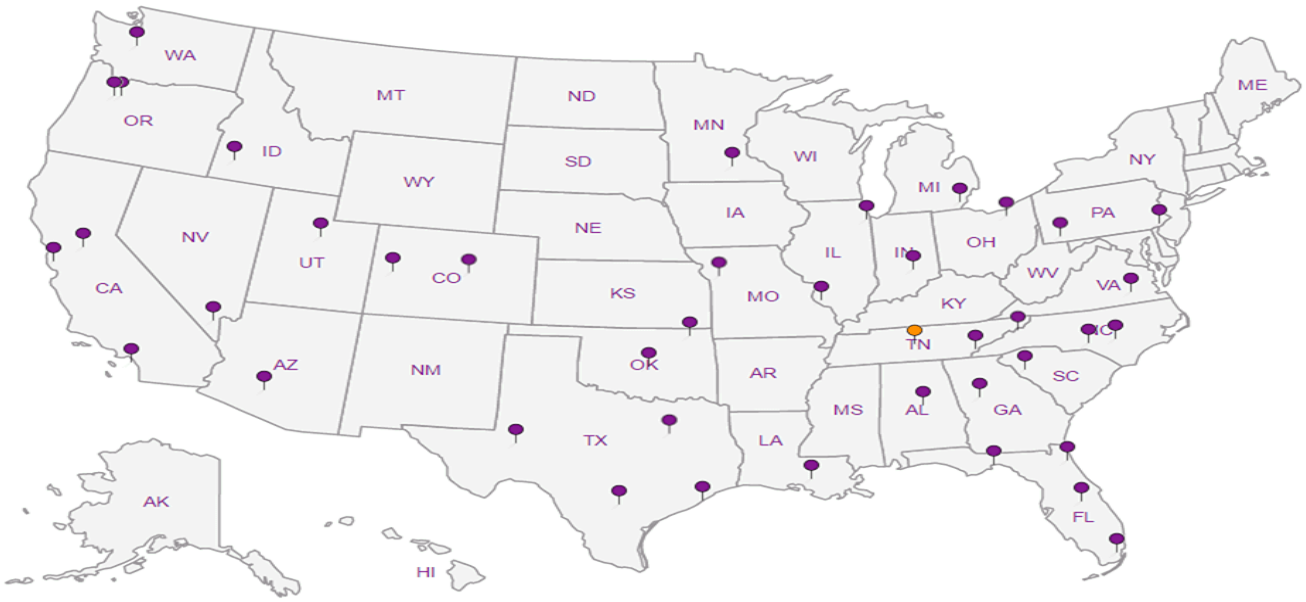
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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

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 K. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature): Jason K. Franks

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
MW-901	GRAB	GW	-	5/19/20	1850	3	X	X	X									-01
MW-902		GW	-		1525	3	X	X	X									02
MW-903		GW	-		1900	3	X	X	X									03
MW-904		GW	-		1125	3	X	X	X									04
MW-905		GW	-		1405	3	X	X	X									05
904 MS/MSD		GW	-		1125	3	X	X	X									04
DUPLICATE #3		GW	-		1125	3	X	X	X									06

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

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

SDG # 122029
G242

Acctnum: AQUAOPKS
Template: T157983
Prelogin: P769460
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

Remarks:

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking #

Sample Receipt Checklist

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

Relinquished by : (Signature) Jason K. Franks	Date: 5-20-20	Time: 0900	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date: 5-20-20	Time: 1400	Received by: (Signature) FedEx	Temp: 1.6-1.5 °C Bottles Received: 21
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Kemp	Date: 5/21/20 Time: 8:45

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 28, 2020

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

TABLE OF CONTENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DUPLICATE 3 L1220990-31 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 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

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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	509	O1	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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Mercury by Method 7470A

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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

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

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	

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

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

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	

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

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

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	

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 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

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
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	

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 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	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 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	72.9	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 ug/l	MB Qualifier	MB MDL ug/l	MB RDL 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

Method Blank (MB)

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

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

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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	

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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

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

Method Blank (MB)

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

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

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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	

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

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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	

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 ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	53.5	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.

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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

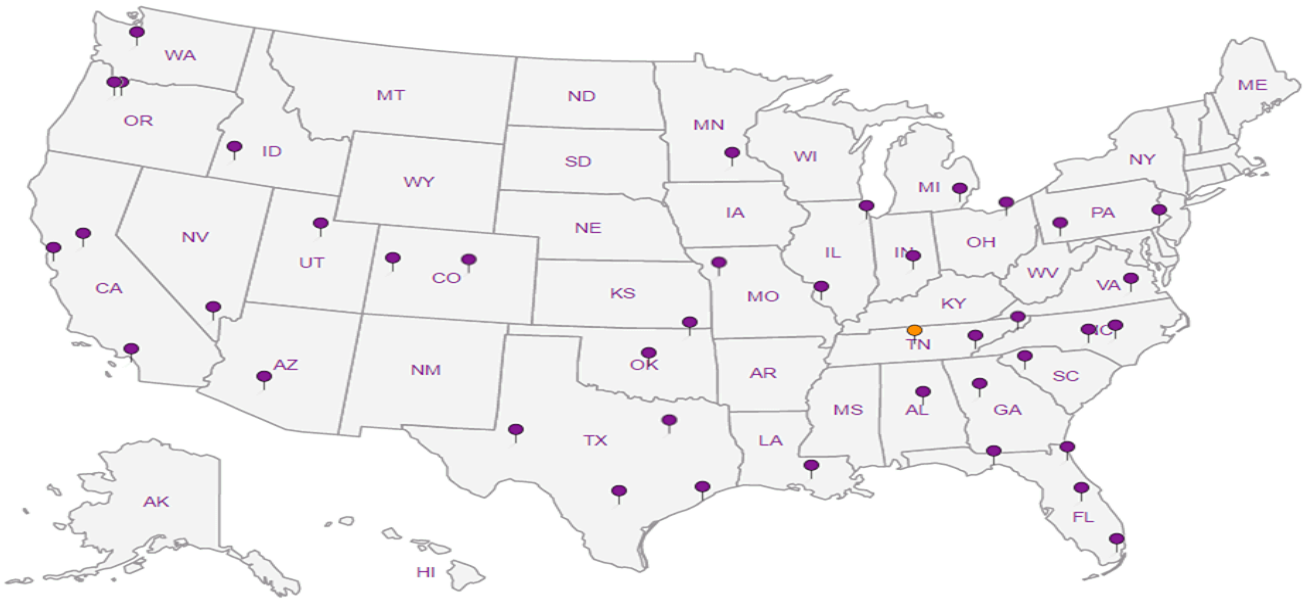
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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: LC

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

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Chain of Custody Page 1 of 4

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 # 122090

G240

Acctnum: AQUAOPKS
Template: T166954
Prelogin: P770321
PM: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-6	GRAB	GW	-	5/19/20	1120	1	X		-01
MW-7		GW	-		1210	1	X		02
MW-10		GW	-		1545	1	X		03
MW-11		GW	-		1500	1	X		04
MW-13		GW	-		1745	1	X		05
MW-14R		GW	-		1620	1	X		06
MW-15		GW	-		1815	1	X		07
MW-601		GW	-		1210	1	X		08
MW-602		GW	-		1700	1	X		09
MW-701		GW	-		1315	1	X		10

* 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:	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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	5-20-20	0960			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C -.1 =1.5	Bottles Received: 34
	5-20-20	1600	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/21/20	Time: 8:45

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

Pres Chk: Y

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

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-702	Grab	GW	—	5/19/20	1035	1	X		11
MW-703		GW	—		1130	1	X		12
MW-704		GW	—		1400	1	X		13
MW-705		GW	—		1305	1	X		14
MW-706		GW	—		1345	1	X		15
MW-707B		GW	—		1520	1	X		16
MW-708		GW	—		1605	1	X		17
TW-1		GW	—		1430	1	X		18
DUPLICATE 1		GW	—		1405	1	X		19
704 MS/MSD		GW	—		1410	1	X		13 20

Chain of Custody

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 # 1220990

Table #

Acctnum: AQUAOPKS

Template: T166954

Prelogin: P770321

PM: 206 - Jeff Carr

PB:

Shipped Via:

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

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

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Jason R. Franks	5-20-20	0900			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6, 1.5 °C Bottles Received: 34	
	5-20-20	1800	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/21/20 Time: 8:45	Hold: Condition: NCF / OK
			Carol Kemp		

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: 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
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed
Quote #

Pres Chk: CL

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-801	GRAB	GW	—	5/19/20	1650	1	X		20 21
MW-802		GW	—		1745	1	X		21 22
MW-803		GW	—		1830	1	X		22 23
MW-804		GW	—		1910	1	X		23 24
MW-805		GW	—		1950	1	X		24 25
DUPLICATE 2		GW	—		1650	1	X		25 26
801 MS/MSD		GW	—		1655	1	X		26 27
MW-901		GW	—		1850	1	X		26 28
MW-902		GW	—		1525	1	X		27 29
MW-903		GW	—		1900	1	X		28 30

Chain of Custody Page 3 of 4

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 # 1220990
Table #
Acctnum: AQUAOPKS
Template: T166954
Prelogin: P770321
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

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

pH _____ Temp _____
Flow _____ Other _____

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

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Jason R. Franks	5-20-20	0900			
	5-20-20	1800	FedEx	Temp: 1.6-1=1.5 Bottles Received: 34	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/21/20 Time: 8:45	Hold: Condition: NCF / OK

Chain of Custody Page 4 of 4

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

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

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

Project Description: Evergy - 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
Immediately Packed on Ice N ___ Y ✓

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

Quote #

SDG # 120990
Table #
Acctnum: AQUAOPKS
Template: T166954
Prelogin: P770321
PM: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-904	GRAB	GW	—	5/19/20	1125	1	X		29
MW-905	↓	GW	—		1405	1	X		30
DUPLICATE 3		GW	—		1125	1	X		31
904 MS/MSD		GW	—	↓	1125	1	X		29-32

* 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: 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)	Date:	Time:	Received by: (Signature)
Jason R Franks	5-20-20	0900	
	5-20-20	1800	FedEx
			Received for lab by: (Signature): Carol Kemp

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 4.6-1=1.5 °C Bottles Received: 34

If preservation required by Login: Date/Time

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

Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 19, 2020

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

TABLE OF CONTENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.72		0.972	1.25	06/05/2020 19:13	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.54		0.684	1.12	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.74		0.864	1.12	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

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

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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.500		0.876	1.18	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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 pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.33		1.09	1.32	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	3.52		0.830	1.24	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.52		0.824	1.23	06/05/2020 15:02	WG1487018

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.210		0.862	1.31	06/09/2020 15:19	WG1488872

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

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

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.632		0.846	1.15	06/09/2020 15:19	WG1488872

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.758		0.895	1.16	06/09/2020 15:19	WG1488872

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

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

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

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

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

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

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

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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.33		0.887	1.24	06/16/2020 09:40	WG1488872

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

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

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.215		0.738	1.2	06/16/2020 09:40	WG1489235

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
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

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

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

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

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

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

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

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*		

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*		

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

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	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
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	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
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	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	-0.0212		0.0760
(T) Barium-133	*101*		

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

Laboratory Control Sample (LCS)

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

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

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	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
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	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	-0.0212		0.0760
(T) Barium-133	*103*		

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	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
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	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
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	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
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*		

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*						

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*		

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.

Qualifier	Description

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

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

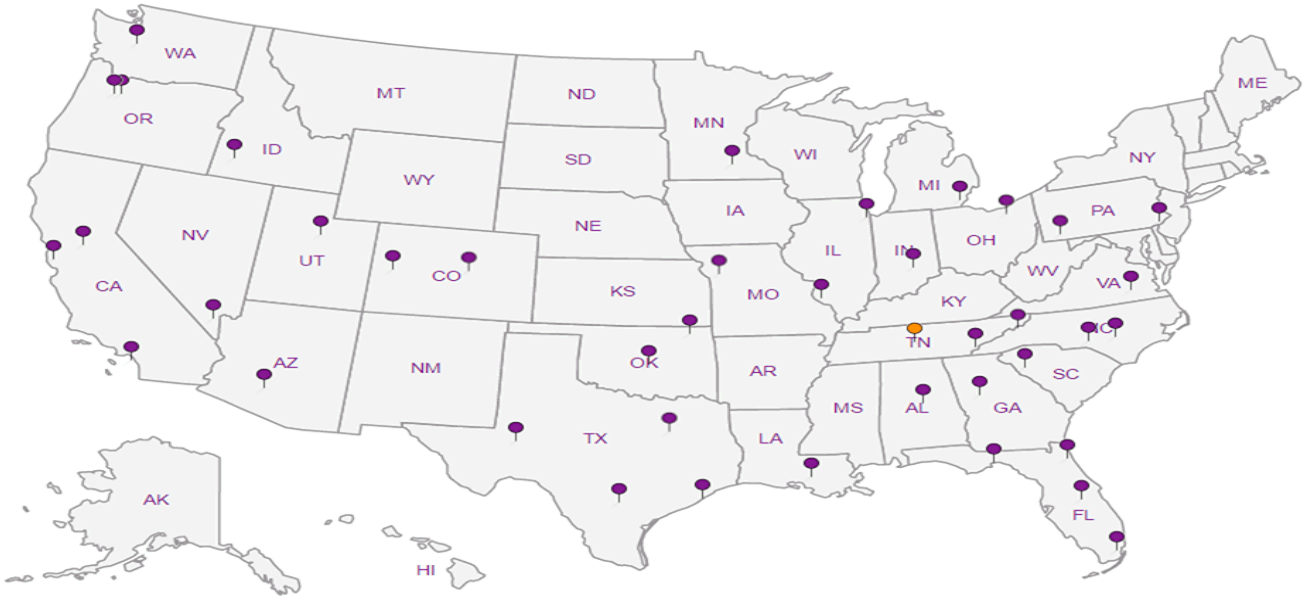
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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: 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):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 4

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 # 127007
G241

Acctnum: AQUAOPKS
Template: T167974
Prelogin: P774139
PM: 206 - Jeff Carr
PB:

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-6	GRAB	NPW	—	5/19/20	1120	2	X		-01
MW-7		NPW	—		1210	2	X		02
MW-10		NPW	—		1545	2	X		03
MW-11		NPW	—		1500	2	X		04
MW-13		NPW	—		1745	2	X		05
MW-14R		NPW	—		1620	2	X		06
MW-15		NPW	—		1815	2	X		07
MW-601		NPW	—		1210	2	X		08
MW-602		NPW	—		1700	2	X		09
MW-701		NPW	—		1315	2	X		10

* 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	
	5-20-20	0900			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6-1.5 °C	Bottles Received: 68
	5-20-20	1800	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/21/20	Time: 8:45

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

Pres Chk: LL

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

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 2 of 4

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 # 122007

Table #

Acctnum: AQUAOPKS

Template: T167974

Prelogin: P774139

PM: 206 - Jeff Carr

PB:

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-702	GRAB	NPW	—	5/19/20	1035	2	X		11
MW-703		NPW	—		1130	2	X		12
MW-704		NPW	—		1400	2	X		13
MW-705		NPW	—		1305	2	X		14
MW-706		NPW	—		1345	2	X		15
MW-707B		NPW	—		1520	2	X		16
MW-708		NPW	—		1605	2	X		17
TW-1		NPW	—		1430	2	X		18
DUPLICATE 1		NPW	—		1405	2	X		19
704 MS/MSD		NPW	—		1410	2	X		13

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

Remarks: RA 226/228 - Report separately and combined.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jason R. Franks	5-20-20	0900	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5-20-20	1800	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Laura Kemp

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

Temp: 1.6, 1.5 °C Bottles Received: 68

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

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Chain of Custody

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: 02

Analysis / Container / Preservative: RA226, RA228 1L-HDPE-Add HNO3

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

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

Project Description: **Evergy - 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**

SDG # 122607
Table #
Acctnum: **AQUAOPKS**
Template: **T167974**
Prelogin: **P774139**
PM: **206 - Jeff Carr**
PB:
Shipped Via: **FedEx Ground**

Collected by (print): JASON R. FRANKS
Collected by (signature): Jason R. Franks
Immediately Packed on Ice N ___ Y ✓

Site/Facility ID #
P.O. #
Quote #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3								Remarks	Sample # (lab only)
MSD	GRAB	NPW	—	5/19/20	1650	2	X									20
MW-801		NPW	—		1745	2	X	1650								20
MW-802		NPW	—		1830	2	X	1745								21
MW-803		NPW	—		1910	2	X	1830								22
MW-804		NPW	—		1950	2	X	1910								23
MW-805		NPW	—		1650	2	X	1950								24
DUPLICATE 2		NPW	—		1655	2	X	1650								25
801 MS/MSD		NPW	—		1850	2	X	1655								20
~~MSD~~		NPW	—		~~1575~~	2	X									
MW-901		NPW	—		~~1900~~ 1850	2	X	1850								26

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

Remarks: RA 226/228 - Report separately and combined.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Jason R. Franks	5-20-20	0900		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.1 °C Bottles Received:
	5-20-20	1800	FedEx	1.6-.1=1.5 68
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				5/21/20 8:45

If preservation required by Login: Date/Time

Hold: Condition: NCF / (OK)

Chain of Custody Page 4 of 4

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: RA226, RA228 1L-HDPE-Add HNO3

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

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

Project Description: Evergy - 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

SDG # 122007
Table #
Acctnum: AQUAOPKS
Template: T167974
Prelogin: P774139
PM: 206 - Jeff Carr
PB:
Shipped Via: FedEX Ground

Collected by (print): JASON R. FRANKS
Collected by (signature): Jason R. Franks
Immediately Packed on Ice N ____ Y ✓

Site/Facility ID #
P.O. #
Quote #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-902	GRAB	NPW	—	5/19/20	1525	2	X		27
MW-903		NPW	—		1900	2	X		28
MW-904		NPW	—		1125	2	X		29
MW-905		NPW	—		1405	2	X		30
DUPLICATE 3		NPW	—		1125	2	X		31
904 MS/MSD		NPW	—		1125	2	X		29
		NPW				2	X		

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

Remarks: RA 226/228 - Report separately and combined.

pH _____ Temp _____
Flow _____ Other _____

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

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Jason R. Franks	5-20-20	0900			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.7 °C Bottles Received:	If preservation required by Login: Date/Time
	5-20-20	1800	FedEx	1.6-1.5 68	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
			Chuck Kemp	5/21/20	8:45

Hold: Condition: NCF / OK

Kelsey Stephenson

Login #: L1221007	Client:AQUAOPKS	Date:05/21	Evaluated by:Kelsey S

Non-Conformance (check applicable items)

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

Jared Morrison
December 16, 2022

ATTACHMENT 1-4

July 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 21, 2020

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

TABLE OF CONTENTS

MW-13 L1239490-01 GW

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

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

MW-14R L1239490-02 GW

Collected by: G. Penaflor | Collected date/time: 07/13/20 11:45 | 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 06:55	07/16/20 06:55	ELN	Mt. Juliet, TN

DUPLICATE 1 L1239490-03 GW

Collected by: G. Penaflor | Collected date/time: 07/13/20 11:50 | 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 08:19	07/16/20 08:19	ELN	Mt. Juliet, TN

MW-701 L1239490-04 GW

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

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

MW-704 L1239490-05 GW

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

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

MW-706 L1239490-06 GW

Collected by: G. Penaflor | Collected date/time: 07/13/20 11:50 | 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 11:25	07/16/20 11:25	ELN	Mt. Juliet, TN

MW-707B L1239490-07 GW

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

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

DUPLICATE 2 L1239490-08 GW

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

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

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

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

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

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18800		1000	1	07/16/2020 06:38	WG1509631

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6380		1000	1	07/16/2020 06:55	WG1509631
Fluoride	336		150	1	07/16/2020 06:55	WG1509631

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6370		1000	1	07/16/2020 08:19	WG1509631
Fluoride	339		150	1	07/16/2020 08:19	WG1509631

Metals (ICP) by Method 6010D

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	90100		5000	5	07/16/2020 08:36	WG1509631

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	21300		5000	1	07/16/2020 11:25	WG1509631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	421000	O1 V	1000	1	07/16/2020 15:30	WG1509664

Metals (ICP) by Method 6010D

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	69400		5000	1	07/16/2020 09:10	WG1509631

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	69800		25000	5	07/16/2020 10:01	WG1509631

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	562		150	1	07/16/2020 10:18	WG1509631

Method Blank (MB)

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

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

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 ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
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 ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
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 ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
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	E	E	0.0432	15

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

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	

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	V	V	1.24	20

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

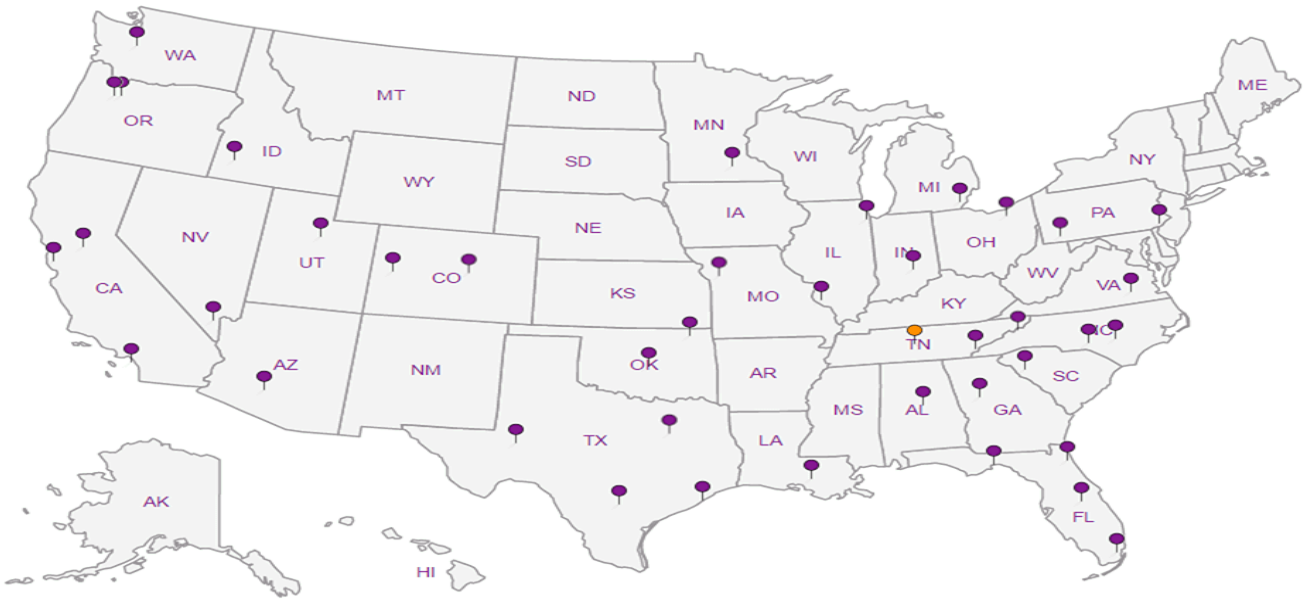
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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

Report to: Jason Franks

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

Project Description: Evergy - LaCygne Generating Station

City/State Collected:

Please Circle: PT MT CT ET

Phone: 913-681-0030

Client Project # 27217233.20

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): G. Penaflor

Site/Facility ID #

P.O. #

Collected by (signature): [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

Chain of Custody Page ___ of ___

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 # L1239490

F089

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P784787
PM: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Calcium - 6010 250mlHDPE-HNO3 <2	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-NoPres						Remarks	Sample # (lab only)
MW-13	GRAB	GW		7/13/20	1225	1		X										-01
MW-14R	↓	GW		↓	1145	1			X									-02
MW-14R MS/MSD	↓	GW		↓	1155	1			X									-02
DUPLICATE 1	↓	GW		↓	1150	1			X									-03
MW-701	↓	GW		↓	1407	1	X											-04
MW-704	↓	GW		↓	1325	1		X										-05
MW-706	↓	GW		↓	1150	1					X							-06
MW-707B	↓	GW		↓	1105	1	X	X (struck)										-07
MW-707B MS/MSD	↓	GW		↓	1115	1	X	X (struck)										-07
DUPLICATE 2	↓	GW		↓	1110	1	X	X (struck)										-08

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

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __________

Tracking # 1845 4330 1990

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	7-14-20	1330	[signature]	Trip Blank Received: Yes / No (circled); HCL / MeoH; TBR
[signature]	7-14-20	1800	FedEx	Temp: MPA3 °C 2.0-2=2.0; Bottles Received: 14
			Received for lab by: (Signature) L. White	Date: 7/15/20 Time: 08:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK (circled)

Chain of Custody Page ___ of ___

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

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

Report to: Jason Franks

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

Project Description: Evergy - LaCygne Generating Station

City/State Collected:

Please Circle: PT MT (CT) ET

Phone: 913-681-0030

Client Project #: 27217233.20

Lab Project #: AQUAOPKS-LACYGNE

Site/Facility ID #:

P.O. #:

Collected by (print): G. Penaflor

Collected by (signature): [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

SDG #: L1239490

Table #:

Acctnum: AQUAOPKS
Template: T136276
Prelogin: P784787
PM: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

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						Remarks	Sample # (lab only)
TW-1	GRAB	GW		7/13/20	1050	1					X							-09
TW-1 MS/MSD	↓	GW			1100	1					X							-09
DUPLICATE 3		GW			1055	1					X							-10
MW-901		GW		↓	0945	1				X								-11

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

Remarks:

pH ______ Temp ______
Flow ______ Other ______

Samples returned via: __ UPS __ FedEx __ Courier ________

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
[signature]	7-14-20	1330	[signature]	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
[signature]	7-14-20	1800	FedEx	2.2-.2=2.0 / 14
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			J. White	7/15/20 08:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 31, 2020

SCS Engineers - KS

Sample Delivery Group:	L1244863
Samples Received:	07/30/2020
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

TABLE OF CONTENTS

MW-901 L1244863-01 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 09:30 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 01:56	JPD	Mt. Juliet, TN

MW-902 L1244863-02 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 10:20 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 02:00	JPD	Mt. Juliet, TN

MW-903 L1244863-03 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 10:50 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 02:04	JPD	Mt. Juliet, TN

MW-904 L1244863-04 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 11:20 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 00:32	JPD	Mt. Juliet, TN

MW-905 L1244863-05 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 12:00 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 02:07	JPD	Mt. Juliet, TN

DUPLICATE L1244863-06 GW

Collected by: Whit Martin | Collected date/time: 07/29/20 11:20 | Received date/time: 07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1518057	1	07/30/20 22:07	07/31/20 02:11	JPD	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 01:56	WG1518057

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 02:00	WG1518057

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 02:04	WG1518057

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 00:32	WG1518057

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 02:07	WG1518057

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Cobalt	ND		2.00	1	07/31/2020 02:11	WG1518057

Method Blank (MB)

(MB) R3555028-1 07/31/20 00:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Cobalt	U		0.477	2.00

Laboratory Control Sample (LCS)

(LCS) R3555028-2 07/31/20 00:28

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cobalt	50.0	51.2	102	80.0-120	

L1244863-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1244863-04 07/31/20 00:32 • (MS) R3555028-4 07/31/20 00:39 • (MSD) R3555028-5 07/31/20 00:43

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 %
Cobalt	50.0	ND	49.5	48.6	98.0	96.1	1	75.0-125			1.92	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.
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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.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

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

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Georgia	NELAP	North Carolina [3]	41
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Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
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[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

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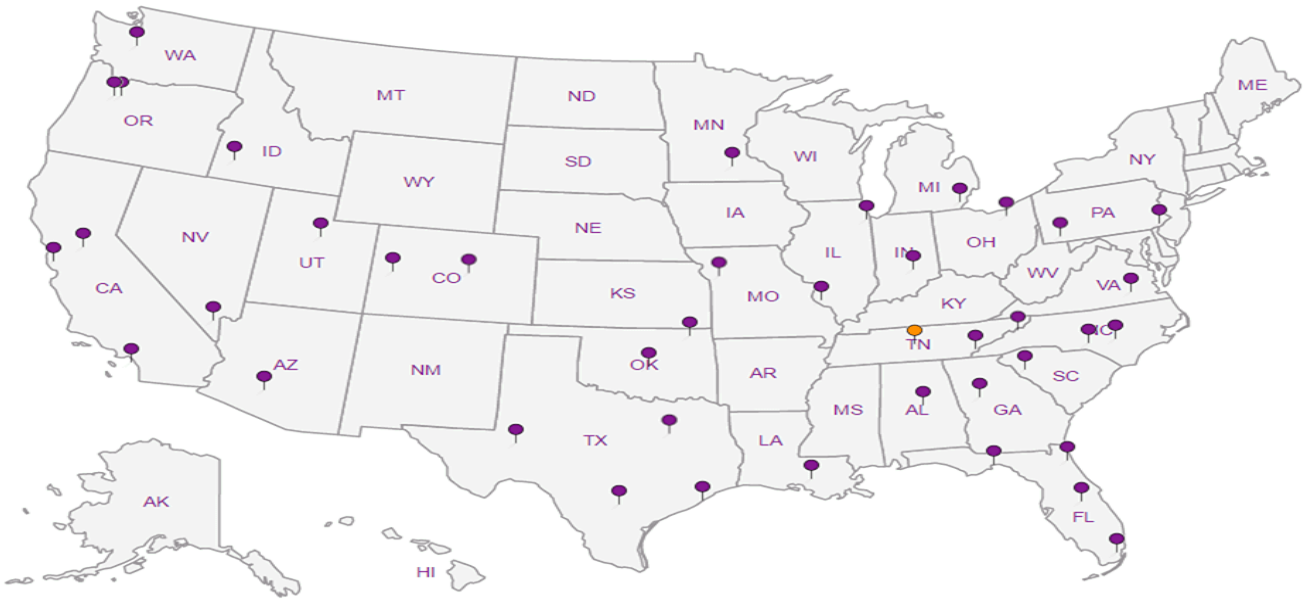


SCS Engineers - KS

8575 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

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): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed: 2day TAT

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cobalt - 6020 250mlHDPE-HNO3									Remarks	Sample # (lab only)
							2										
MW-901	Grab	GW		7/29/20	0930	1	X										-01
MW-902	Grab	GW		7/29/20	1020	1	X										-02
MW-903	Grab	GW		7/29/20	1050	1	X										-03
MW-904	Grab	GW		7/29/20	1120	1	X										-04
MW-904 MS/MSD	Grab	GW		7/29/20	1125	1	X										-05
MW-905	Grab	GW		7/29/20	1200	1	X										-06 -05
DUPLICATE	Grab	GW		7/29/20	1120	1	X										-07 -06

KO

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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

SDG # L1244863

E124

Acctnum: AQUAOPKS

Template: T171656

Prelogin: P787603

PM: 206 - Jeff Carr

PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1845 4330 0846

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Whit Martin	7/29/20	1350	7-29-20 1351	1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.1 °C Bottles Received: 7	
				.9-1.-.8	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7-30-20 Time: 0900	Hold: Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-5

August 2020 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 02, 2020

SCS Engineers - KS

Sample Delivery Group:	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

TABLE OF CONTENTS

MW-14R L1255853-01 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 9056A	WG1535066	1	08/30/20 12:45	08/30/20 12:45	ELN	Mt. Juliet, TN

DUPLICATE 1 L1255853-02 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 9056A	WG1535066	1	08/30/20 13:51	08/30/20 13:51	ELN	Mt. Juliet, TN

MW-704 L1255853-03 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 9056A	WG1535066	1	08/30/20 14:04	08/30/20 14:04	ELN	Mt. Juliet, TN

MW-706 L1255853-04 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 9056A	WG1535066	1	08/30/20 14:17	08/30/20 14:17	ELN	Mt. Juliet, TN

TW-1 L1255853-05 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 9056A	WG1535066	1	08/30/20 14:30	08/30/20 14:30	ELN	Mt. Juliet, TN

DUPLICATE 2 L1255853-06 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 9056A	WG1535066	1	08/30/20 15:09	08/30/20 15:09	ELN	Mt. Juliet, TN

MW-901 L1255853-07 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 9056A	WG1535066	1	08/30/20 15:22	08/30/20 15:22	ELN	Mt. Juliet, TN

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6250		1000	1	08/30/2020 12:45	WG1535066
Fluoride	312		150	1	08/30/2020 12:45	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6330		1000	1	08/30/2020 13:51	WG1535066
Fluoride	317		150	1	08/30/2020 13:51	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	92200		1000	1	08/30/2020 14:04	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	20700		5000	1	08/30/2020 14:17	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	72400		5000	1	08/30/2020 14:30	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	72200		5000	1	08/30/2020 15:09	WG1535066

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	500		150	1	08/30/2020 15:22	WG1535066

Method Blank (MB)

(MB) R3565608-1 08/30/20 09:31

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

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

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

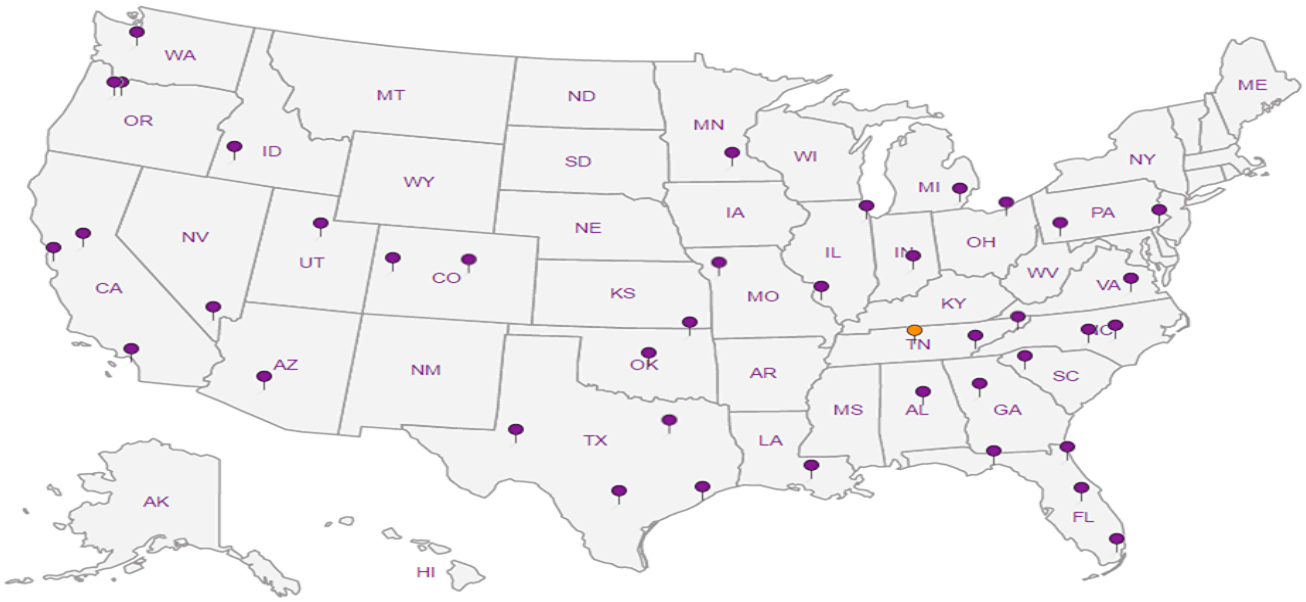
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS
8575 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

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): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature): Whit Martin

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: Std

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 125mlHDPE-NoPres	Chloride, Fluoride 125mlHDPE-NoPres	Fluoride 125mlHDPE-NoPres	Sulfate 125mlHDPE-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

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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

SDG # L1255853
A138
Acctnum: AQUA
Template: T136276
Prelogin: P789921
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 526 5166 3861 0001

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Whit Martin	8/27/20	1545		A6	
	8/27/20	1810	FedEx	Temp: -.5 °C 1.3 .8 Bottles Received: 9	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:	Hold:	Condition: NCF / OK
			Deborah Holeman	8-28-20	8:00		

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 03, 2020

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

TABLE OF CONTENTS

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

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

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	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 ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	54700		5000	1	08/30/2020 16:24	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	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 ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	150000		25000	5	08/30/2020 20:01	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	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 ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	238000		5000	5	08/30/2020 20:12	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	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 ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	41000		1000	1	08/30/2020 16:57	WG1534671

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	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

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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	Batch
	ug/l		ug/l		date / time	
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	Batch
	ug/l		ug/l		date / time	
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

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

Method Blank (MB)

(MB) R3565469-1 08/30/20 10:55

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

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 ug/l	DUP Result ug/l	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 ug/l	DUP Result ug/l	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 ug/l	LCS Result ug/l	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 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	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 %	MS Qualifier
Chloride	50000	24000	75100	102	1	80.0-120	
Sulfate	50000	20400	71700	103	1	80.0-120	

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

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

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	V	V	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.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

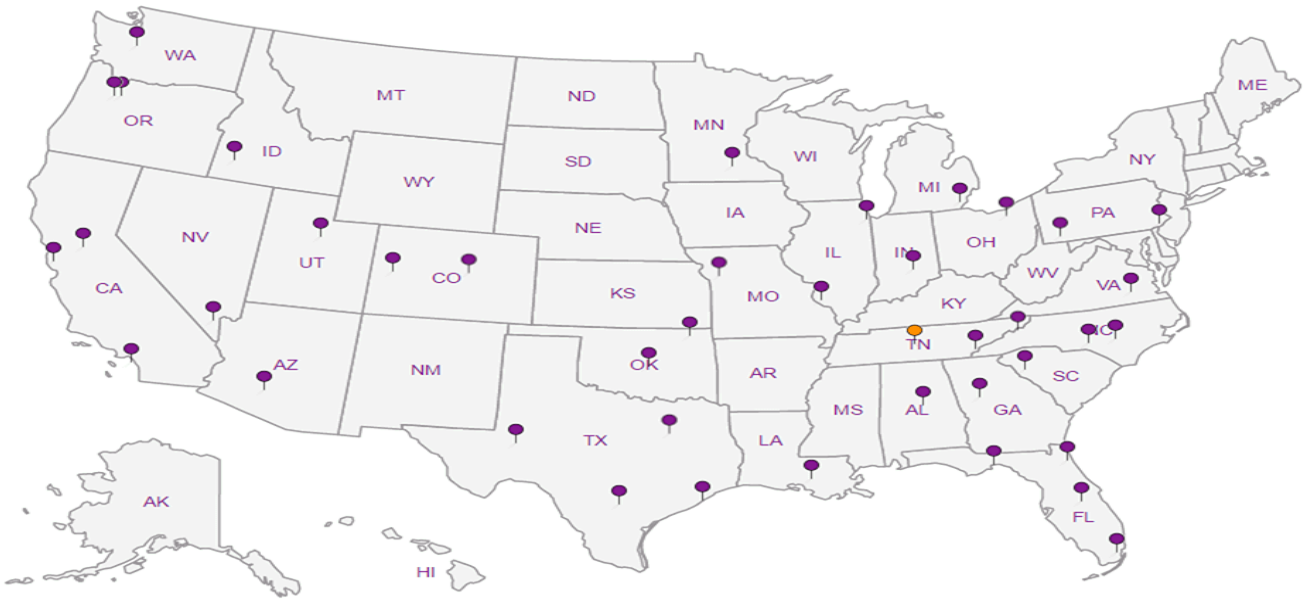
Third Party Federal Accreditations

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

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

Our Locations

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



SCS Engineers - KS

8575 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

Pres Chk

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 # 27217233.19

Lab Project # AQUAOPKS-LACYGNE

Collected by (print): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: Std

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	Chloride - 9056 125mlHDPE-NoPres	Chloride, SO4 - 9056 125mlHDPE-NoPres	SO4 - 9056 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-14R	Grab	GW		8/27/20	1315	3	X	X			X		-01
MW-704	Grab	GW		8/27/20	1235	3	X	X			X		-02
MW-706	Grab	GW		8/27/20	1100	3	X	X	X				-03
TW-1	Grab	GW		8/27/20	1140	3	X	X	X				-04
MW-901	Grab	GW		8/27/20	1010	3	X	X		X			-05

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical
National Center for Testing & Innovation

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

SDG # L1255852

A137

Template: T152974
Prelogin: P789924
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

Remarks:

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier

Tracking # 5865166736 1 cool

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/27/20	1545	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/27/20	1800	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Deedra Kirkendall

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 4.6°C Bottles Received: 15
1.3.5.2.8

Date: 8-28-20 Time: 8:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 2

Statistical Analyses

Jared Morrison
December 16, 2022

ATTACHMENT 2-1

Fall 2018 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 –
Bottom Ash Impoundment
Fall 2019 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the Bottom Ash 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 8, 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. Two rounds of verification sampling were conducted for certain constituents on January 14, 2020 and February 3, 2020.

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, 1st verification re-sample result (when applicable), 2nd verification re-sample result (when applicable), extra sample results for pH because pH is collected as part of the sampling procedure, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

La Cygne Generating Station
Determination of Statistically Significant Increases
Bottom Ash Impoundment
March 10, 2020

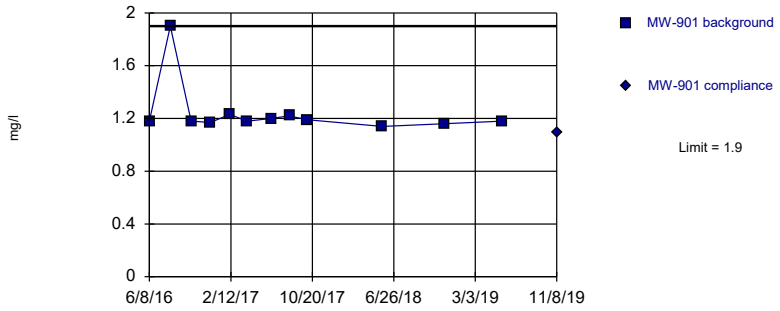
ATTACHMENT 1

Sanitas™ Output

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: BORON Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

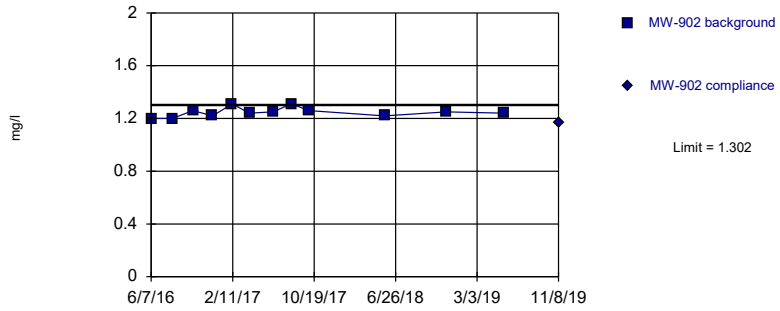
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.247, Std. Dev.=0.03601, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9071, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: BORON Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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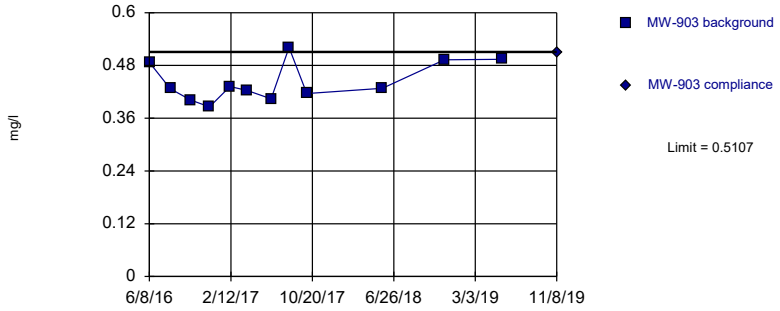
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4427, Std. Dev.=0.04409, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8885, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: BORON Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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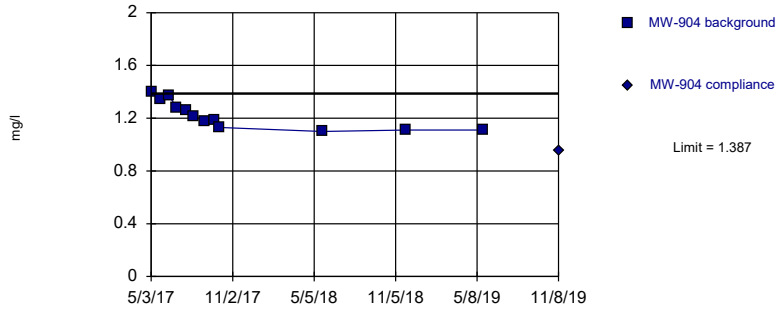
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.223, Std. Dev.=0.106, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9154, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: BORON Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 2/21/2020 4:02 PM View: Bottom Ash III

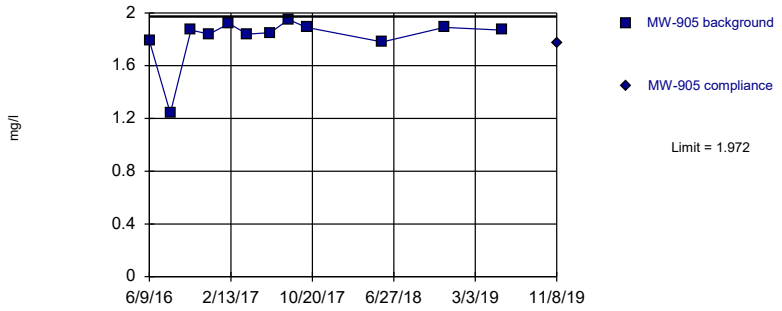
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903	MW-904	MW-904
6/7/2016			1.2					
6/8/2016	1.18				0.487			
8/11/2016	1.9		1.2		0.427			
10/13/2016			1.26		0.401			
10/14/2016	1.18							
12/9/2016					0.386			
12/12/2016	1.17		1.22					
2/9/2017	1.23							
2/10/2017			1.31		0.432			
4/4/2017	1.18		1.24		0.423			
5/3/2017							1.4	
5/24/2017							1.34	
6/12/2017							1.37	
6/15/2017			1.25					
6/16/2017	1.2				0.404			
6/30/2017							1.28	
7/21/2017							1.26	
8/7/2017							1.21	
8/10/2017					0.521			
8/11/2017	1.22		1.31					
9/1/2017							1.18	
9/22/2017							1.19	
10/3/2017	1.19		1.26		0.416			
10/5/2017							1.13	
5/23/2018	1.14		1.22		0.428		1.1	
11/29/2018	1.16		1.25		0.493		1.11	
5/23/2019	1.18		1.24		0.494		1.11	
11/8/2019		1.09		1.17		0.508		0.957

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^6 transformation): Mean=38.98, Std. Dev.=12.91, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.816, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

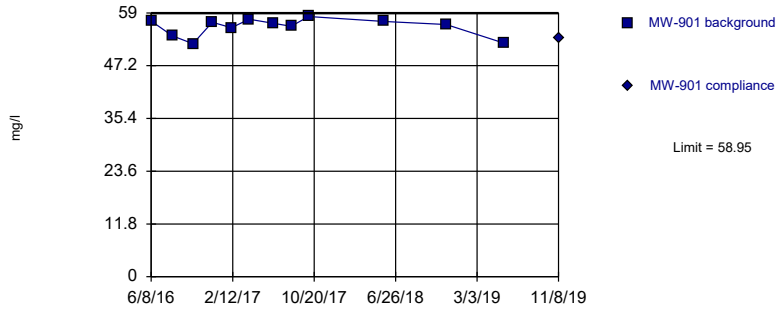
Constituent: BORON Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=55.84, Std. Dev.=2.014, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8591, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

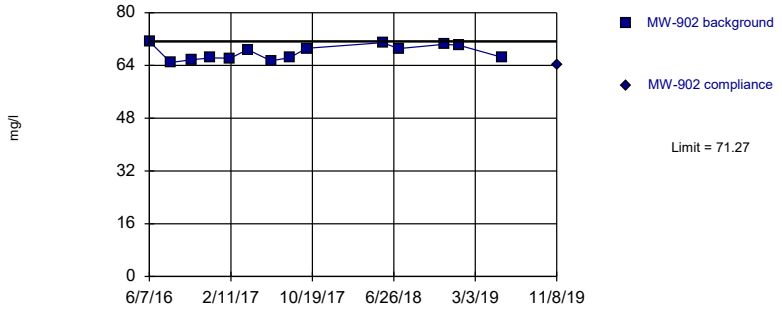
Constituent: CALCIUM Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=67.94, Std. Dev.=2.241, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8973, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

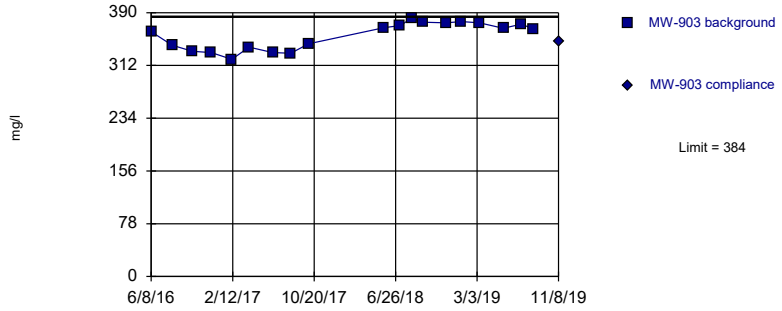
Constituent: CALCIUM Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=355.9, Std. Dev.=20.36, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8713, critical = 0.863. Kappa = 1.379 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON, CALCIUM Analysis Run 2/21/2020 4:02 PM View: Bottom Ash III

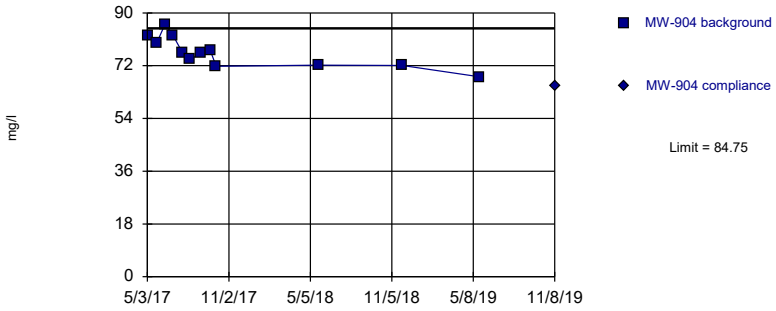
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903
6/7/2016					71.3			
6/8/2016			57.2				362	
6/9/2016	1.79							
8/11/2016			53.9		64.9		342	
8/12/2016	1.24							
10/13/2016					65.7		333	
10/14/2016	1.87		52.1					
12/9/2016	1.84						331	
12/12/2016			56.9		66.3			
2/8/2017	1.92							
2/9/2017			55.7					
2/10/2017					66.2		321	
4/4/2017	1.84		57.6		68.8		339	
6/14/2017	1.85							
6/15/2017					65.4			
6/16/2017			56.7				331	
8/9/2017	1.95							
8/10/2017							330	
8/11/2017			56		66.4			
10/3/2017	1.89		58.2		69.2		344	
5/23/2018	1.78		57.1		70.9		368	
7/11/2018					69.1		371	
8/16/2018							382	
9/17/2018							376	
11/29/2018	1.89		56.4		70.4		375	
1/14/2019					70.1		377	
3/11/2019							375	
5/23/2019	1.87		52.3		66.5		367	
7/17/2019							373	
8/22/2019							366	
11/8/2019		1.77		53.4		64.3		348

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=76.58, Std. Dev.=5.294, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9663, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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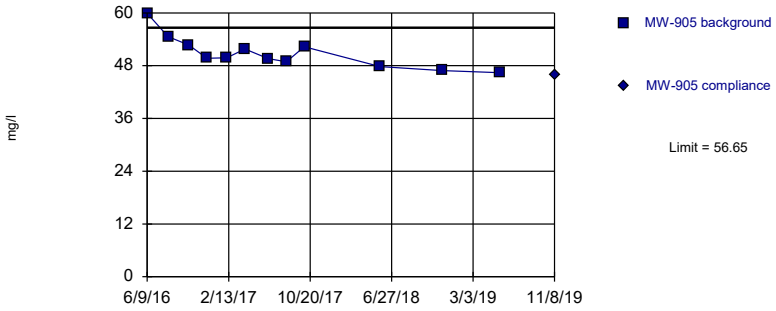
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=50.87, Std. Dev.=3.752, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9061, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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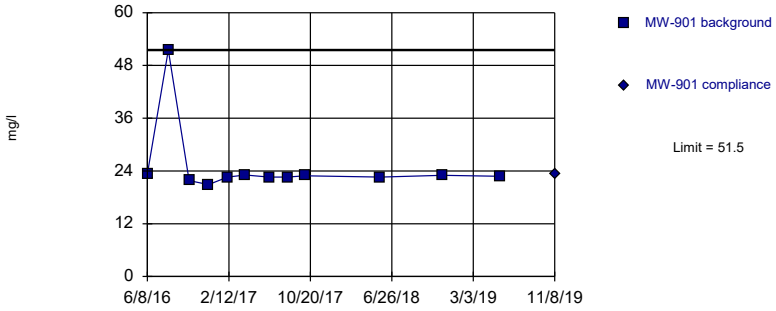
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: CHLORIDE Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

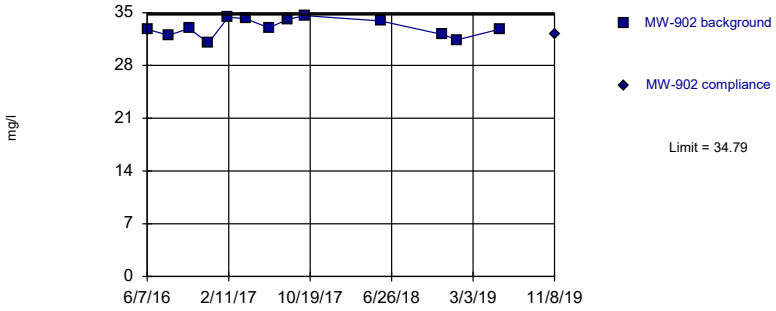
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.02, Std. Dev.=1.17, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 2/21/2020 4:00 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM, CHLORIDE Analysis Run 2/21/2020 4:02 PM View: Bottom Ash III

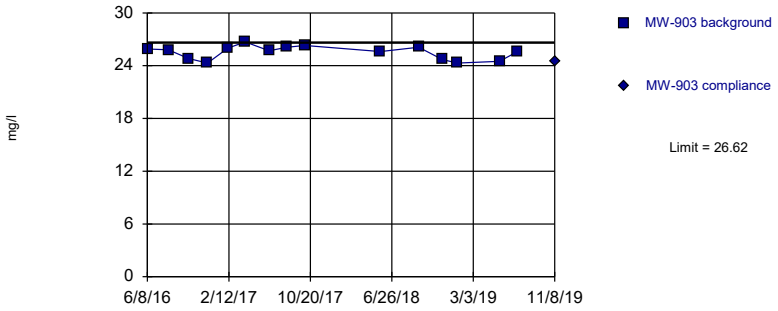
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-904	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902
6/7/2016							32.8	
6/8/2016					23.3			
6/9/2016			59.9					
8/11/2016					51.5		32	
8/12/2016			54.6					
10/13/2016							32.9	
10/14/2016			52.7		21.8			
12/9/2016			49.7					
12/12/2016					20.9		31	
2/8/2017			49.8					
2/9/2017					22.6			
2/10/2017							34.4	
4/4/2017			51.8		23.1		34.2	
5/3/2017	82.4							
5/24/2017	79.8							
6/12/2017	86.2							
6/14/2017			49.6					
6/15/2017							33	
6/16/2017					22.6			
6/30/2017	82.3							
7/21/2017	76.5							
8/7/2017	74.1							
8/9/2017			48.9					
8/11/2017					22.6		34.1	
9/1/2017	76.3							
9/22/2017	77.1							
10/3/2017			52.3		22.9		34.6	
10/5/2017	71.8							
5/23/2018	72.2		47.8		22.6		33.9	
11/29/2018	72.1		46.9		23		32.1	
1/14/2019							31.4	
5/23/2019	68.2		46.4		22.8		32.8	
11/8/2019		65.3		46		23.2		32.1

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=25.49, Std. Dev.=0.7732, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.908, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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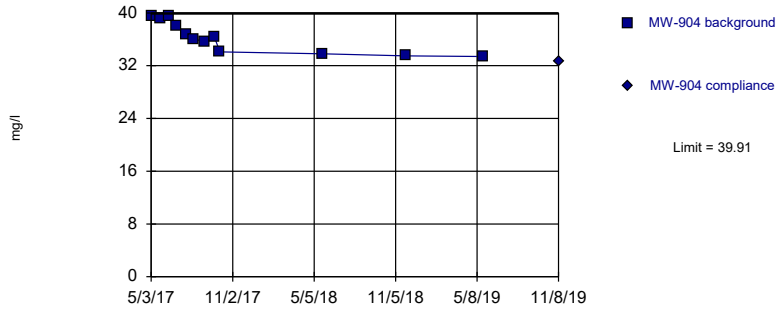
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.32, Std. Dev.=2.332, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9047, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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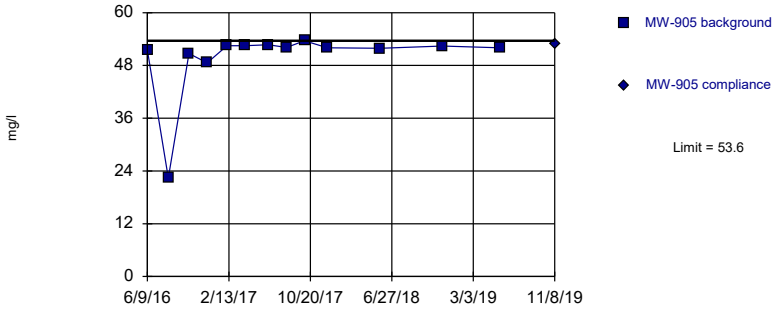
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 13 background values. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

Constituent: CHLORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

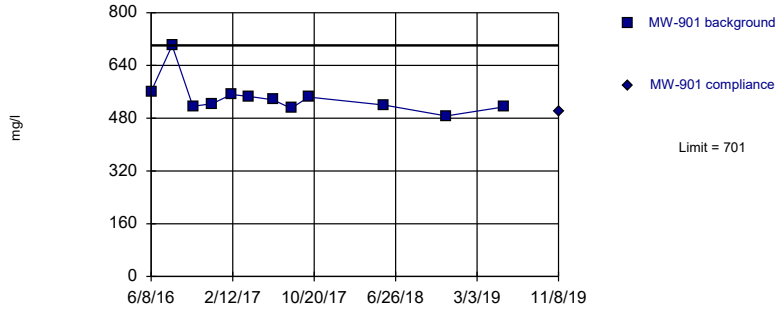
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

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 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 2/21/2020 4:02 PM View: Bottom Ash III

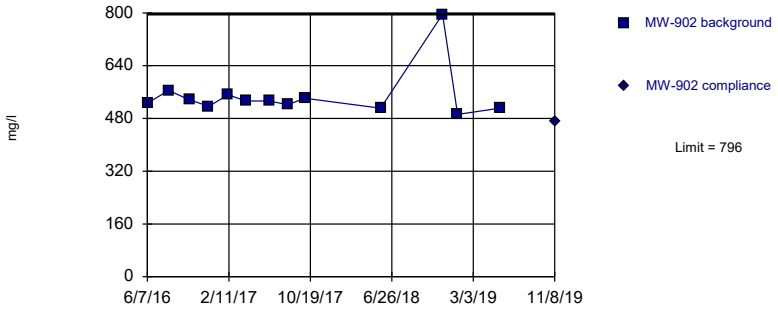
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905	MW-901	MW-901
6/8/2016	25.9						561	
6/9/2016					51.5			
8/11/2016	25.8						701	
8/12/2016					22.4			
10/13/2016	24.8							
10/14/2016					50.7		516	
12/9/2016	24.3				48.6			
12/12/2016							524	
2/8/2017					52.5			
2/9/2017							552	
2/10/2017	26							
4/4/2017	26.7				52.5		546	
5/3/2017			39.6					
5/24/2017			39.1					
6/12/2017			39.5					
6/14/2017					52.7			
6/16/2017	25.7						536	
6/30/2017			38					
7/21/2017			36.7					
8/7/2017			36					
8/9/2017					52.1			
8/10/2017	26.1							
8/11/2017							510	
9/1/2017			35.7					
9/22/2017			36.4					
10/3/2017	26.3				53.6		544	
10/5/2017			34.1					
12/12/2017					52			
5/23/2018	25.6		33.8		51.9		520	
9/17/2018	26.1							
11/29/2018	24.7		33.5		52.4		487	
1/14/2019	24.3							
5/23/2019	24.5		33.4		52		514	
7/17/2019	25.6							
11/8/2019		24.5		32.6		52.8		502

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 13 background values. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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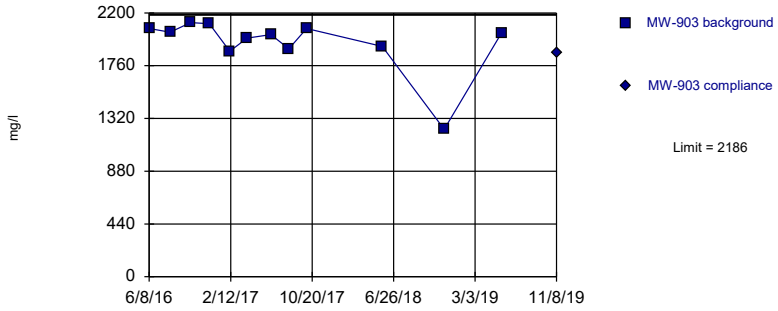
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=1.5e13, Std. Dev.=4.8e12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8075, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

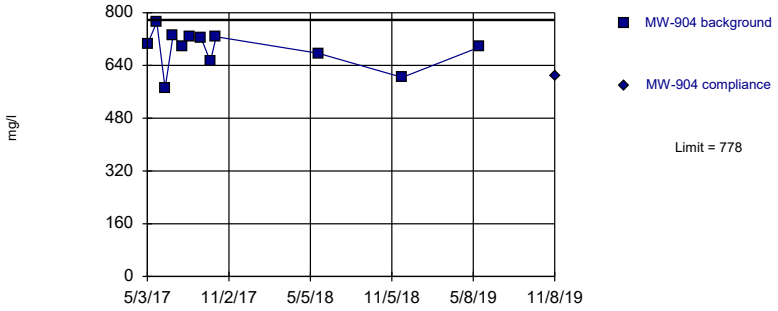
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=690.2, Std. Dev.=56.95, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9135, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

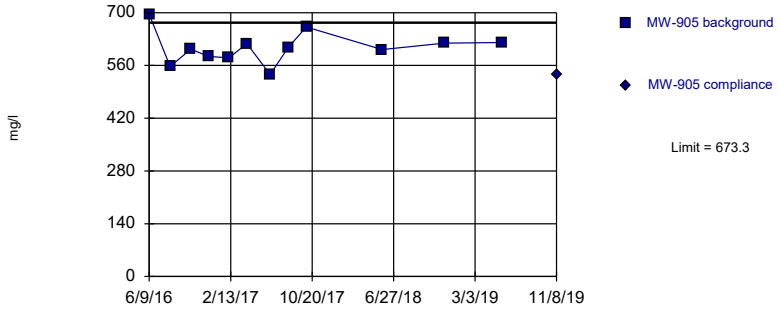
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=607.2, Std. Dev.=42.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9585, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 2/21/2020 4:03 PM View: Bottom Ash III

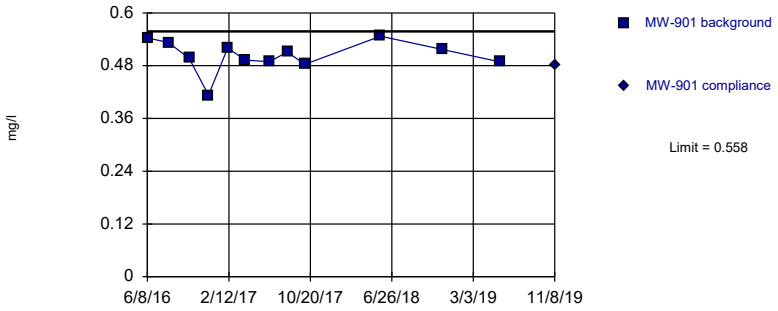
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-902	MW-902	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905
6/7/2016	526							
6/8/2016			2070					
6/9/2016							696	
8/11/2016	565		2040					
8/12/2016							557	
10/13/2016	537		2120					
10/14/2016							603	
12/9/2016			2110				584	
12/12/2016	517							
2/8/2017							580	
2/10/2017	552		1880					
4/4/2017	533		1990				618	
5/3/2017					704			
5/24/2017					771			
6/12/2017					571			
6/14/2017							536	
6/15/2017	533							
6/16/2017			2020					
6/30/2017					732			
7/21/2017					697			
8/7/2017					728			
8/9/2017							608	
8/10/2017			1900					
8/11/2017	522							
9/1/2017					723			
9/22/2017					652			
10/3/2017	541		2070				662	
10/5/2017					727			
5/23/2018	511		1920		677		602	
11/29/2018	796		1230		604		619	
1/14/2019	492							
5/23/2019	511		2030		696		621	
11/8/2019		471		1870		607		537

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5029, Std. Dev.=0.03569, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8824, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

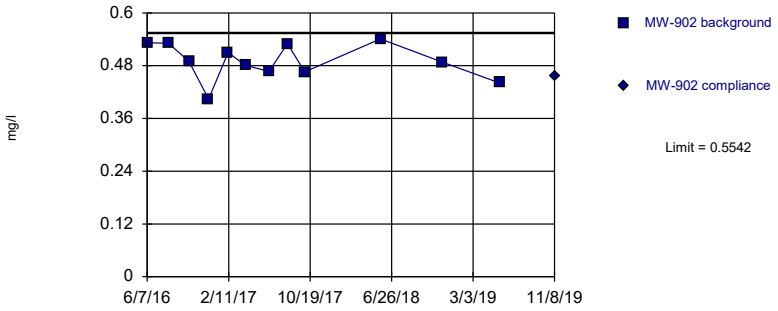
Constituent: FLUORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4901, Std. Dev.=0.0416, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9328, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: FLUORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

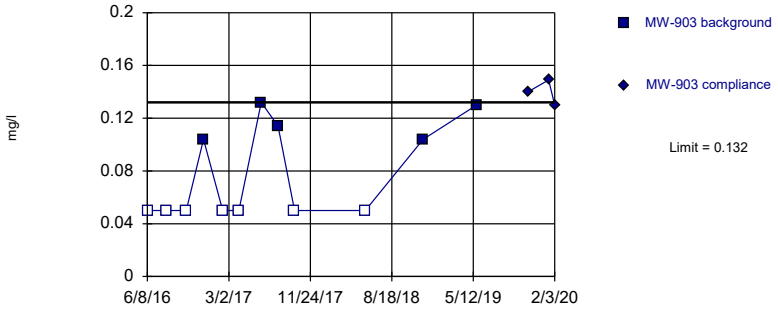
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 58.33% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

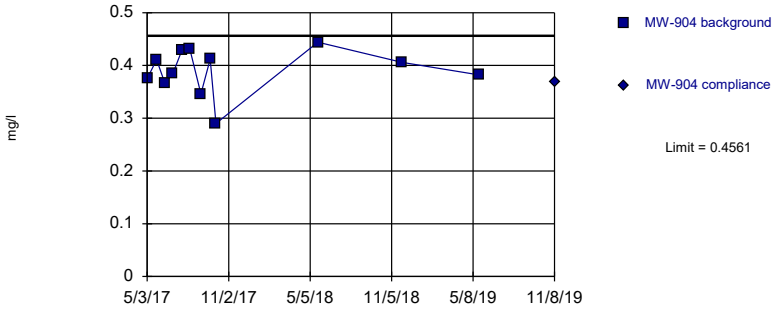
Constituent: FLUORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3899, Std. Dev.=0.04294, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: FLUORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 2/21/2020 4:03 PM View: Bottom Ash III

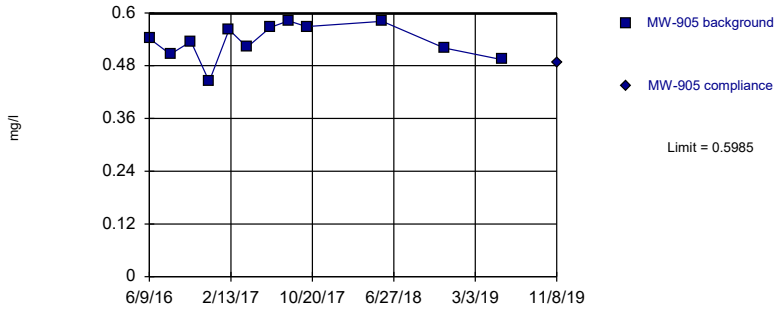
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903	MW-904	MW-904
6/7/2016			0.532					
6/8/2016	0.543				<0.1			
8/11/2016	0.533		0.531		<0.1			
10/13/2016			0.49		<0.1			
10/14/2016	0.497							
12/9/2016					0.104			
12/12/2016	0.413		0.404					
2/9/2017	0.52							
2/10/2017			0.51		<0.1			
4/4/2017	0.493		0.481		<0.1			
5/3/2017							0.375	
5/24/2017							0.411	
6/12/2017							0.366	
6/15/2017			0.467					
6/16/2017	0.489				0.132			
6/30/2017							0.385	
7/21/2017							0.43	
8/7/2017							0.432	
8/10/2017					0.114			
8/11/2017	0.511		0.53					
9/1/2017							0.346	
9/22/2017							0.412	
10/3/2017	0.483		0.466		<0.1			
10/5/2017							0.29	
5/23/2018	0.547		0.541		<0.1		0.444	
11/29/2018	0.517		0.488		0.104		0.406	
5/23/2019	0.489		0.441		0.13		0.382	
11/8/2019		0.481		0.455		0.14		0.369
1/14/2020						0.149	1st Verification	
2/3/2020						0.13	2nd Verification	

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5353, Std. Dev.=0.04099, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9234, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

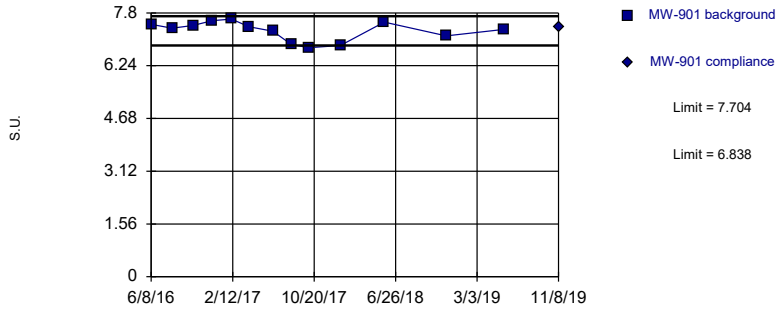
Constituent: FLUORIDE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.271, Std. Dev.=0.286, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8971, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

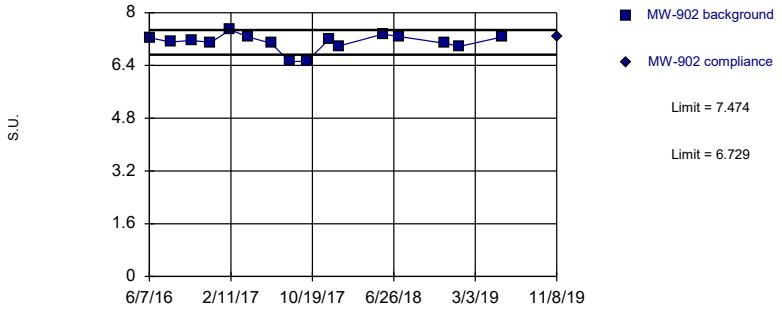
Constituent: pH Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.101, Std. Dev.=0.2606, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8621, critical = 0.844. Kappa = 1.43 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

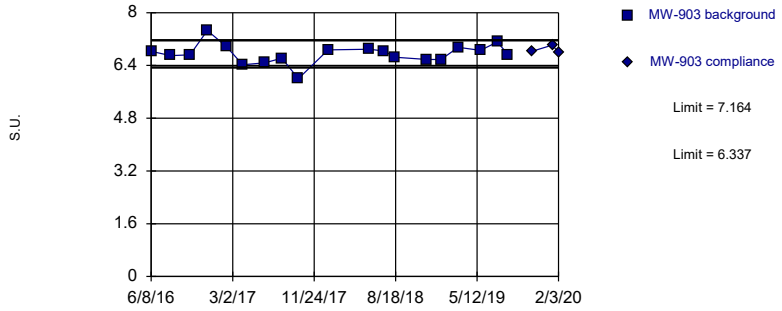
Constituent: pH Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.751, Std. Dev.=0.2996, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.953, critical = 0.863. Kappa = 1.379 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE, pH Analysis Run 2/21/2020 4:03 PM View: Bottom Ash III

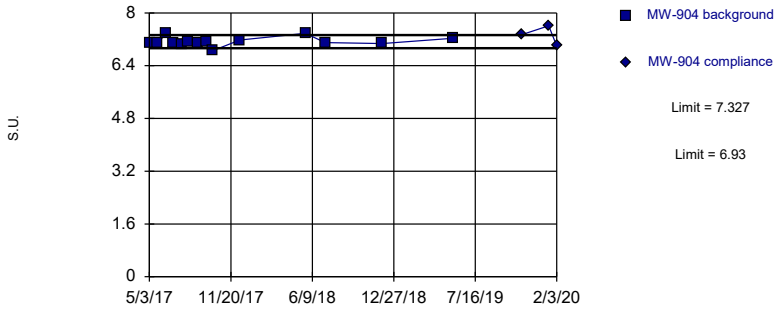
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903	
6/7/2016					7.24				
6/8/2016			7.46				6.83		
6/9/2016	0.542								
8/11/2016			7.35		7.11		6.7		
8/12/2016	0.506								
10/13/2016					7.16		6.72		
10/14/2016	0.535		7.43						
12/9/2016	0.444						7.46		
12/12/2016			7.57		7.1				
2/8/2017	0.562								
2/9/2017			7.62						
2/10/2017					7.48		6.97		
4/4/2017	0.522		7.39		7.27		6.42		
6/14/2017	0.567								
6/15/2017					7.07		6.48		
6/16/2017			7.26						
8/9/2017	0.582								
8/10/2017							6.62		
8/11/2017			6.87		6.52				
10/3/2017	0.569		6.77		6.53		6		
12/12/2017					7.21				
1/9/2018			6.84		6.99		6.87		
5/23/2018	0.581		7.53		7.35		6.89		
7/11/2018					7.28		6.84		
8/16/2018							6.65		
11/29/2018	0.52		7.12		7.07		6.58		
1/14/2019					6.98		6.58		
3/11/2019							6.95		
5/23/2019	0.494		7.31		7.26		6.86		
7/17/2019							7.11		
8/22/2019							6.73		
11/8/2019		0.488		7.37		7.28		6.83	
1/14/2020								7.02	Extra Sample
2/3/2020								6.79	Extra Sample

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.129, Std. Dev.=0.1333, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8727, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

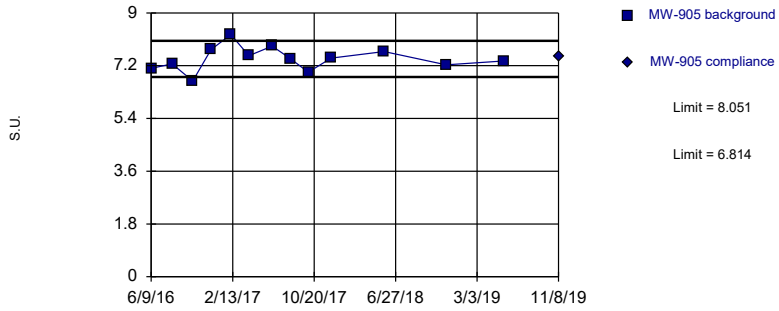
Constituent: pH Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.432, Std. Dev.=0.4084, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9932, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

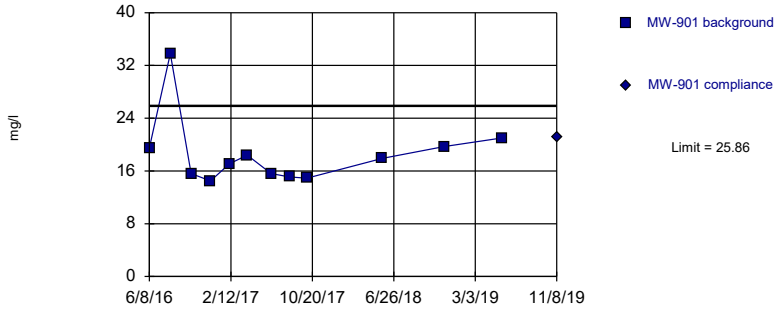
Constituent: pH Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=2.895, Std. Dev.=0.2321, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8078, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

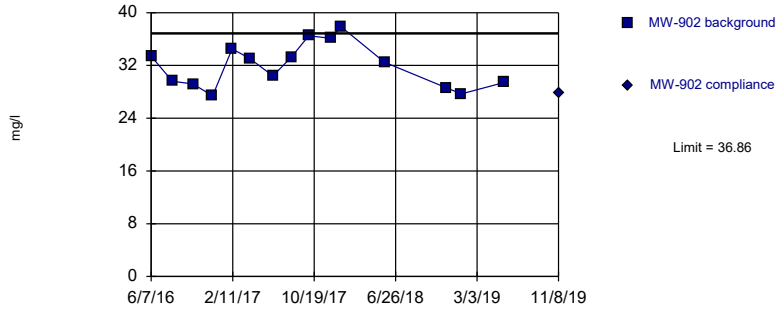
Constituent: SULFATE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.97, Std. Dev.=3.352, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9408, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH, SULFATE Analysis Run 2/21/2020 4:03 PM View: Bottom Ash III

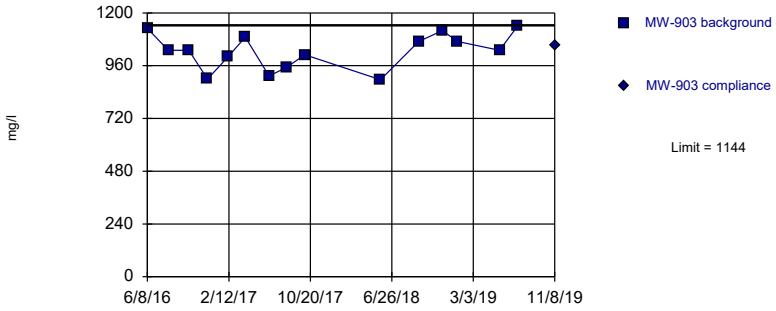
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-904		MW-905	MW-905	MW-901	MW-901	MW-902	MW-902
6/7/2016								33.4	
6/8/2016						19.5			
6/9/2016				7.11					
8/11/2016						33.8		29.6	
8/12/2016				7.26					
10/13/2016								29.2	
10/14/2016				6.68		15.6			
12/9/2016				7.75					
12/12/2016						14.5		27.4	
2/8/2017				8.26					
2/9/2017						17.1			
2/10/2017								34.5	
4/4/2017				7.54		18.4		33.1	
5/3/2017	7.09								
5/24/2017	7.08								
6/12/2017	7.37								
6/14/2017				7.87					
6/15/2017								30.4	
6/16/2017						15.6			
6/30/2017	7.07								
7/21/2017	7.06								
8/7/2017	7.13								
8/9/2017				7.44					
8/11/2017						15.1		33.3	
9/1/2017	7.08								
9/22/2017	7.11								
10/3/2017				6.98		14.9		36.5	
10/5/2017	6.85								
12/12/2017	7.18			7.46				36.1	
1/9/2018								37.9	
5/23/2018	7.38			7.68		17.9		32.5	
7/11/2018	7.1								
11/29/2018	7.07			7.23		19.7		28.6	
1/14/2019								27.7	
5/23/2019	7.23			7.36		21		29.4	
11/8/2019		7.34			7.52		21.2		27.9
1/14/2020		7.61	1st Verification						
2/3/2020		7	2nd Verification						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1025, Std. Dev.=81.32, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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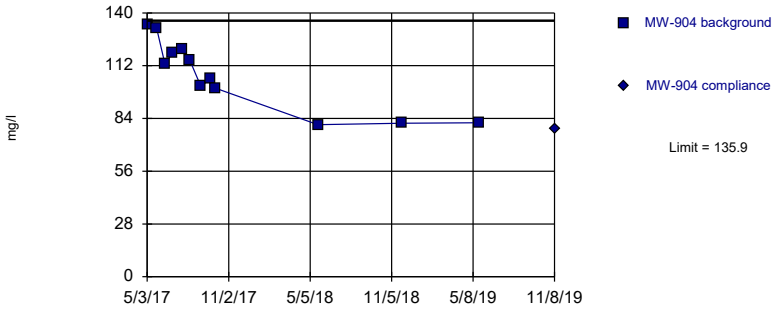
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=107, Std. Dev.=18.74, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9235, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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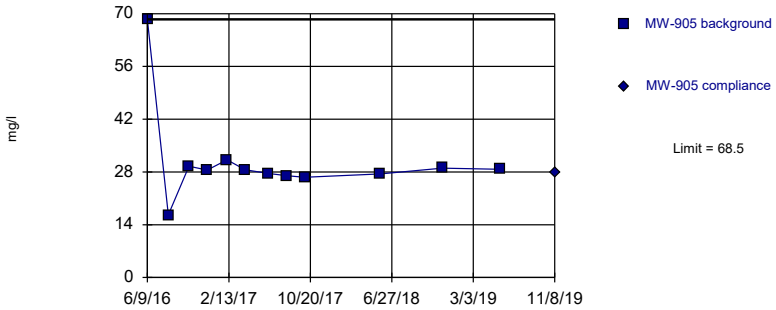
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: SULFATE Analysis Run 2/21/2020 4:01 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 2/21/2020 4:03 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905
6/8/2016	1130					
6/9/2016					68.5	
8/11/2016	1030					
8/12/2016					16.6	
10/13/2016	1030					
10/14/2016					29.5	
12/9/2016	899				28.5	
2/8/2017					31.2	
2/10/2017	1000					
4/4/2017	1090				28.6	
5/3/2017			134			
5/24/2017			132			
6/12/2017			113			
6/14/2017					27.6	
6/16/2017	913					
6/30/2017			119			
7/21/2017			121			
8/7/2017			115			
8/9/2017					27	
8/10/2017	954					
9/1/2017			101			
9/22/2017			105			
10/3/2017	1010				26.6	
10/5/2017			100			
5/23/2018	896		80.7		27.5	
9/17/2018	1070					
11/29/2018	1120		81.5		29	
1/14/2019	1070					
5/23/2019	1030		81.7		28.7	
7/17/2019	1140					
11/8/2019		1050		78.3		27.7

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 2/21/2020, 4:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-901	1.9	n/a	11/8/2019	1.09	No	12	0	n/a	0.002173	NP Intra (normality) ...
BORON (mg/l)	MW-902	1.302	n/a	11/8/2019	1.17	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-903	0.5107	n/a	11/8/2019	0.508	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-904	1.387	n/a	11/8/2019	0.957	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-905	1.972	n/a	11/8/2019	1.77	No	12	0	x^6	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-901	58.95	n/a	11/8/2019	53.4	No	12	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-902	71.27	n/a	11/8/2019	64.3	No	14	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-903	384	n/a	11/8/2019	348	No	19	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-904	84.75	n/a	11/8/2019	65.3	No	12	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-905	56.65	n/a	11/8/2019	46	No	12	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-901	51.5	n/a	11/8/2019	23.2	No	12	0	n/a	0.002173	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-902	34.79	n/a	11/8/2019	32.1	No	13	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-903	26.62	n/a	11/8/2019	24.5	No	15	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-904	39.91	n/a	11/8/2019	32.6	No	12	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-905	53.6	n/a	11/8/2019	52.8	No	13	0	n/a	0.001886	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-901	701	n/a	11/8/2019	502	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-902	796	n/a	11/8/2019	471	No	13	0	n/a	0.001886	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-903	2186	n/a	11/8/2019	1870	No	12	0	x^4	0.00188	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-904	778	n/a	11/8/2019	607	No	12	0	No	0.00188	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-905	673.3	n/a	11/8/2019	537	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-901	0.558	n/a	11/8/2019	0.481	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-902	0.5542	n/a	11/8/2019	0.455	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-903	0.132	n/a	2/3/2020	0.13	No	12	58.33	n/a	0.002173	NP Intra (NDs) 1 of 3
FLUORIDE (mg/l)	MW-904	0.4561	n/a	11/8/2019	0.369	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-905	0.5985	n/a	11/8/2019	0.488	No	12	0	No	0.00188	Param Intra 1 of 3
pH (S.U.)	MW-901	7.704	6.838	11/8/2019	7.37	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-902	7.474	6.729	11/8/2019	7.28	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-903	7.164	6.337	2/3/2020	6.79	No	19	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-904	7.327	6.93	2/3/2020	7	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-905	8.051	6.814	11/8/2019	7.52	No	13	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-901	25.86	n/a	11/8/2019	21.2	No	12	0	ln(x)	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-902	36.86	n/a	11/8/2019	27.9	No	15	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-903	1144	n/a	11/8/2019	1050	No	15	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-904	135.9	n/a	11/8/2019	78.3	No	12	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-905	68.5	n/a	11/8/2019	27.7	No	12	0	n/a	0.002173	NP Intra (normality) ...

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Observations with flags containing the following characters will be deselected: 'i', 'l',

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
  - [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [x] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha...

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia at Alpha = 0.01

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation:

☐ Use Best W Statistic

☐ Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent > 75

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

☐ Optional Further Refinement: Use _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 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 α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 4

Sampling Plan

Comparing Individual Observations

- ( ) 1 of 1
- ( ) 1 of 2
- (●) 1 of 3
- ( ) 1 of 4
- ( ) 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation: _____

Override DF: _____ Override Kappa: _____

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☐ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

- ( ) Highest/Second Highest Background Value
- (●) Most Recent PQL if available, or MDL
- ( ) Most Recent Background Value (subst. method)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- [ ] Use Modified Alpha...
- [ ] 2-Tailed Test Mode...
- [ ] Combine Background Wells on Mann-Whitney...

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [x] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
December 16, 2022

ATTACHMENT 2-2

Spring 2019 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 –
Bottom Ash Impoundment
Spring 2020 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the Bottom Ash 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.

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 results, 1st verification re-sample results (when applicable), 2nd verification re-sample results (when applicable), extra sample results for pH because pH is collected as part of the sampling procedure, and a Prediction Limit summary table. Output documentation includes the analytical data used for the statistical analyses.

Attachment 2: Sanitas™ Configuration Settings:

Screen shots of the applicable Sanitas™ configuration settings for the statistical prediction limit analysis. This includes data configuration, output configuration, prediction limit configuration and other tests configuration.

Revision Number	Revision Date	Attachment Revised	Summary of Revisions

La Cygne Generating Station
Determination of Statistically Significant Increases
Bottom Ash Impoundment
September 28, 2020

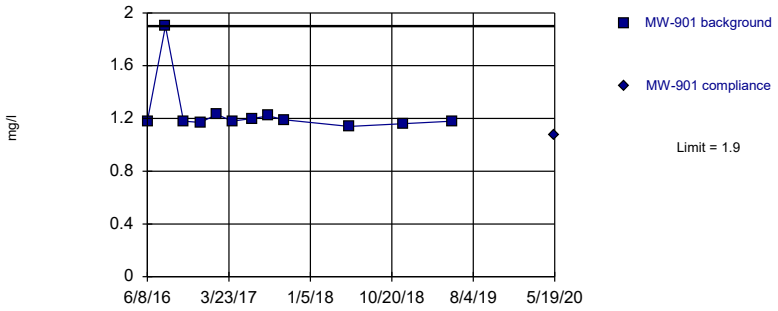
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because 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).

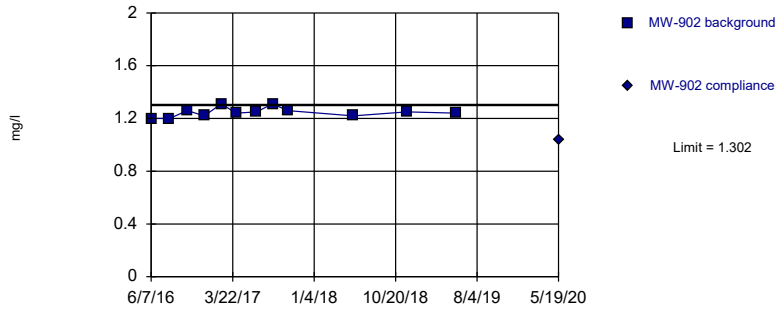
Constituent: BORON Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.247, Std. Dev.=0.03601, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9071, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

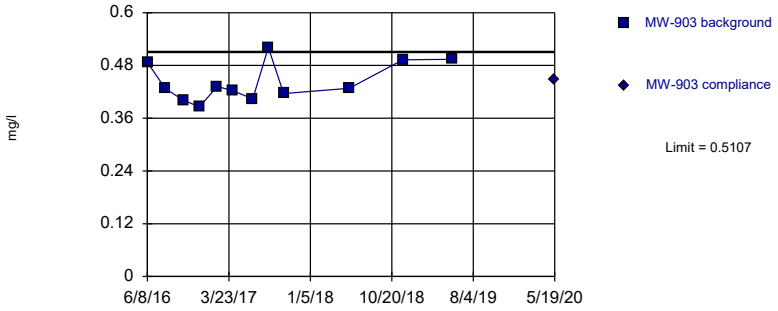
Constituent: BORON Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4427, Std. Dev.=0.04409, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8885, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: BORON Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III
LaCygne Client: SCS Engineers Data: LaC GW Data

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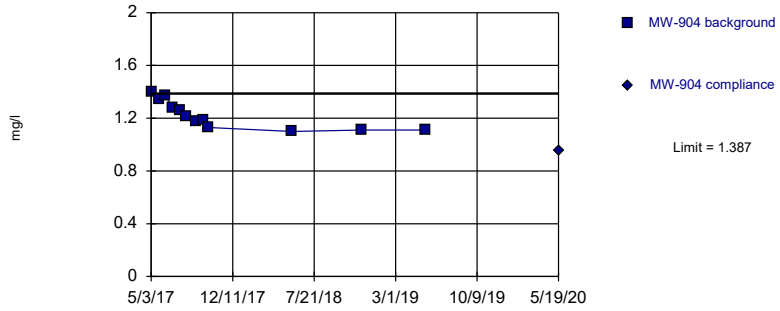
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.223, Std. Dev.=0.106, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9154, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: BORON Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

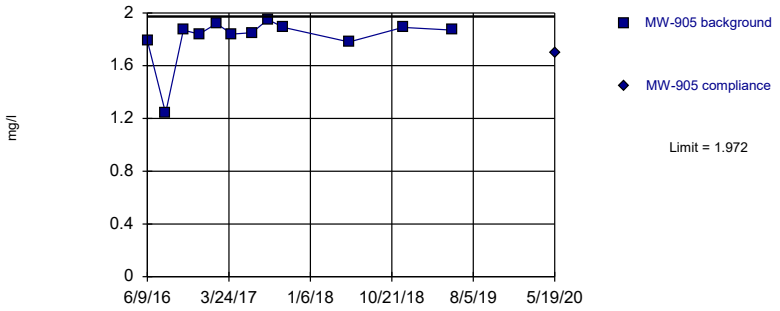
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903	MW-904	MW-904
6/7/2016			1.2					
6/8/2016	1.18				0.487			
8/11/2016	1.9		1.2		0.427			
10/13/2016			1.26		0.401			
10/14/2016	1.18							
12/9/2016					0.386			
12/12/2016	1.17		1.22					
2/9/2017	1.23							
2/10/2017			1.31		0.432			
4/4/2017	1.18		1.24		0.423			
5/3/2017							1.4	
5/24/2017							1.34	
6/12/2017							1.37	
6/15/2017			1.25					
6/16/2017	1.2				0.404			
6/30/2017							1.28	
7/21/2017							1.26	
8/7/2017							1.21	
8/10/2017					0.521			
8/11/2017	1.22		1.31					
9/1/2017							1.18	
9/22/2017							1.19	
10/3/2017	1.19		1.26		0.416			
10/5/2017							1.13	
5/23/2018	1.14		1.22		0.428		1.1	
11/29/2018	1.16		1.25		0.493		1.11	
5/23/2019	1.18		1.24		0.494		1.11	
5/19/2020		1.07		1.04		0.447		0.958

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^6 transformation): Mean=38.98, Std. Dev.=12.91, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.816, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

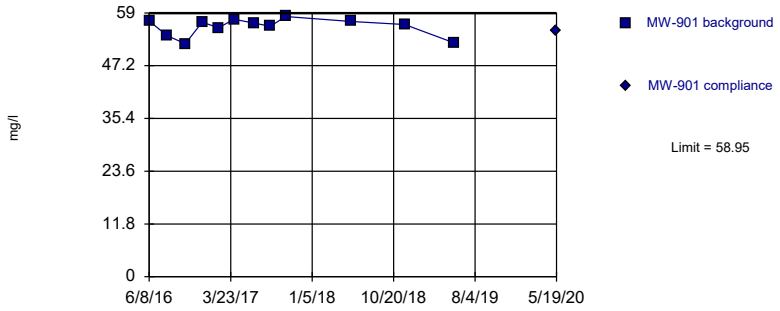
Constituent: BORON Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=55.84, Std. Dev.=2.014, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8591, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

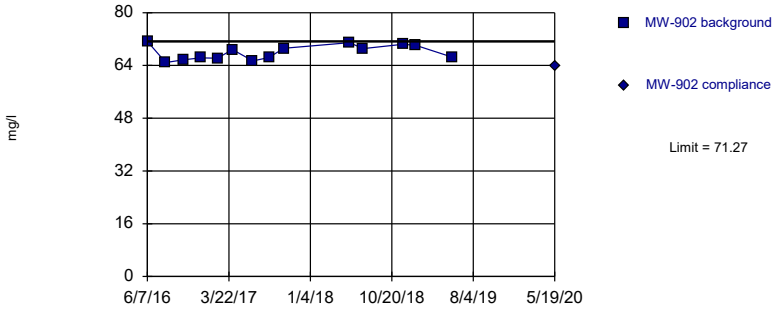
Constituent: CALCIUM Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=67.94, Std. Dev.=2.241, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8973, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

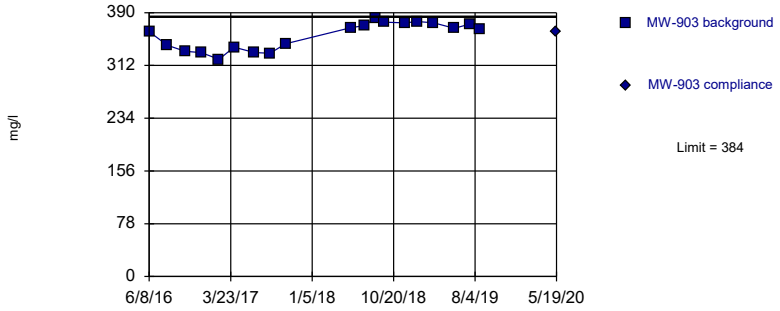
Constituent: CALCIUM Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=355.9, Std. Dev.=20.36, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8713, critical = 0.863. Kappa = 1.379 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BORON, CALCIUM Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

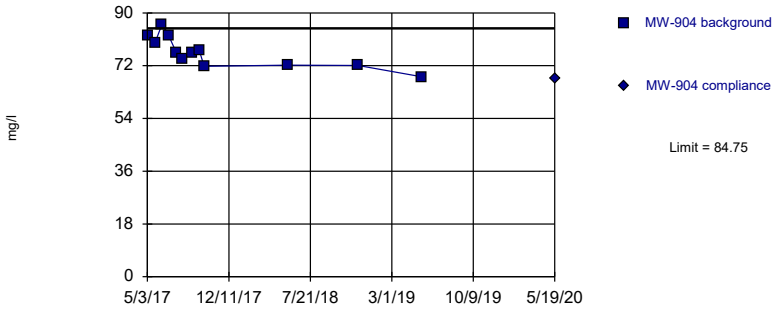
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903
6/7/2016					71.3			
6/8/2016			57.2				362	
6/9/2016	1.79							
8/11/2016			53.9		64.9		342	
8/12/2016	1.24							
10/13/2016					65.7		333	
10/14/2016	1.87		52.1					
12/9/2016	1.84						331	
12/12/2016			56.9		66.3			
2/8/2017	1.92							
2/9/2017			55.7					
2/10/2017					66.2		321	
4/4/2017	1.84		57.6		68.8		339	
6/14/2017	1.85							
6/15/2017					65.4			
6/16/2017			56.7				331	
8/9/2017	1.95							
8/10/2017							330	
8/11/2017			56		66.4			
10/3/2017	1.89		58.2		69.2		344	
5/23/2018	1.78		57.1		70.9		368	
7/11/2018					69.1		371	
8/16/2018							382	
9/17/2018							376	
11/29/2018	1.89		56.4		70.4		375	
1/14/2019					70.1		377	
3/11/2019							375	
5/23/2019	1.87		52.3		66.5		367	
7/17/2019							373	
8/22/2019							366	
5/19/2020		1.7		54.9		64		361

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=76.58, Std. Dev.=5.294, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9663, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

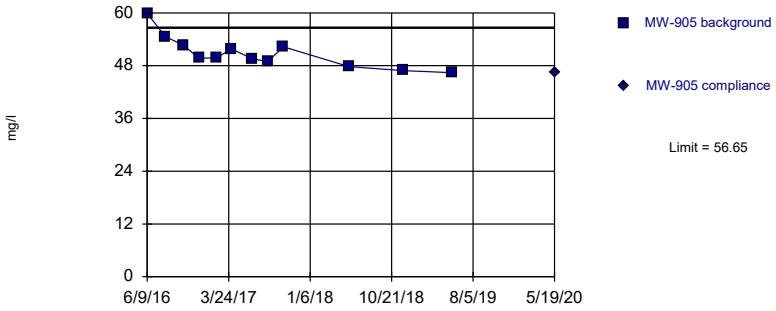
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=50.87, Std. Dev.=3.752, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9061, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CALCIUM Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

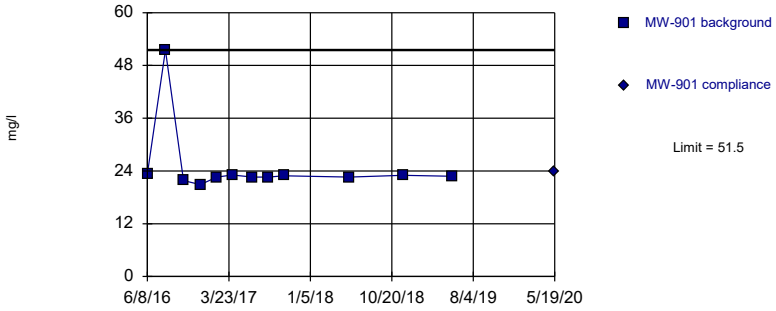
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

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: CHLORIDE Analysis Run 9/9/2020 11:31 PM View: Bottom Ash III

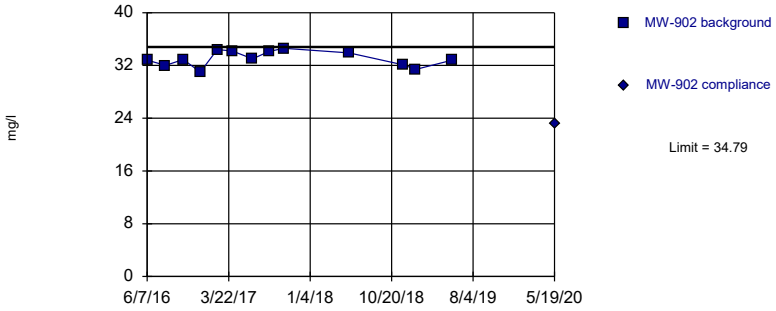
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=33.02, Std. Dev.=1.17, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CALCIUM, CHLORIDE Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

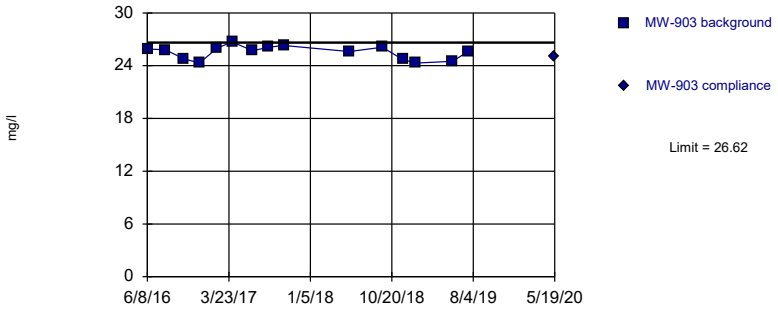
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-904	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902
6/7/2016							32.8	
6/8/2016					23.3			
6/9/2016			59.9					
8/11/2016					51.5		32	
8/12/2016			54.6					
10/13/2016							32.9	
10/14/2016			52.7		21.8			
12/9/2016			49.7					
12/12/2016					20.9		31	
2/8/2017			49.8					
2/9/2017					22.6			
2/10/2017							34.4	
4/4/2017			51.8		23.1		34.2	
5/3/2017	82.4							
5/24/2017	79.8							
6/12/2017	86.2							
6/14/2017			49.6					
6/15/2017							33	
6/16/2017					22.6			
6/30/2017	82.3							
7/21/2017	76.5							
8/7/2017	74.1							
8/9/2017			48.9					
8/11/2017					22.6		34.1	
9/1/2017	76.3							
9/22/2017	77.1							
10/3/2017			52.3		22.9		34.6	
10/5/2017	71.8							
5/23/2018	72.2		47.8		22.6		33.9	
11/29/2018	72.1		46.9		23		32.1	
1/14/2019							31.4	
5/23/2019	68.2		46.4		22.8		32.8	
5/19/2020		67.8		46.4		24		23.2

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=25.49, Std. Dev.=0.7732, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.908, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

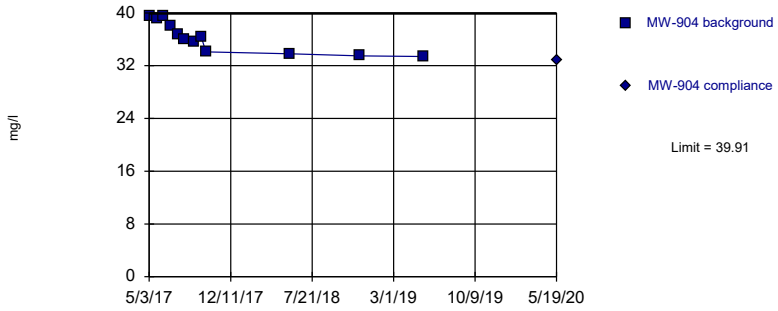
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.32, Std. Dev.=2.332, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9047, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: CHLORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

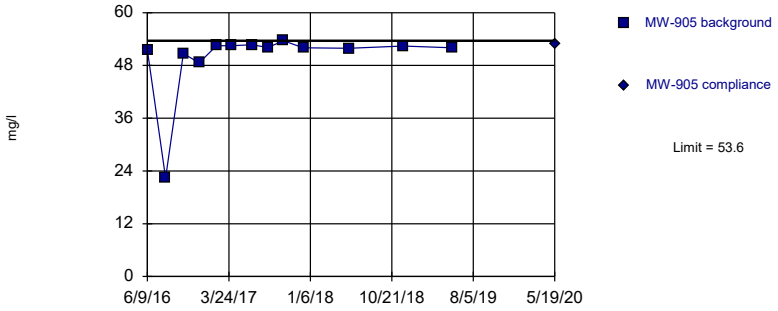
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

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 13 background values. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

Constituent: CHLORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

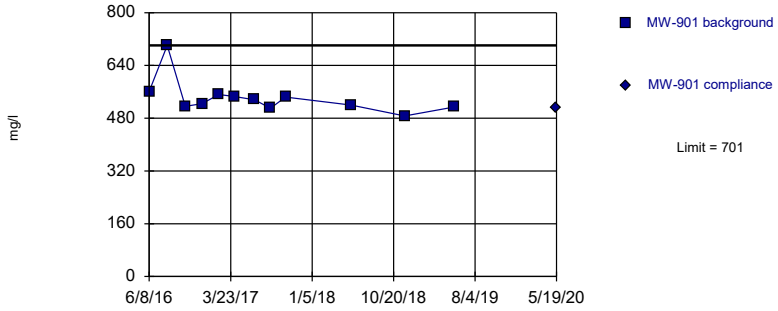
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

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 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CHLORIDE, DISSOLVED SOLIDS Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

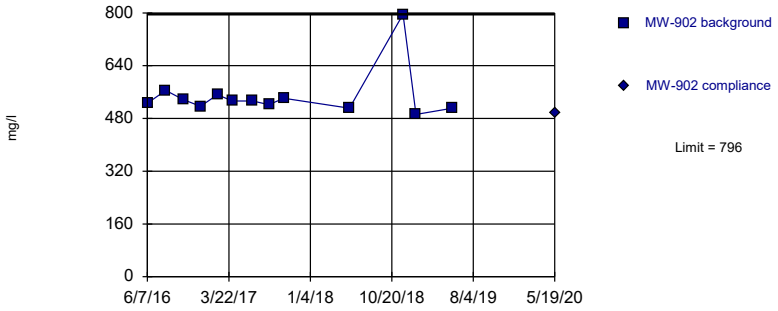
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905	MW-901	MW-901
6/8/2016	25.9						561	
6/9/2016					51.5			
8/11/2016	25.8						701	
8/12/2016					22.4			
10/13/2016	24.8							
10/14/2016					50.7		516	
12/9/2016	24.3				48.6			
12/12/2016							524	
2/8/2017					52.5			
2/9/2017							552	
2/10/2017	26							
4/4/2017	26.7				52.5		546	
5/3/2017			39.6					
5/24/2017			39.1					
6/12/2017			39.5					
6/14/2017					52.7			
6/16/2017	25.7						536	
6/30/2017			38					
7/21/2017			36.7					
8/7/2017			36					
8/9/2017					52.1			
8/10/2017	26.1							
8/11/2017							510	
9/1/2017			35.7					
9/22/2017			36.4					
10/3/2017	26.3				53.6		544	
10/5/2017			34.1					
12/12/2017					52			
5/23/2018	25.6		33.8		51.9		520	
9/17/2018	26.1							
11/29/2018	24.7		33.5		52.4		487	
1/14/2019	24.3							
5/23/2019	24.5		33.4		52		514	
7/17/2019	25.6							
5/19/2020		25		32.9		52.8		513

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 13 background values. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

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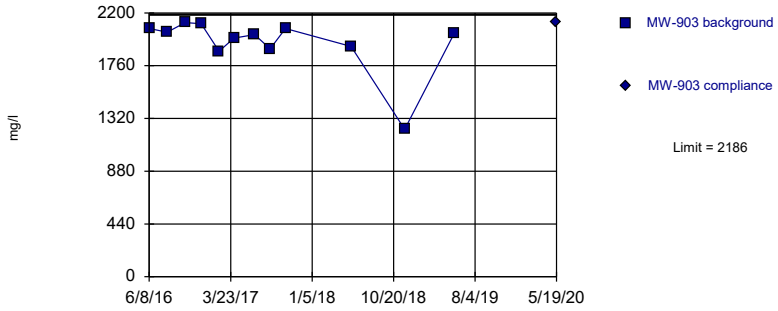
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=1.5e13, Std. Dev.=4.8e12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8075, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

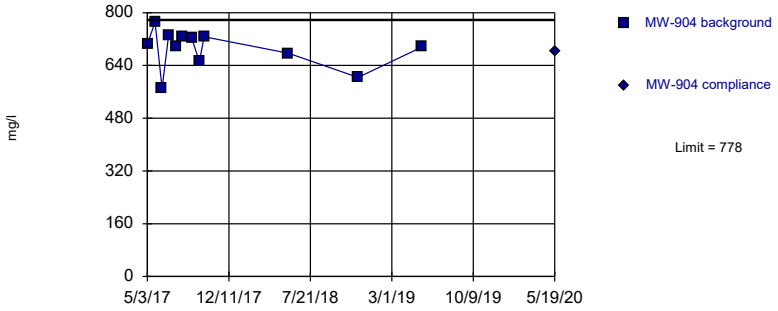
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=690.2, Std. Dev.=56.95, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9135, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

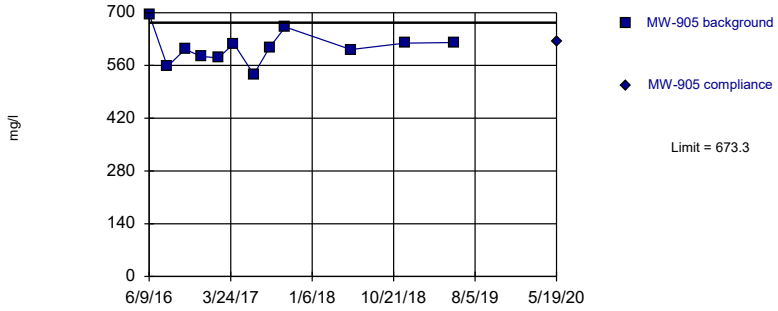
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=607.2, Std. Dev.=42.9, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9585, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: DISSOLVED SOLIDS Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

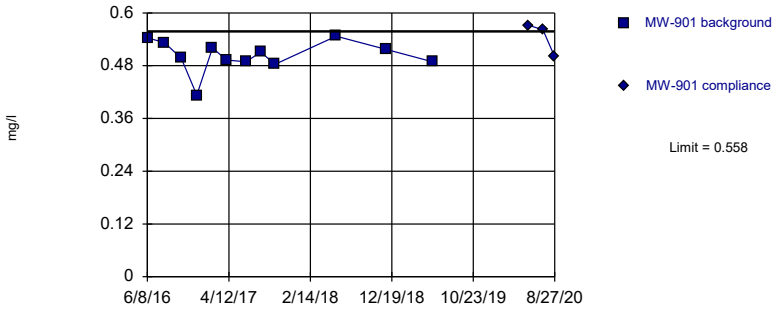
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-902	MW-902	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905
6/7/2016	526							
6/8/2016			2070					
6/9/2016							696	
8/11/2016	565		2040					
8/12/2016							557	
10/13/2016	537		2120					
10/14/2016							603	
12/9/2016			2110				584	
12/12/2016	517							
2/8/2017							580	
2/10/2017	552		1880					
4/4/2017	533		1990				618	
5/3/2017					704			
5/24/2017					771			
6/12/2017					571			
6/14/2017							536	
6/15/2017	533							
6/16/2017			2020					
6/30/2017					732			
7/21/2017					697			
8/7/2017					728			
8/9/2017							608	
8/10/2017			1900					
8/11/2017	522							
9/1/2017					723			
9/22/2017					652			
10/3/2017	541		2070				662	
10/5/2017					727			
5/23/2018	511		1920		677		602	
11/29/2018	796		1230		604		619	
1/14/2019	492							
5/23/2019	511		2030		696		621	
5/19/2020		495		2120		684		624

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5029, Std. Dev.=0.03569, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8824, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

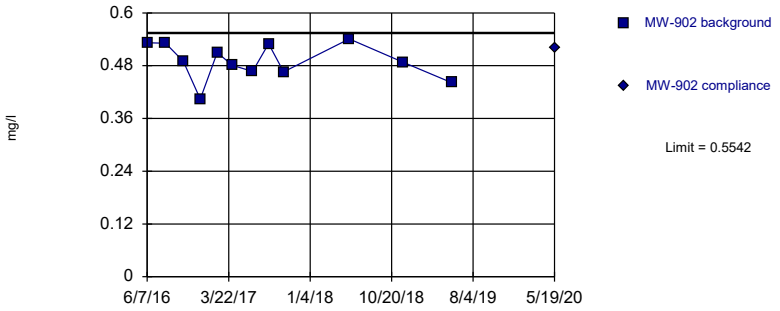
Constituent: FLUORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.4901, Std. Dev.=0.0416, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9328, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: FLUORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

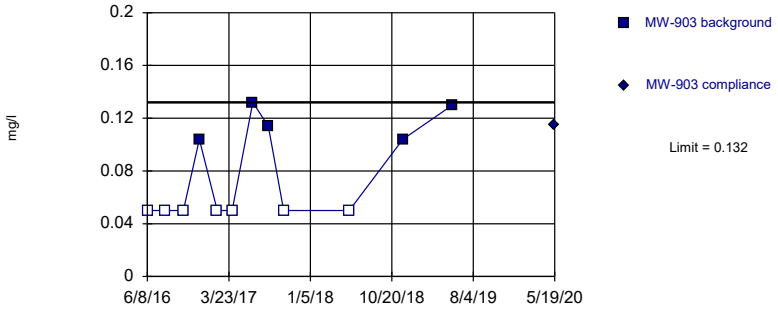
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 58.33% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

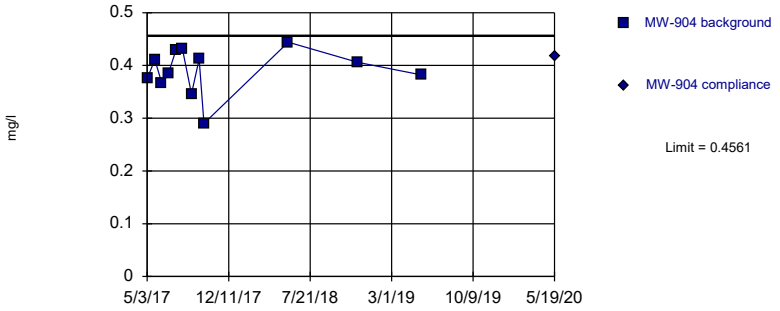
Constituent: FLUORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3899, Std. Dev.=0.04294, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: FLUORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 9/9/2020 11:33 PM View: Bottom Ash III

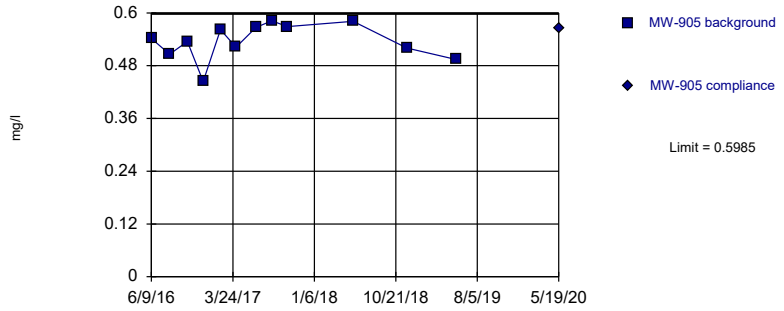
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-901		MW-902	MW-902	MW-903	MW-903	MW-904	MW-904
6/7/2016				0.532					
6/8/2016	0.543					<0.1			
8/11/2016	0.533			0.531		<0.1			
10/13/2016				0.49		<0.1			
10/14/2016	0.497								
12/9/2016						0.104			
12/12/2016	0.413			0.404					
2/9/2017	0.52								
2/10/2017				0.51		<0.1			
4/4/2017	0.493			0.481		<0.1			
5/3/2017								0.375	
5/24/2017								0.411	
6/12/2017								0.366	
6/15/2017				0.467					
6/16/2017	0.489					0.132			
6/30/2017								0.385	
7/21/2017								0.43	
8/7/2017								0.432	
8/10/2017						0.114			
8/11/2017	0.511			0.53					
9/1/2017								0.346	
9/22/2017								0.412	
10/3/2017	0.483			0.466		<0.1			
10/5/2017								0.29	
5/23/2018	0.547			0.541		<0.1		0.444	
11/29/2018	0.517			0.488		0.104		0.406	
5/23/2019	0.489			0.441		0.13		0.382	
5/19/2020		0.572			0.521		0.115		0.418
7/13/2020		0.562	1st Verification Sample						
8/27/2020		0.5	2nd Verification Sample						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.5353, Std. Dev.=0.04099, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9234, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

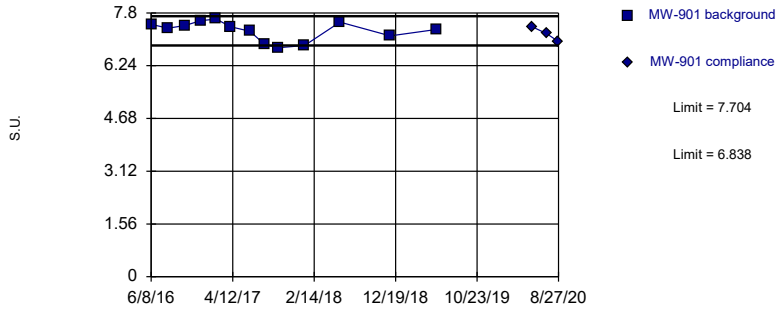
Constituent: FLUORIDE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.271, Std. Dev.=0.286, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8971, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

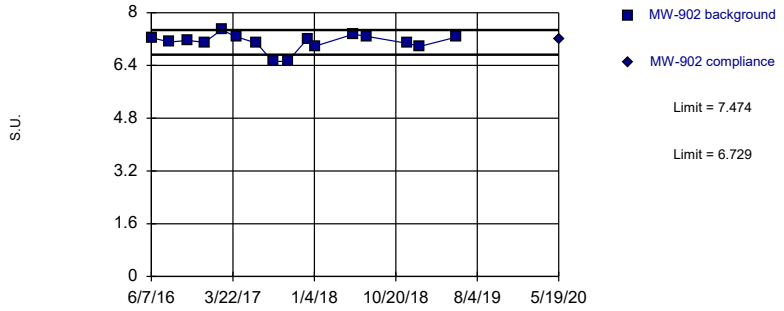
Constituent: pH Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.101, Std. Dev.=0.2606, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8621, critical = 0.844. Kappa = 1.43 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

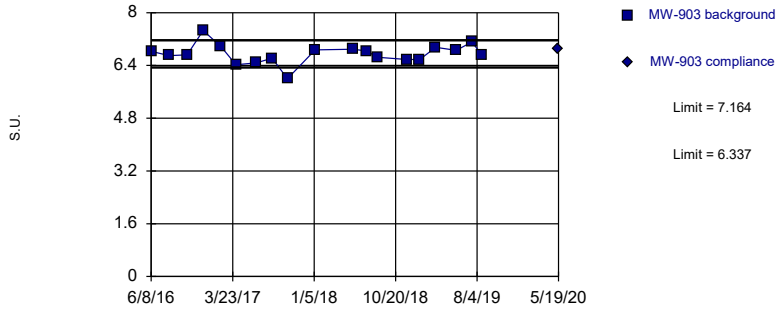
Constituent: pH Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.751, Std. Dev.=0.2996, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.953, critical = 0.863. Kappa = 1.379 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: pH Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE, pH Analysis Run 9/9/2020 11:34 PM View: Bottom Ash III

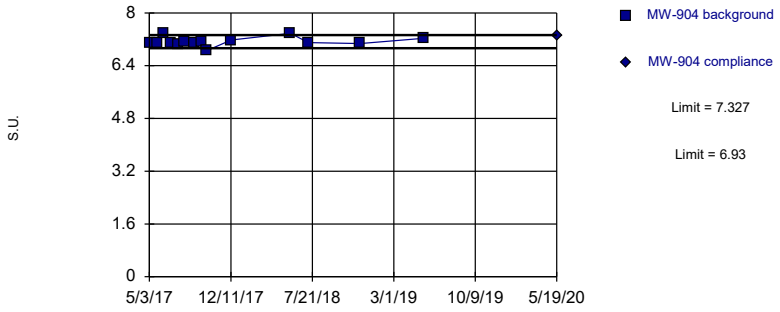
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902	MW-903	MW-903
6/7/2016					7.24			
6/8/2016			7.46				6.83	
6/9/2016	0.542							
8/11/2016			7.35		7.11		6.7	
8/12/2016	0.506							
10/13/2016					7.16		6.72	
10/14/2016	0.535		7.43					
12/9/2016	0.444						7.46	
12/12/2016			7.57		7.1			
2/8/2017	0.562							
2/9/2017			7.62					
2/10/2017					7.48		6.97	
4/4/2017	0.522		7.39		7.27		6.42	
6/14/2017	0.567							
6/15/2017					7.07		6.48	
6/16/2017			7.26					
8/9/2017	0.582							
8/10/2017							6.62	
8/11/2017			6.87		6.52			
10/3/2017	0.569		6.77		6.53		6	
12/12/2017					7.21			
1/9/2018			6.84		6.99		6.87	
5/23/2018	0.581		7.53		7.35		6.89	
7/11/2018					7.28		6.84	
8/16/2018							6.65	
11/29/2018	0.52		7.12		7.07		6.58	
1/14/2019					6.98		6.58	
3/11/2019							6.95	
5/23/2019	0.494		7.31		7.26		6.86	
7/17/2019							7.11	
8/22/2019							6.73	
5/19/2020		0.565		7.39		7.2		6.91
7/13/2020				7.19 Extra Sample				
8/27/2020				6.95 Extra Sample				

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.129, Std. Dev.=0.1333, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8727, critical = 0.825. Kappa = 1.486 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

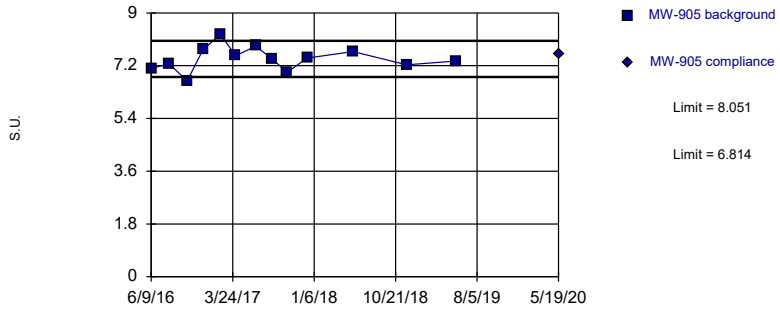
Constituent: pH Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.432, Std. Dev.=0.4084, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9932, critical = 0.814. Kappa = 1.514 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

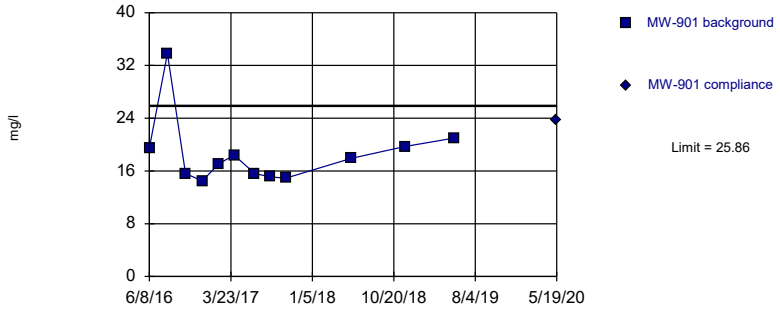
Constituent: pH Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=2.895, Std. Dev.=0.2321, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8078, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

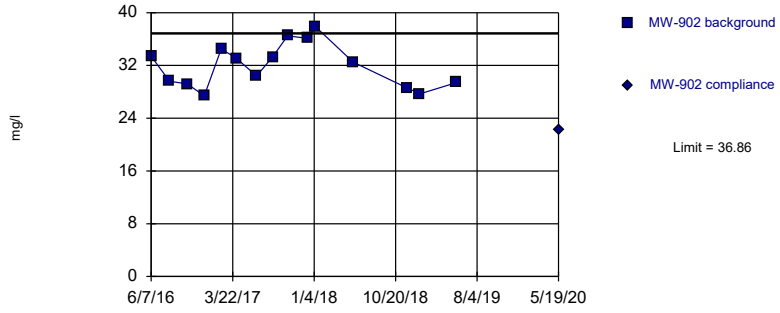
Constituent: SULFATE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=31.97, Std. Dev.=3.352, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9408, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: pH, SULFATE Analysis Run 9/9/2020 11:34 PM View: Bottom Ash III

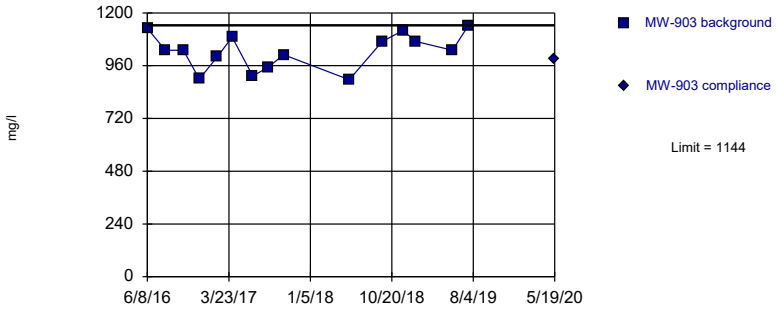
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-904	MW-905	MW-905	MW-901	MW-901	MW-902	MW-902
6/7/2016							33.4	
6/8/2016					19.5			
6/9/2016			7.11					
8/11/2016					33.8		29.6	
8/12/2016			7.26					
10/13/2016							29.2	
10/14/2016			6.68		15.6			
12/9/2016			7.75					
12/12/2016					14.5		27.4	
2/8/2017			8.26					
2/9/2017					17.1			
2/10/2017							34.5	
4/4/2017			7.54		18.4		33.1	
5/3/2017	7.09							
5/24/2017	7.08							
6/12/2017	7.37							
6/14/2017			7.87					
6/15/2017							30.4	
6/16/2017					15.6			
6/30/2017	7.07							
7/21/2017	7.06							
8/7/2017	7.13							
8/9/2017			7.44					
8/11/2017					15.1		33.3	
9/1/2017	7.08							
9/22/2017	7.11							
10/3/2017			6.98		14.9		36.5	
10/5/2017	6.85							
12/12/2017	7.18		7.46				36.1	
1/9/2018							37.9	
5/23/2018	7.38		7.68		17.9		32.5	
7/11/2018	7.1							
11/29/2018	7.07		7.23		19.7		28.6	
1/14/2019							27.7	
5/23/2019	7.23		7.36		21		29.4	
5/19/2020		7.31		7.61		23.7		22.3

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1025, Std. Dev.=81.32, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.835. Kappa = 1.458 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

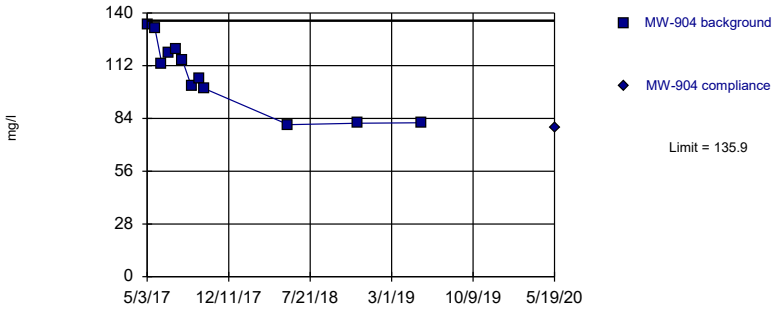
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=107, Std. Dev.=18.74, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9235, critical = 0.805. Kappa = 1.542 (c=7, w=4, 1 of 3, event alpha = 0.05132). Report alpha = 0.00188.

Constituent: SULFATE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

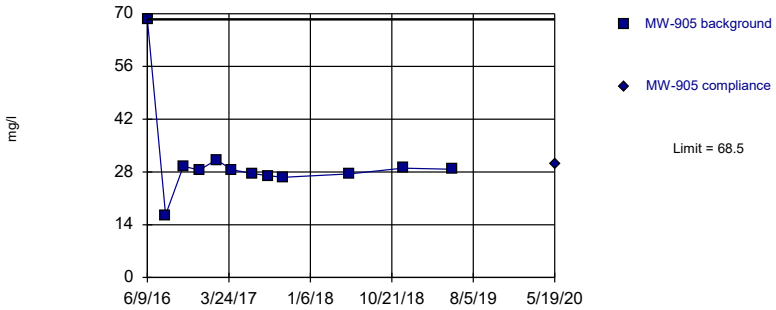
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. UG

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: SULFATE Analysis Run 9/9/2020 11:32 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SULFATE Analysis Run 9/9/2020 11:34 PM View: Bottom Ash III

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-903	MW-904	MW-904	MW-905	MW-905
6/8/2016	1130					
6/9/2016					68.5	
8/11/2016	1030					
8/12/2016					16.6	
10/13/2016	1030					
10/14/2016					29.5	
12/9/2016	899				28.5	
2/8/2017					31.2	
2/10/2017	1000					
4/4/2017	1090				28.6	
5/3/2017			134			
5/24/2017			132			
6/12/2017			113			
6/14/2017					27.6	
6/16/2017	913					
6/30/2017			119			
7/21/2017			121			
8/7/2017			115			
8/9/2017					27	
8/10/2017	954					
9/1/2017			101			
9/22/2017			105			
10/3/2017	1010				26.6	
10/5/2017			100			
5/23/2018	896		80.7		27.5	
9/17/2018	1070					
11/29/2018	1120		81.5		29	
1/14/2019	1070					
5/23/2019	1030		81.7		28.7	
7/17/2019	1140					
5/19/2020		993		78.8		30.2

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 9/9/2020, 11:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
BORON (mg/l)	MW-901	1.9	n/a	5/19/2020	1.07	No	12	0	n/a	0.002173	NP Intra (normality) ...
BORON (mg/l)	MW-902	1.302	n/a	5/19/2020	1.04	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-903	0.5107	n/a	5/19/2020	0.447	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-904	1.387	n/a	5/19/2020	0.958	No	12	0	No	0.00188	Param Intra 1 of 3
BORON (mg/l)	MW-905	1.972	n/a	5/19/2020	1.7	No	12	0	x^6	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-901	58.95	n/a	5/19/2020	54.9	No	12	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-902	71.27	n/a	5/19/2020	64	No	14	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-903	384	n/a	5/19/2020	361	No	19	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-904	84.75	n/a	5/19/2020	67.8	No	12	0	No	0.00188	Param Intra 1 of 3
CALCIUM (mg/l)	MW-905	56.65	n/a	5/19/2020	46.4	No	12	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-901	51.5	n/a	5/19/2020	24	No	12	0	n/a	0.002173	NP Intra (normality) ...
CHLORIDE (mg/l)	MW-902	34.79	n/a	5/19/2020	23.2	No	13	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-903	26.62	n/a	5/19/2020	25	No	15	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-904	39.91	n/a	5/19/2020	32.9	No	12	0	No	0.00188	Param Intra 1 of 3
CHLORIDE (mg/l)	MW-905	53.6	n/a	5/19/2020	52.8	No	13	0	n/a	0.001886	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-901	701	n/a	5/19/2020	513	No	12	0	n/a	0.002173	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-902	796	n/a	5/19/2020	495	No	13	0	n/a	0.001886	NP Intra (normality) ...
DISSOLVED SOLIDS (mg/l)	MW-903	2186	n/a	5/19/2020	2120	No	12	0	x^4	0.00188	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-904	778	n/a	5/19/2020	684	No	12	0	No	0.00188	Param Intra 1 of 3
DISSOLVED SOLIDS (mg/l)	MW-905	673.3	n/a	5/19/2020	624	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-901	0.558	n/a	8/27/2020	0.5	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-902	0.5542	n/a	5/19/2020	0.521	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-903	0.132	n/a	5/19/2020	0.115	No	12	58.33	n/a	0.002173	NP Intra (NDs) 1 of 3
FLUORIDE (mg/l)	MW-904	0.4561	n/a	5/19/2020	0.418	No	12	0	No	0.00188	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-905	0.5985	n/a	5/19/2020	0.565	No	12	0	No	0.00188	Param Intra 1 of 3
pH (S.U.)	MW-901	7.704	6.838	8/27/2020	6.95	No	13	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-902	7.474	6.729	5/19/2020	7.2	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-903	7.164	6.337	5/19/2020	6.91	No	19	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-904	7.327	6.93	5/19/2020	7.31	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	MW-905	8.051	6.814	5/19/2020	7.61	No	13	0	No	0.000...	Param Intra 1 of 3
SULFATE (mg/l)	MW-901	25.86	n/a	5/19/2020	23.7	No	12	0	ln(x)	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-902	36.86	n/a	5/19/2020	22.3	No	15	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-903	1144	n/a	5/19/2020	993	No	15	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-904	135.9	n/a	5/19/2020	78.8	No	12	0	No	0.00188	Param Intra 1 of 3
SULFATE (mg/l)	MW-905	68.5	n/a	5/19/2020	30.2	No	12	0	n/a	0.002173	NP Intra (normality) ...

ATTACHMENT 2

Sanitas™ Configuration Settings

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Exclude data flags: i

Observations with flags containing the following characters will be deselected: 'i', 'l',

Data Reading Options

- (•) Individual Observations
- ( ) Mean of Each: ( ) Month
- ( ) Median of Each: ( ) Season

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

- [ ] Black and White Output
- [x] Four Plots Per Page
  - [x] Always Combine Data Pages...
  - [x] Include Tick Marks on Data Page
  - [ ] Use Constituent Name for Graph Title
- [ ] Draw Border Around Text Reports and Data Pages
- [x] Enlarge/Reduce Fonts (Graphs): 100%
- [x] Enlarge/Reduce Fonts (Data/Text Reports): 100%
- [x] Wide Margins (on reports without explicit setting)
- [ ] Use CAS# (Not Const. Name)
- [ ] Truncate File Names to 20 Characters
- [ ] Include Limit Lines when found in Database...
- [x] Show Deselected Data on Time Series Lighter
- [ ] Show Deselected Data on all Data Pages Lighter

Setup Symbols and Colors...

- [x] Prompt to Overwrite/Append Summary Tables
- [ ] Round Limits to 2 Sig. Digits (when not set in data file)
- [ ] User-Set Scale
- [x] Indicate Background Data
- [ ] Show Exact Dates
- [ ] Thick Plot Lines

Zoom Factor: 200%

Output Decimal Precision

- ( ) Less Precision
- (•) Normal Precision
- ( ) More Precision

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☐ Use Modified Alpha...

☑ Test Residuals For Normality (Parametric test only) using Shapiro-Wilk/Francia at Alpha = 0.01

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

- ◉ Use Ladder of Powers
- ○ Natural Log or No Transformation
- ○ Never Transform
- ○ Use Specific Transformation:

☐ Use Best W Statistic

☐ Plot Transformed Values

Use Non-Parametric Test (Sen's Slope/Mann-Kendall) when Non-Detects Percent > 75

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

Note: there is no "Always Use Non-Parametric" checkbox on this tab because, for consistency with prior versions, Sen's Slope / Mann-Kendall (the non-parametric alternative) is available as a report in its own right, under Analysis->Intrawell->Trend.

Data | Output | Trend Test | Control Cht | **Prediction Lim** | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

☑ Test for Normality using Shapiro-Wilk/Francia at Alpha = 0.01

☑ Use Non-Parametric Test when Non-Detects Percent > 50

Use Aitchison's Adjustment when Non-Detects Percent > 15

☐ Optional Further Refinement: Use _____ when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 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 α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 4

Sampling Plan

Comparing Individual Observations

- ( ) 1 of 1
- ( ) 1 of 2
- (●) 1 of 3
- ( ) 1 of 4
- ( ) 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation: _____

Override DF: _____ Override Kappa: _____

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☐ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

- ( ) Highest/Second Highest Background Value
- (●) Most Recent PQL if available, or MDL
- ( ) Most Recent Background Value (subst. method)

Data | Output | Trend Test | Control Cht | Prediction Lim | Tolerance Lim | Conf/Tol Int | ANOVA | Welchs | Other Tests

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

- [ ] Use Modified Alpha...
- [ ] 2-Tailed Test Mode...
- [ ] Combine Background Wells on Mann-Whitney...

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat
- [x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1
  - (•) Stop if Non-Normal
  - ( ) Continue with Parametric Test if Non-Normal
  - ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [x] Use Ladder of Powers to achieve Best W Stat
- [x] No Outlier If Less Than 3.0 Times Median
- [ ] Apply Rules found in Ohio Guidance Document 0715
- [ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit
- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
December 16, 2022

ATTACHMENT 2-3

Determination of Appendix IV Groundwater Protection Standards

TABLE 1
Summary of Detected CCR Appendix IV Constituents and Corresponding GWPS Values
Bottom Ash Impoundment
La Cygne Generating Station
Evergy

Well Number	Sample Date	Detected Appendix IV Constituents									
		Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Molybdenum (mg/L)	Radium Combined (pCi/L)
MCL		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015***	**NA**	**NA**	**5**
40 CFR 257.95(h) RSL		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.015***	**0.040**	**0.100**	**NA**
MW-901 Background Data											
MW-901	6/8/2016	0.00251	<0.002	0.167	<0.002	<0.002	0.543	<0.002	0.0819	<0.005	2.14
MW-901	8/11/2016	<0.002	0.00237	0.0987	<0.002	<0.002	0.533	<0.002	0.0636	0.00716	2.191
MW-901	10/14/2016	<0.002	<0.002	0.155	<0.002	<0.002	0.497	<0.002	0.0865	<0.005	0.407
MW-901	12/12/2016	<0.002	<0.002	0.195	<0.002	<0.002	0.413	<0.002	0.0443	<0.005	0.932
MW-901	2/9/2017	<0.002	<0.002	0.186	<0.002	<0.002	0.520	<0.002	0.0548	<0.005	0.986
MW-901	4/4/2017	<0.002	<0.002	0.192	<0.002	<0.002	0.493	<0.002	0.0521	<0.005	0.639
MW-901	6/16/2017	<0.002	<0.002	0.193	<0.002	<0.002	0.489	<0.002	0.0586	<0.005	1.63
MW-901	8/11/2017	<0.002	<0.002	0.182	<0.002	<0.002	0.511	<0.002	0.0567	<0.005	0.641
MW-901	10/3/2017	<0.002	<0.002	0.192	<0.002	<0.002	0.483	<0.002	0.0519	<0.005	1.17
MW-901 PL/BG		**0.00251**	**0.00237**	**0.225**	**0.002**	**0.002**	**0.570**	**0.002**	**0.0912**	**0.00716**	**2.58**
GWPS		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015**	**0.0912**	**0.100**	**5**
MW-901	**5/19/2020**	**<0.004**	**<0.002**	**0.165**	**<0.01**	**<0.002****	**0.572**	**<0.005**	**0.0604**	**<0.005**	**1.90**

TABLE 1
Summary of Detected CCR Appendix IV Constituents and Corresponding GWPS Values
Bottom Ash Impoundment
La Cygne Generating Station
Evergy

Well Number	Sample Date	Detected Appendix IV Constituents									
		Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Molybdenum (mg/L)	Radium Combined (pCi/L)
MCL		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015***	**NA**	**NA**	**5**
40 CFR 257.95(h) RSL		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.015***	**0.040**	**0.100**	**NA**
MW-902 Background Data											
MW-902	6/7/2016	<0.002	<0.002	0.119	<0.002	<0.002	0.532	<0.002	0.0412	<0.005	2.71
MW-902	8/11/2016	<0.002	<0.002	0.118	<0.002	<0.002	0.531	<0.002	0.0353	<0.005	1.458
MW-902	10/13/2016	<0.002	<0.002	0.106	<0.002	<0.002	0.490	<0.002	0.0386	<0.005	0.320
MW-902	12/12/2016	<0.002	<0.002	0.111	<0.002	<0.002	0.404	<0.002	0.0326	<0.005	0.168
MW-902	2/10/2017	<0.002	<0.002	0.112	<0.002	<0.002	0.510	<0.002	0.0436	<0.005	0.791
MW-902	4/4/2017	<0.002	<0.002	0.116	<0.002	<0.002	0.481	<0.002	0.0396	<0.005	1.23
MW-902	6/15/2017	<0.002	<0.002	0.112	<0.002	<0.002	0.467	<0.002	0.0397	<0.005	1.05
MW-902	8/11/2017	<0.002	<0.002	0.106	<0.002	<0.002	0.530	<0.002	0.0369	<0.005	1.500
MW-902	10/3/2017	<0.002	<0.002	0.114	<0.002	<0.002	0.466	<0.002	0.0389	<0.005	1.270
MW-902 PL/BG		**0.002**	**0.0020**	**0.123**	**0.002**	**0.002**	**0.568**	**0.002**	**0.0454**	**0.005**	**2.75**
GWPS		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015**	**0.0454**	**0.100**	**5**
MW-902	**5/19/2020**	**<0.004**	**<0.002**	**0.126**	**<0.01**	**<0.002****	**0.521**	**<0.005**	**0.0333**	**<0.005**	**1.33**

TABLE 1
Summary of Detected CCR Appendix IV Constituents and Corresponding GWPS Values
Bottom Ash Impoundment
La Cygne Generating Station
Evergy

Well Number	Sample Date	Detected Appendix IV Constituents									
		Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Molybdenum (mg/L)	Radium Combined (pCi/L)
MCL		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015***	**NA**	**NA**	**5**
40 CFR 257.95(h) RSL		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.015***	**0.040**	**0.100**	**NA**
MW-903 Background Data											
MW-903	6/8/2016	<0.002	<0.002	0.0285	0.00409	0.00515	<0.100	<0.002	0.0809	<0.005	0.783
MW-903	8/11/2016	<0.002	<0.002	0.017	<0.002	0.00306	<0.100	<0.002	0.0539	<0.005	0.857
MW-903	10/13/2016	<0.002	<0.002	0.0232	0.00315	0.00424	<0.100	<0.002	0.0546	<0.005	0.911
MW-903	12/9/2016	<0.002	<0.002	0.016	<0.002	0.00294	0.104	<0.002	0.0462	<0.005	1.24
MW-903	2/10/2017	<0.002	<0.002	0.0146	<0.002	0.00272	<0.100	<0.002	0.0505	<0.005	0.850
MW-903	4/4/2017	<0.002	<0.002	0.0151	<0.002	0.00204	<0.100	<0.002	0.0502	<0.005	1.450
MW-903	6/16/2017	<0.002	<0.002	0.0148	<0.002	0.00207	0.132	<0.002	0.0539	<0.005	2.020
MW-903	8/10/2017	<0.002	<0.002	0.014	<0.002	0.00214	0.114	<0.002	0.0517	<0.005	1.010
MW-903	10/3/2017	<0.002	<0.002	0.0146	<0.002	0.00241	<0.100	<0.002	0.0506	<0.005	1.24
MW-903 PL/BG		**0.002**	**0.002**	**0.029**	**0.00409**	**0.00524**	**0.132**	**0.002**	**0.0809**	**0.005**	**1.99**
GWPS		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015**	**0.0809**	**0.100**	**5**
MW-903	**5/19/2020**	**<0.004**	**<0.002**	**0.0157**	**<0.01**	**<0.002****	**<0.150**	**<0.005**	**0.0506**	**<0.005**	**0.509**

TABLE 1
Summary of Detected CCR Appendix IV Constituents and Corresponding GWPS Values
Bottom Ash Impoundment
La Cygne Generating Station
Evergy

Well Number	Sample Date	Detected Appendix IV Constituents									
		Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Molybdenum (mg/L)	Radium Combined (pCi/L)
MCL		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015***	**NA**	**NA**	**5**
40 CFR 257.95(h) RSL		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.015***	**0.040**	**0.100**	**NA**
MW-904 Background Data											
MW-904	5/3/2017	<0.002	<0.002	0.124	<0.002	<0.002	0.375	<0.002	0.0503	0.0116	0.562
MW-904	5/18/2017	---	---	---	---	---	---	---	---	---	0.332
MW-904	5/24/2017	<0.002	<0.002	0.147	0.00206	<0.002	0.411	<0.002	0.0463	0.0113	---
MW-904	6/12/2017	<0.002	0.00508	0.191	0.0159	0.0096	0.366	0.00451	0.0744	0.0119	1.52
MW-904	6/30/2017	<0.002	<0.002	0.13	<0.002	<0.002	0.385	<0.002	0.0525	0.0102	0.762
MW-904	7/21/2017	<0.002	<0.002	0.108	<0.002	<0.002	0.430	<0.002	0.0446	0.00948	3.78
MW-904	8/7/2017	<0.002	<0.002	0.0951	<0.002	<0.002	0.432	<0.002	0.0521	0.00962	0.155
MW-904	9/1/2017	<0.002	<0.002	0.0944	<0.002	<0.002	0.346	<0.002	0.0432	0.00956	0.560
MW-904	9/22/2017	<0.002	<0.002	0.0974	<0.002	<0.002	0.412	<0.002	0.0458	0.00857	0.664
MW-904	10/5/2017	<0.002	0.00212	0.101	<0.002	0.00508	0.290	<0.002	0.0463	0.00947	0.807
MW-904 PL/BG		**0.002**	**0.00508**	**0.189**	**0.0159**	**0.0096**	**0.470**	**0.00451**	**0.0708**	**0.0126**	**3.49**
GWPS		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015**	**0.0708**	**0.100**	**5**
MW-904	**5/19/2020**	**<0.004**	**<0.002**	**0.0729**	**<0.01**	**<0.002****	**0.418**	**<0.005**	**0.0411**	**0.00864**	**0.215**

TABLE 1
Summary of Detected CCR Appendix IV Constituents and Corresponding GWPS Values
Bottom Ash Impoundment
La Cygne Generating Station
Evergy

Well Number	Sample Date	Detected Appendix IV Constituents									
		Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Molybdenum (mg/L)	Radium Combined (pCi/L)
MCL		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015***	**NA**	**NA**	**5**
40 CFR 257.95(h) RSL		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.015***	**0.040**	**0.100**	**NA**
MW-905 Background Data											
MW-905	6/9/2016	0.00326	0.00387	0.104	0.0031	0.00283	0.542	<0.002	0.0607	0.0165	0.695
MW-905	8/12/2016	<0.002	<0.002	0.171	<0.002	<0.002	0.506	<0.002	0.0751	<0.005	1.208
MW-905	10/14/2016	<0.002	<0.002	0.0985	<0.018	<0.002	0.535	<0.002	0.0639	<0.005	1.37
MW-905	12/9/2016	<0.002	<0.002	0.105	<0.002	<0.002	0.444	<0.002	0.0591	<0.005	0.529
MW-905	2/8/2017	<0.002	<0.002	0.104	<0.002	<0.002	0.562	<0.002	0.0705	<0.005	0.396
MW-905	4/4/2017	<0.002	<0.002	0.119	0.00327	0.00214	0.522	<0.002	0.0703	<0.005	0.953
MW-905	6/14/2017	<0.002	<0.002	0.115	<0.002	<0.002	0.567	<0.002	0.0706	<0.005	0.98
MW-905	8/9/2017	<0.002	<0.002	0.106	<0.002	<0.002	0.582	<0.002	0.0647	<0.005	0.161
MW-905	10/3/2017	<0.002	<0.002	0.126	0.00428	0.00257	0.569	<0.002	0.0715	<0.005	1.290
MW-905 PL/BG		**0.00326**	**0.00387**	**0.164**	**0.018**	**0.00283**	**0.612**	**0.00200**	**0.0790**	**0.0165**	**1.74**
GWPS		**0.006**	**0.010**	**2**	**0.1**	**0.006**	**4.0**	**0.015**	**0.0790**	**0.100**	**5**
MW-905	**5/19/2020**	**<0.004**	**<0.002**	**0.136**	**<0.01**	**<0.002****	**0.565**	**<0.005**	**0.0633**	**<0.005**	**0.281**

* EPA Action Level

** Sample collected 7/29/20 because original sample reporting limt was greter than the GWPS.

CCR - Coal Combustion Residuals

GWPS - Groundwater Protection Standard

MCL - Maximum Contaminant Level

RSL - Regional Screening Level (adopted by 40 CFR 257.95(h)(2))

PL/BG - Prediction Limit / Background Level

mg/L - Miligrams per Liter

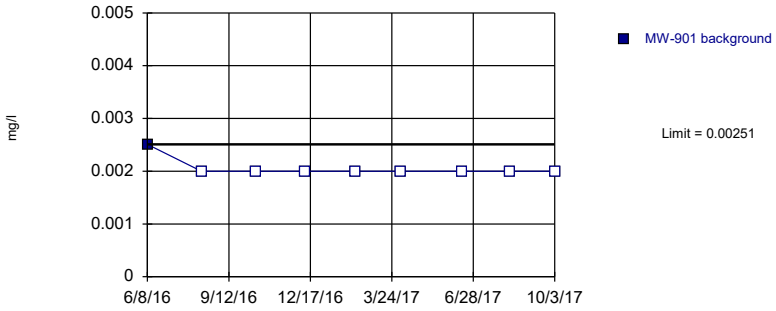
pCi/L - Picocuries per Liter

NA - Not Applicable

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ANTIMONY Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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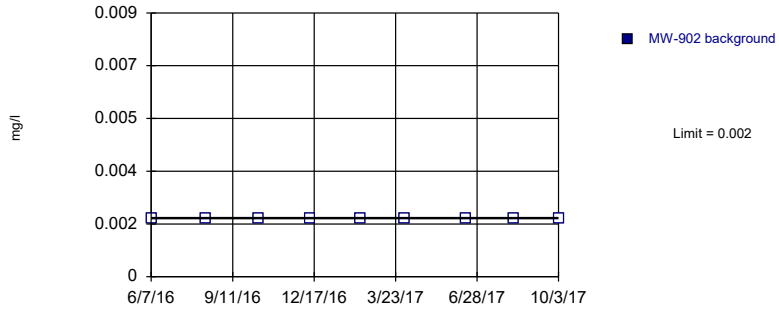
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



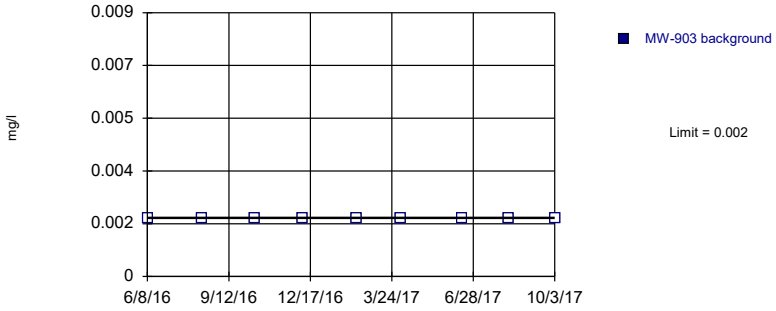
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ANTIMONY Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



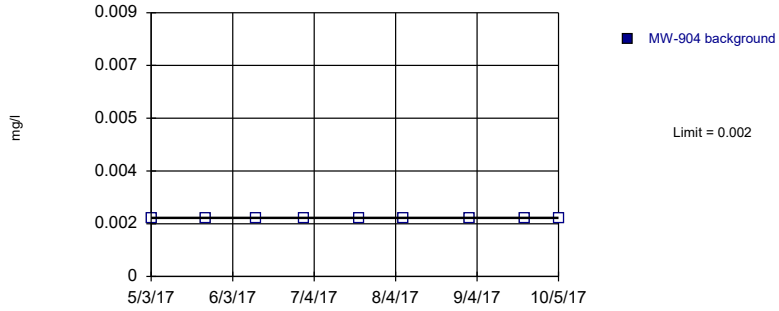
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ANTIMONY Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ANTIMONY Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: ANTIMONY Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-902	MW-903	MW-904
6/7/2016		<0.002		
6/8/2016	0.00251		<0.002	
8/11/2016	<0.002	<0.002	<0.002	
10/13/2016		<0.002	<0.002	
10/14/2016	<0.002			
12/9/2016			<0.002	
12/12/2016	<0.002	<0.002		
2/9/2017	<0.002			
2/10/2017		<0.002	<0.002	
4/4/2017	<0.002	<0.002	<0.002	
5/3/2017				<0.002
5/24/2017				<0.002
6/12/2017				<0.002
6/15/2017		<0.002		
6/16/2017	<0.002		<0.002	
6/30/2017				<0.002
7/21/2017				<0.002
8/7/2017				<0.002
8/10/2017			<0.002	
8/11/2017	<0.002	<0.002		
9/1/2017				<0.002
9/22/2017				<0.002
10/3/2017	<0.002	<0.002	<0.002	
10/5/2017				<0.002

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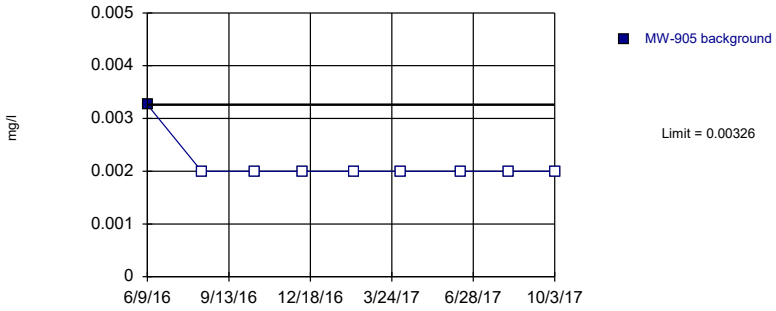
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ANTIMONY Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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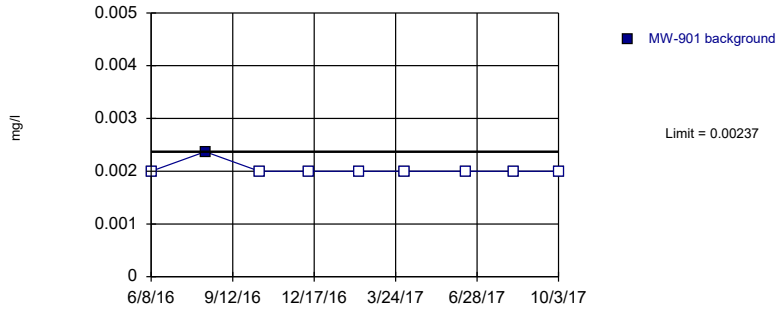
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ARSENIC Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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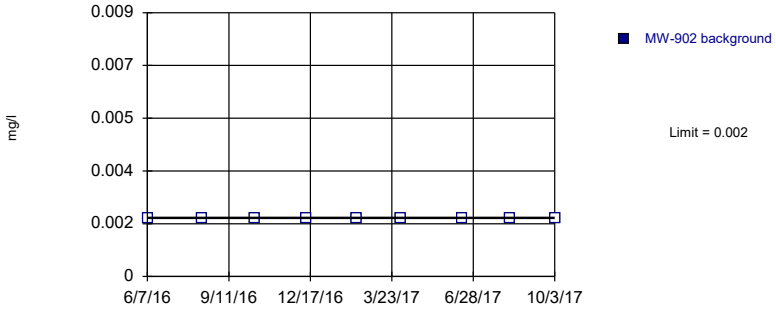
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



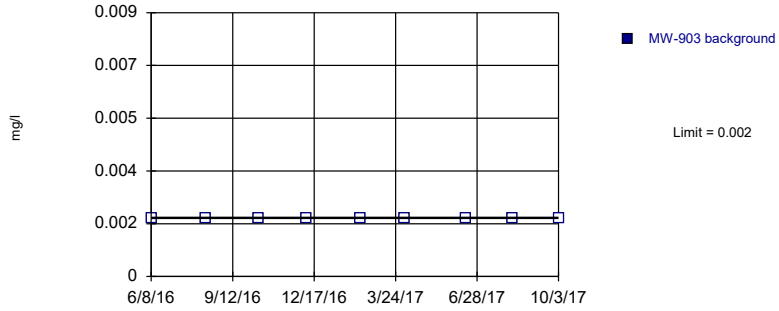
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ARSENIC Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ARSENIC Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: ANTIMONY, ARSENIC Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

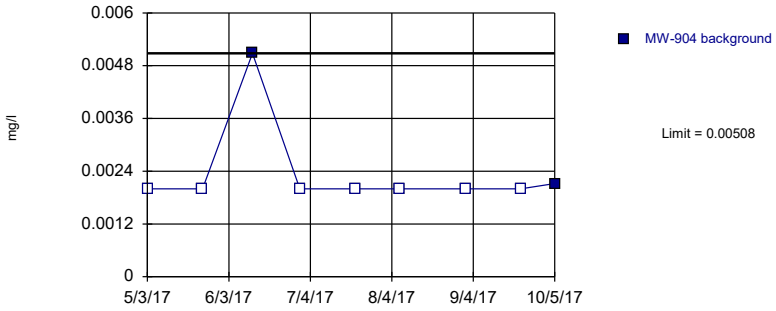
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-901	MW-902	MW-903
6/7/2016			<0.002	
6/8/2016		<0.002		<0.002
6/9/2016	0.00326			
8/11/2016		0.00237	<0.002	<0.002
8/12/2016	<0.002			
10/13/2016			<0.002	<0.002
10/14/2016	<0.002	<0.002		
12/9/2016	<0.002			<0.002
12/12/2016		<0.002	<0.002	
2/8/2017	<0.002			
2/9/2017		<0.002		
2/10/2017			<0.002	<0.002
4/4/2017	<0.002	<0.002	<0.002	<0.002
6/14/2017	<0.002			
6/15/2017			<0.002	
6/16/2017		<0.002		<0.002
8/9/2017	<0.002			
8/10/2017				<0.002
8/11/2017		<0.002	<0.002	
10/3/2017	<0.002	<0.002	<0.002	<0.002

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ARSENIC Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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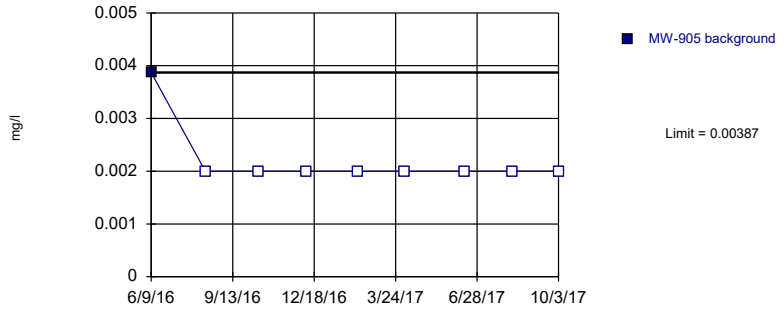
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: ARSENIC Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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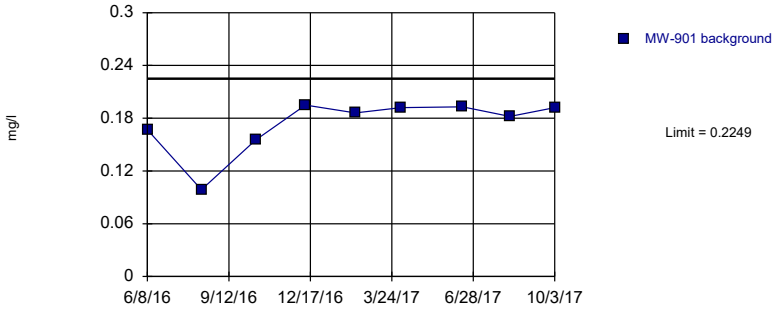
Prediction Limit

Intrawell Parametric, MW-901 (bg)



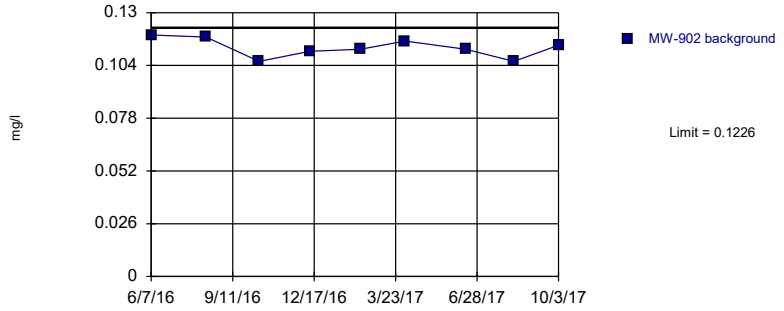
Background Data Summary (based on square transformation): Mean=0.03093, Std. Dev.=0.009252, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7772, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: BARIUM Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG

Prediction Limit

Intrawell Parametric, MW-902



Background Data Summary: Mean=0.1127, Std. Dev.=0.004664, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9305, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: BARIUM Analysis Run 5/13/2020 9:32 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

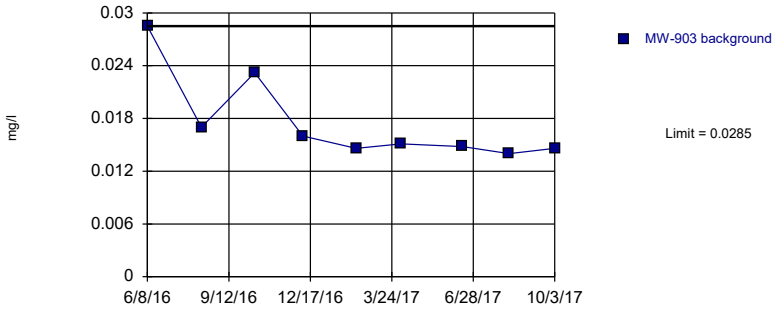
Constituent: ARSENIC, BARIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-905	MW-901	MW-902
6/7/2016				0.119
6/8/2016			0.167	
6/9/2016		0.00387		
8/11/2016			0.0987	0.118
8/12/2016		<0.002		
10/13/2016				0.106
10/14/2016		<0.002	0.155	
12/9/2016		<0.002		
12/12/2016			0.195	0.111
2/8/2017		<0.002		
2/9/2017			0.186	
2/10/2017				0.112
4/4/2017		<0.002	0.192	0.116
5/3/2017	<0.002			
5/24/2017	<0.002			
6/12/2017	0.00508			
6/14/2017		<0.002		
6/15/2017				0.112
6/16/2017			0.193	
6/30/2017	<0.002			
7/21/2017	<0.002			
8/7/2017	<0.002			
8/9/2017		<0.002		
8/11/2017			0.182	0.106
9/1/2017	<0.002			
9/22/2017	<0.002			
10/3/2017		<0.002	0.192	0.114
10/5/2017	0.00212			

Prediction Limit

Intrawell Non-parametric, MW-903

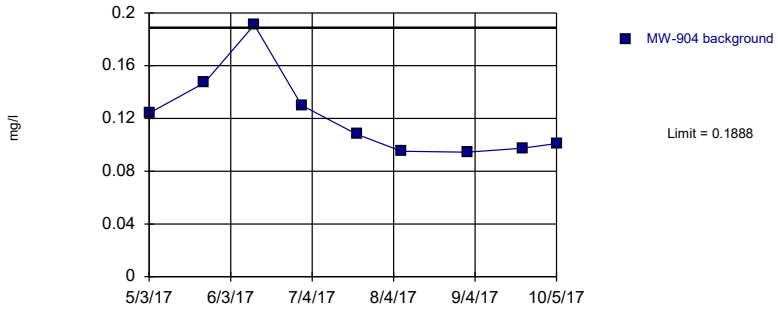


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 9 background values. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BARIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-904

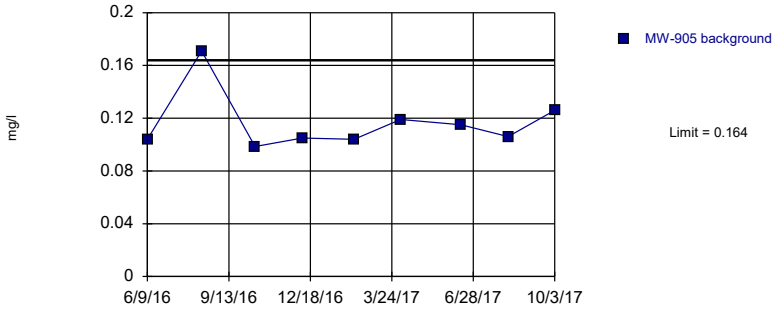


Background Data Summary: Mean=0.1209, Std. Dev.=0.03196, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8297, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: BARIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-905



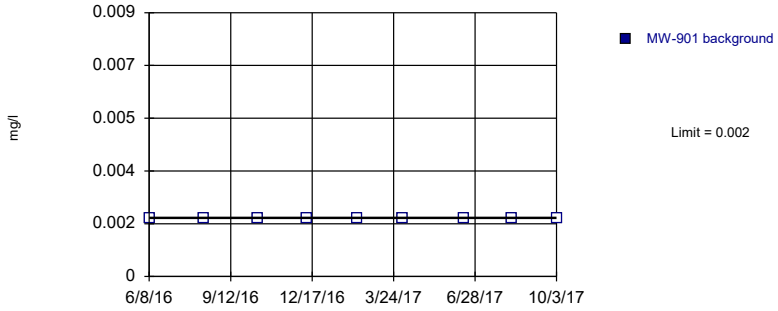
Background Data Summary (based on cube root transformation): Mean=0.4869, Std. Dev.=0.02845, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7701, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: BARIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BARIUM, BERYLLIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-904	MW-905	MW-901
6/8/2016	0.0285			<0.002
6/9/2016			0.104	
8/11/2016	0.017			<0.002
8/12/2016			0.171	
10/13/2016	0.0232			
10/14/2016			0.0985	<0.002
12/9/2016	0.016		0.105	
12/12/2016				<0.002
2/8/2017			0.104	
2/9/2017				<0.002
2/10/2017	0.0146			
4/4/2017	0.0151		0.119	<0.002
5/3/2017		0.124		
5/24/2017		0.147		
6/12/2017		0.191		
6/14/2017			0.115	
6/16/2017	0.0148			<0.002
6/30/2017		0.13		
7/21/2017		0.108		
8/7/2017		0.0951		
8/9/2017			0.106	
8/10/2017	0.014			
8/11/2017				<0.002
9/1/2017		0.0944		
9/22/2017		0.0974		
10/3/2017	0.0146		0.126	<0.002
10/5/2017		0.101		

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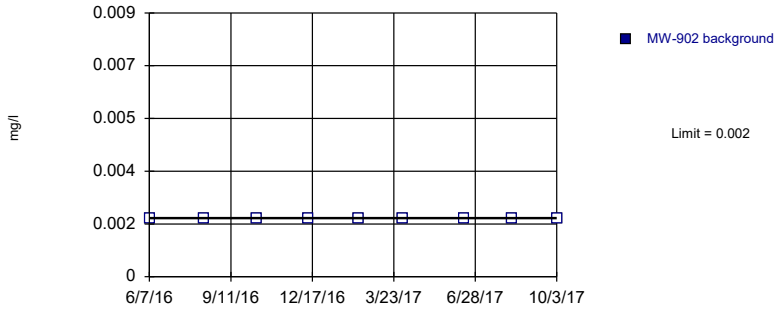
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



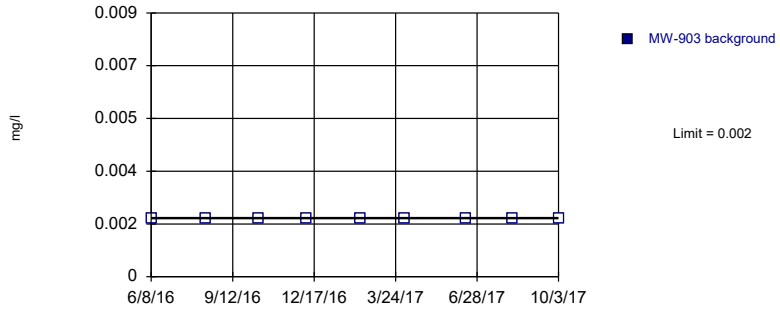
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



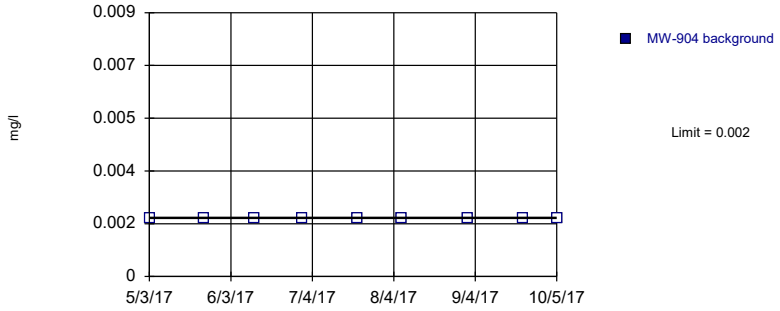
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



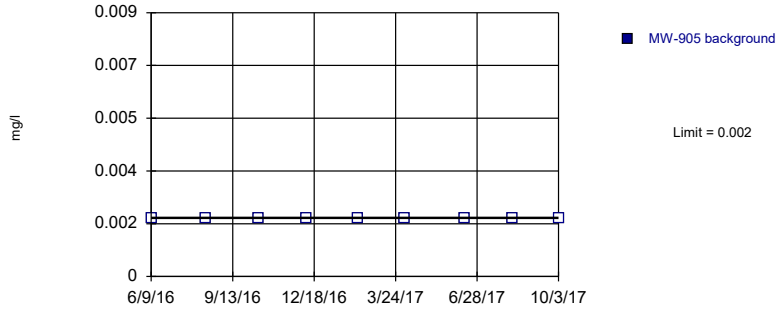
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: BERYLLIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

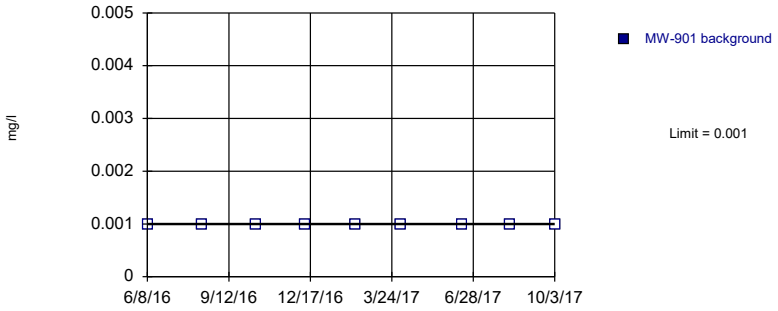
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-902	MW-903	MW-904	MW-905
6/7/2016	<0.002			
6/8/2016		<0.002		
6/9/2016				<0.002
8/11/2016	<0.002	<0.002		
8/12/2016				<0.002
10/13/2016	<0.002	<0.002		
10/14/2016				<0.002
12/9/2016		<0.002		<0.002
12/12/2016	<0.002			
2/8/2017				<0.002
2/10/2017	<0.002	<0.002		
4/4/2017	<0.002	<0.002		<0.002
5/3/2017			<0.002	
5/24/2017			<0.002	
6/12/2017			<0.002	
6/14/2017				<0.002
6/15/2017	<0.002			
6/16/2017		<0.002		
6/30/2017			<0.002	
7/21/2017			<0.002	
8/7/2017			<0.002	
8/9/2017				<0.002
8/10/2017		<0.002		
8/11/2017	<0.002			
9/1/2017			<0.002	
9/22/2017			<0.002	
10/3/2017	<0.002	<0.002		<0.002
10/5/2017			<0.002	

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



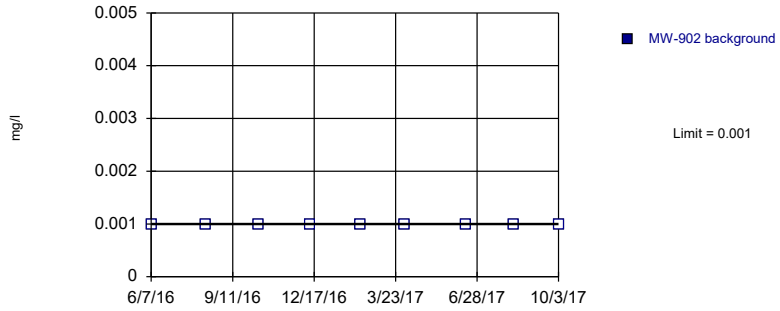
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CADMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



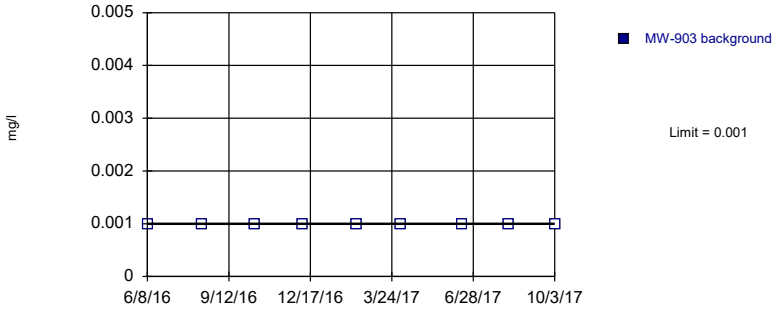
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CADMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



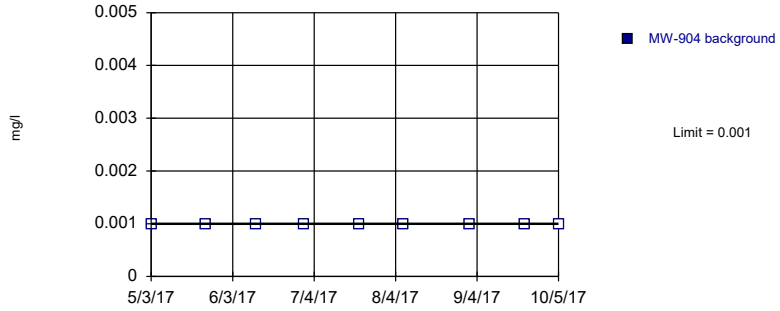
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CADMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CADMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CADMIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

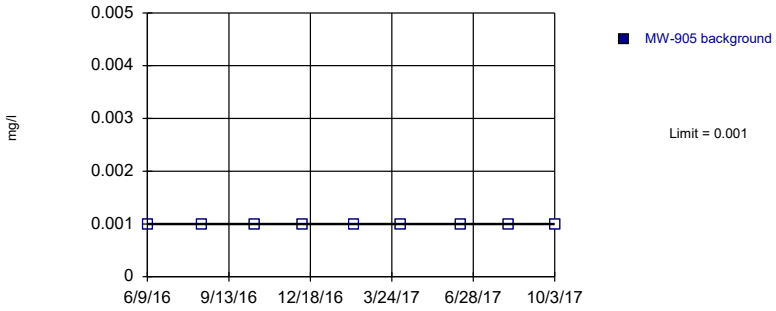
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-902	MW-903	MW-904
6/7/2016		<0.001		
6/8/2016	<0.001		<0.001	
8/11/2016	<0.001	<0.001	<0.001	
10/13/2016		<0.001	<0.001	
10/14/2016	<0.001			
12/9/2016			<0.001	
12/12/2016	<0.001	<0.001		
2/9/2017	<0.001			
2/10/2017		<0.001	<0.001	
4/4/2017	<0.001	<0.001	<0.001	
5/3/2017				<0.001
5/24/2017				<0.001
6/12/2017				<0.001
6/15/2017		<0.001		
6/16/2017	<0.001		<0.001	
6/30/2017				<0.001
7/21/2017				<0.001
8/7/2017				<0.001
8/10/2017			<0.001	
8/11/2017	<0.001	<0.001		
9/1/2017				<0.001
9/22/2017				<0.001
10/3/2017	<0.001	<0.001	<0.001	
10/5/2017				<0.001

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



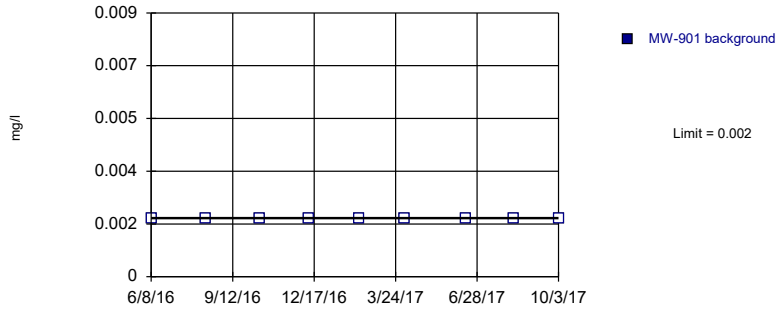
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CADMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



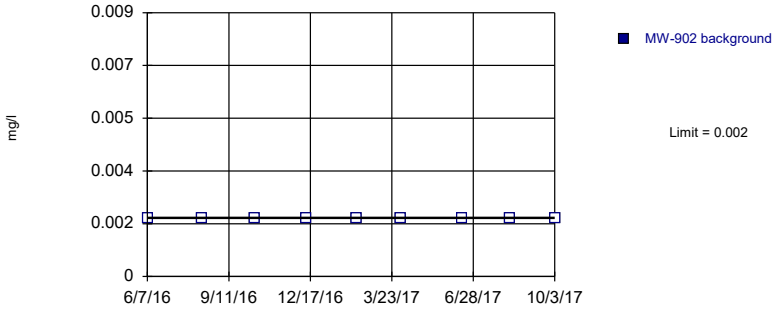
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CHROMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



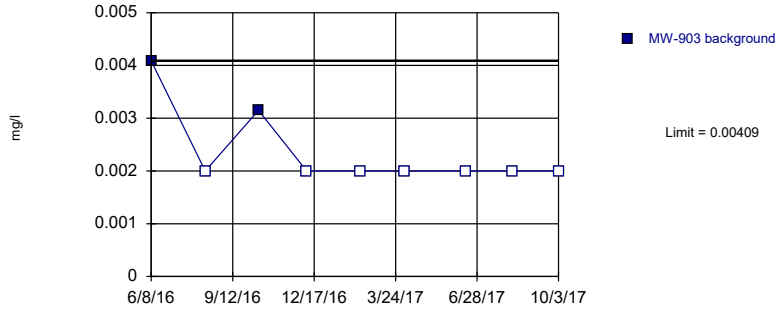
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CHROMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CHROMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: CADMIUM, CHROMIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

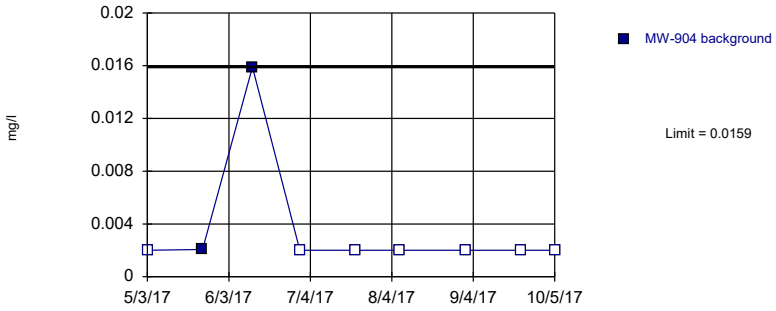
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-901	MW-902	MW-903
6/7/2016			<0.002	
6/8/2016		<0.002		0.00409
6/9/2016	<0.001			
8/11/2016		<0.002	<0.002	<0.002
8/12/2016	<0.001			
10/13/2016			<0.002	0.00315
10/14/2016	<0.001	<0.002		
12/9/2016	<0.001			<0.002
12/12/2016		<0.002	<0.002	
2/8/2017	<0.001			
2/9/2017		<0.002		
2/10/2017			<0.002	<0.002
4/4/2017	<0.001	<0.002	<0.002	<0.002
6/14/2017	<0.001			
6/15/2017			<0.002	
6/16/2017		<0.002		<0.002
8/9/2017	<0.001			
8/10/2017				<0.002
8/11/2017		<0.002	<0.002	
10/3/2017	<0.001	<0.002	<0.002	<0.002

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



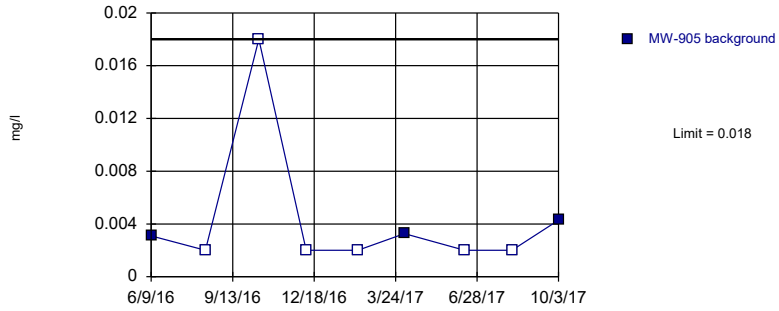
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CHROMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



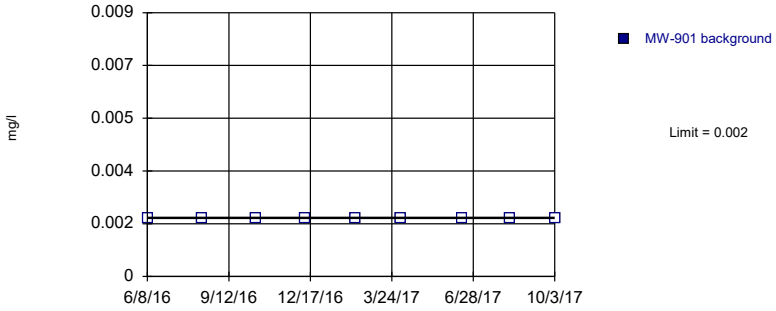
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: CHROMIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



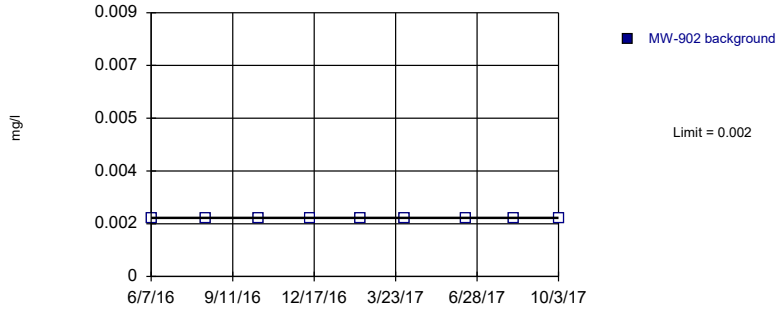
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: COBALT Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: COBALT Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

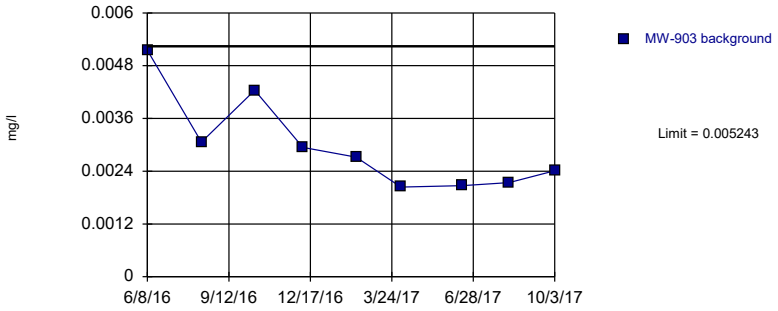
Constituent: CHROMIUM, COBALT Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-905	MW-901	MW-902
6/7/2016				<0.002
6/8/2016			<0.002	
6/9/2016		0.0031		
8/11/2016			<0.002	<0.002
8/12/2016		<0.002		
10/13/2016				<0.002
10/14/2016		<0.018	<0.002	
12/9/2016		<0.002		
12/12/2016			<0.002	<0.002
2/8/2017		<0.002		
2/9/2017			<0.002	
2/10/2017				<0.002
4/4/2017		0.00327	<0.002	<0.002
5/3/2017	<0.002			
5/24/2017	0.00206			
6/12/2017	0.0159			
6/14/2017		<0.002		
6/15/2017				<0.002
6/16/2017			<0.002	
6/30/2017	<0.002			
7/21/2017	<0.002			
8/7/2017	<0.002			
8/9/2017		<0.002		
8/11/2017			<0.002	<0.002
9/1/2017	<0.002			
9/22/2017	<0.002			
10/3/2017		0.00428	<0.002	<0.002
10/5/2017	<0.002			

Prediction Limit

Intrawell Parametric, MW-903



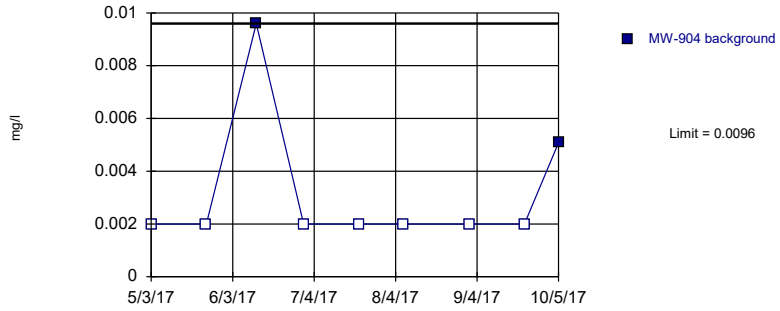
Background Data Summary: Mean=0.002974, Std. Dev.=0.001067, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8401, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: COBALT Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



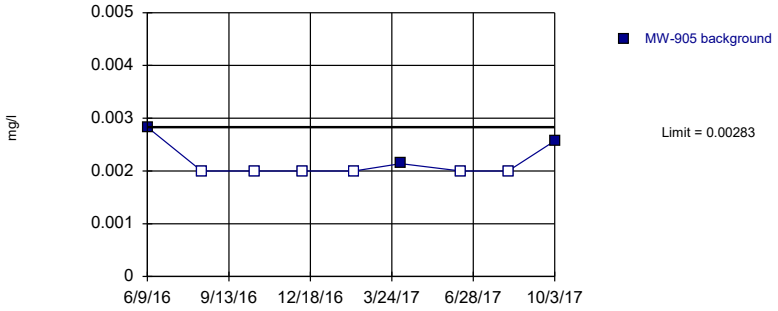
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: COBALT Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905

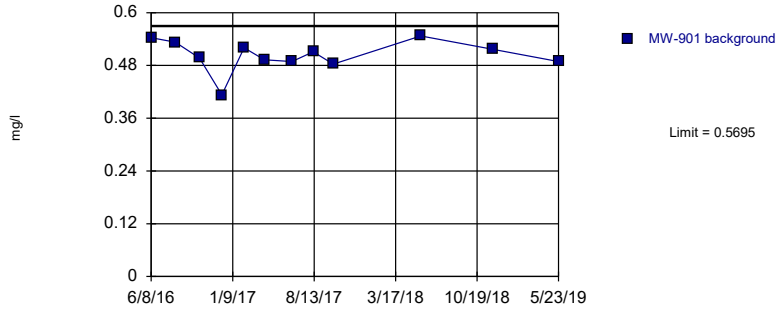


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: COBALT Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-901 (bg)



Background Data Summary: Mean=0.5029, Std. Dev.=0.03569, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8824, critical = 0.805. Kappa = 1.865 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: FLUORIDE Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

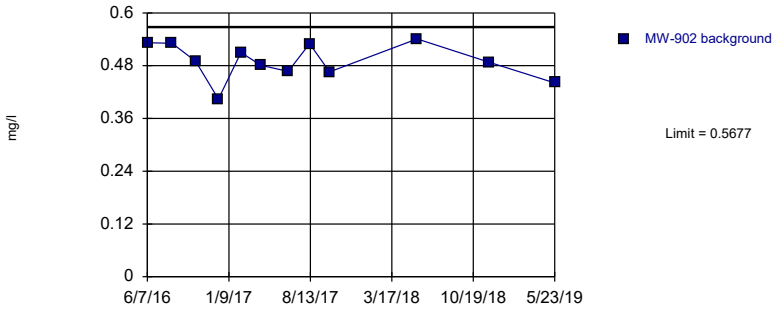
Constituent: COBALT, FLUORIDE Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-904	MW-905	MW-901
6/8/2016	0.00515			0.543
6/9/2016			0.00283	
8/11/2016	0.00306			0.533
8/12/2016			<0.002	
10/13/2016	0.00424			
10/14/2016			<0.002	0.497
12/9/2016	0.00294		<0.002	
12/12/2016				0.413
2/8/2017			<0.002	
2/9/2017				0.52
2/10/2017	0.00272			
4/4/2017	0.00204		0.00214	0.493
5/3/2017		<0.002		
5/24/2017		<0.002		
6/12/2017		0.0096		
6/14/2017			<0.002	
6/16/2017	0.00207			0.489
6/30/2017		<0.002		
7/21/2017		<0.002		
8/7/2017		<0.002		
8/9/2017			<0.002	
8/10/2017	0.00214			
8/11/2017				0.511
9/1/2017		<0.002		
9/22/2017		<0.002		
10/3/2017	0.00241		0.00257	0.483
10/5/2017		0.00508		
5/23/2018				0.547
11/29/2018				0.517
5/23/2019				0.489

Prediction Limit

Intrawell Parametric, MW-902



Background Data Summary: Mean=0.4901, Std. Dev.=0.0416, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9328, critical = 0.805. Kappa = 1.865 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

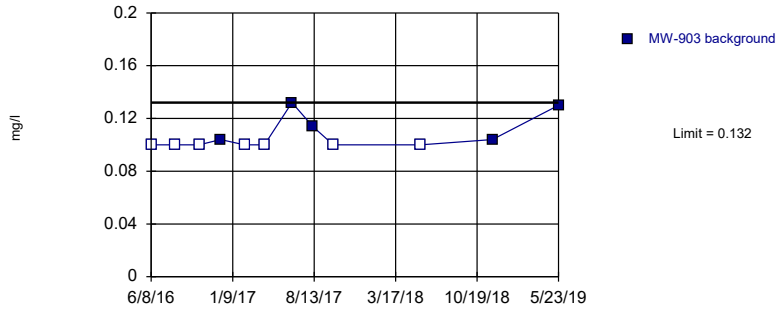
Constituent: FLUORIDE Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



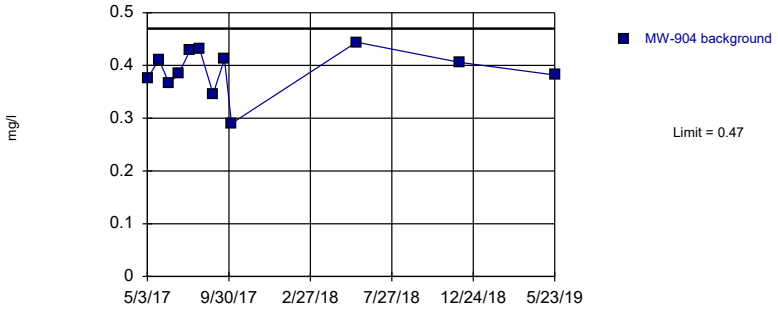
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 58.33% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3). Assumes 1 future value.

Constituent: FLUORIDE Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-904



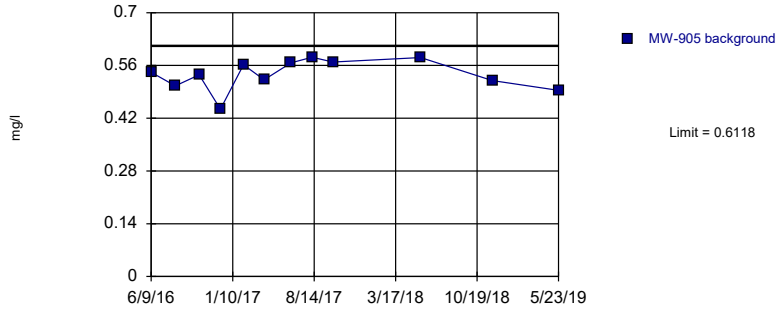
Background Data Summary: Mean=0.3899, Std. Dev.=0.04294, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.805. Kappa = 1.865 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: FLUORIDE Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-905



Background Data Summary: Mean=0.5353, Std. Dev.=0.04099, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9234, critical = 0.805. Kappa = 1.865 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: FLUORIDE Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: FLUORIDE Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-902	MW-903	MW-904	MW-905
6/7/2016	0.532			
6/8/2016		<0.1		
6/9/2016				0.542
8/11/2016	0.531	<0.1		
8/12/2016				0.506
10/13/2016	0.49	<0.1		
10/14/2016				0.535
12/9/2016		0.104		0.444
12/12/2016	0.404			
2/8/2017				0.562
2/10/2017	0.51	<0.1		
4/4/2017	0.481	<0.1		0.522
5/3/2017			0.375	
5/24/2017			0.411	
6/12/2017			0.366	
6/14/2017				0.567
6/15/2017	0.467			
6/16/2017		0.132		
6/30/2017			0.385	
7/21/2017			0.43	
8/7/2017			0.432	
8/9/2017				0.582
8/10/2017		0.114		
8/11/2017	0.53			
9/1/2017			0.346	
9/22/2017			0.412	
10/3/2017	0.466	<0.1		0.569
10/5/2017			0.29	
5/23/2018	0.541	<0.1	0.444	0.581
11/29/2018	0.488	0.104	0.406	0.52
5/23/2019	0.441	0.13	0.382	0.494

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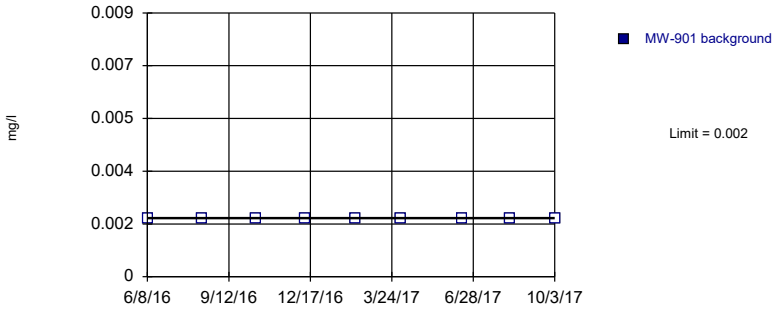
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LEAD Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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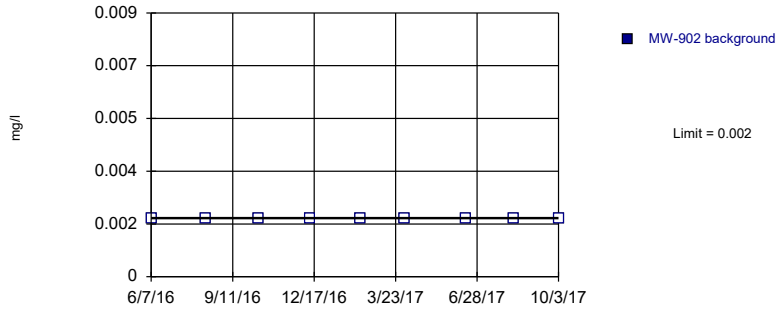
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



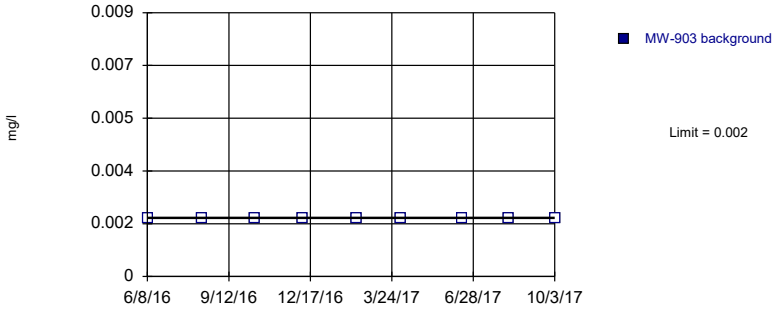
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LEAD Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



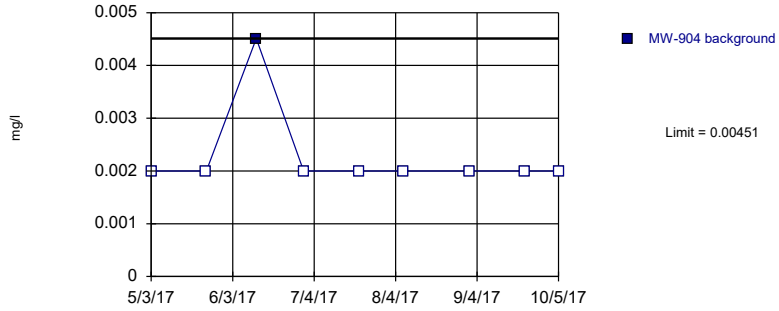
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LEAD Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LEAD Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: LEAD Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

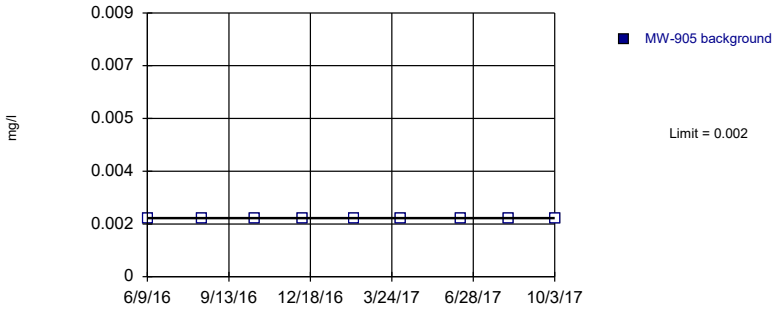
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-902	MW-903	MW-904
6/7/2016		<0.002		
6/8/2016	<0.002		<0.002	
8/11/2016	<0.002	<0.002	<0.002	
10/13/2016		<0.002	<0.002	
10/14/2016	<0.002			
12/9/2016			<0.002	
12/12/2016	<0.002	<0.002		
2/9/2017	<0.002			
2/10/2017		<0.002	<0.002	
4/4/2017	<0.002	<0.002	<0.002	
5/3/2017				<0.002
5/24/2017				<0.002
6/12/2017				0.00451
6/15/2017		<0.002		
6/16/2017	<0.002		<0.002	
6/30/2017				<0.002
7/21/2017				<0.002
8/7/2017				<0.002
8/10/2017			<0.002	
8/11/2017	<0.002	<0.002		
9/1/2017				<0.002
9/22/2017				<0.002
10/3/2017	<0.002	<0.002	<0.002	
10/5/2017				<0.002

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905

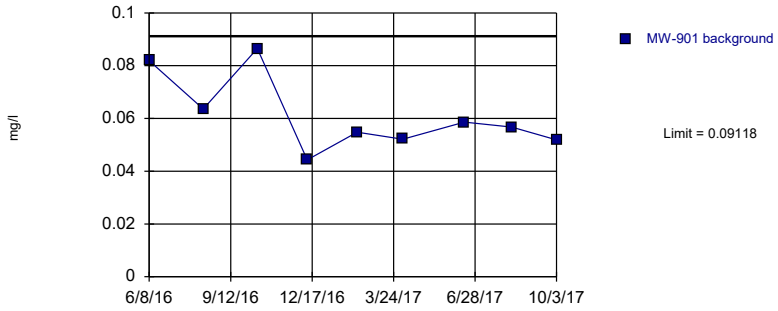


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LEAD Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-901 (bg)

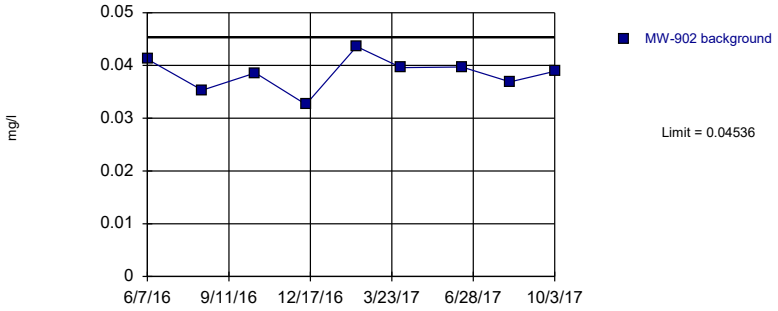


Background Data Summary: Mean=0.06116, Std. Dev.=0.01413, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.867, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: LITHIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-902

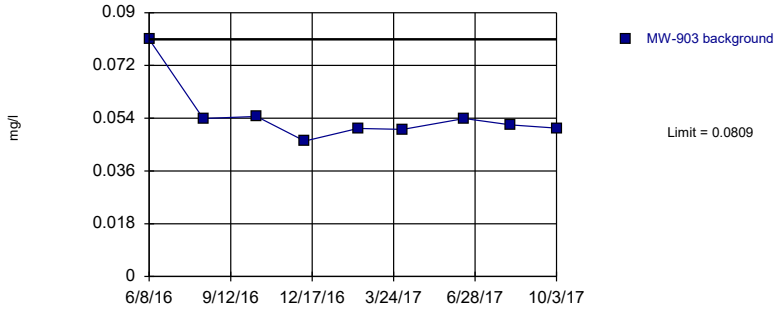


Background Data Summary: Mean=0.03849, Std. Dev.=0.003235, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9758, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: LITHIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Non-parametric, MW-903



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 9 background values. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: LITHIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

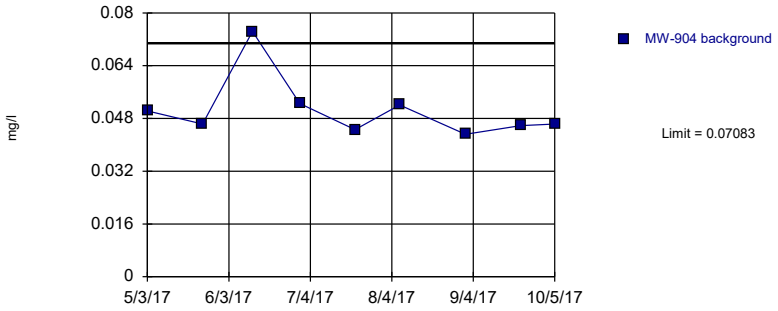
Constituent: LEAD, LITHIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-901	MW-902	MW-903
6/7/2016			0.0412	
6/8/2016		0.0819		0.0809
6/9/2016	<0.002			
8/11/2016		0.0636	0.0353	0.0539
8/12/2016	<0.002			
10/13/2016			0.0386	0.0546
10/14/2016	<0.002	0.0865		
12/9/2016	<0.002			0.0462
12/12/2016		0.0443	0.0326	
2/8/2017	<0.002			
2/9/2017		0.0548		
2/10/2017			0.0436	0.0505
4/4/2017	<0.002	0.0521	0.0396	0.0502
6/14/2017	<0.002			
6/15/2017			0.0397	
6/16/2017		0.0586		0.0539
8/9/2017	<0.002			
8/10/2017				0.0517
8/11/2017		0.0567	0.0369	
10/3/2017	<0.002	0.0519	0.0389	0.0506

Prediction Limit

Intrawell Parametric, MW-904

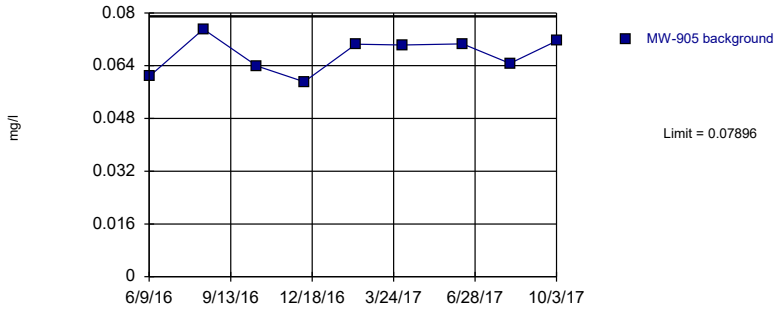


Background Data Summary (based on natural log transformation): Mean=-2.997, Std. Dev.=0.1643, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7642, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: LITHIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-905



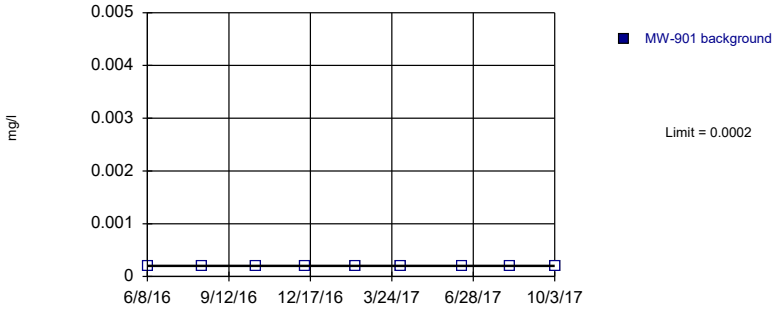
Background Data Summary: Mean=0.06738, Std. Dev.=0.005451, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9213, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: LITHIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



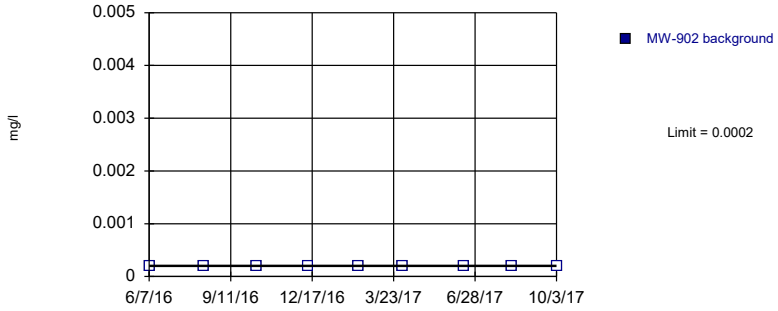
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MERCURY Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MERCURY Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: LITHIUM, MERCURY Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-905	MW-901	MW-902
6/7/2016				<0.0002
6/8/2016			<0.0002	
6/9/2016		0.0607		
8/11/2016			<0.0002	<0.0002
8/12/2016		0.0751		
10/13/2016				<0.0002
10/14/2016		0.0639	<0.0002	
12/9/2016		0.0591		
12/12/2016			<0.0002	<0.0002
2/8/2017		0.0705		
2/9/2017			<0.0002	
2/10/2017				<0.0002
4/4/2017		0.0703	<0.0002	<0.0002
5/3/2017	0.0503			
5/24/2017	0.0463			
6/12/2017	0.0744			
6/14/2017		0.0706		
6/15/2017				<0.0002
6/16/2017			<0.0002	
6/30/2017	0.0525			
7/21/2017	0.0446			
8/7/2017	0.0521			
8/9/2017		0.0647		
8/11/2017			<0.0002	<0.0002
9/1/2017	0.0432			
9/22/2017	0.0458			
10/3/2017		0.0715	<0.0002	<0.0002
10/5/2017	0.0463			

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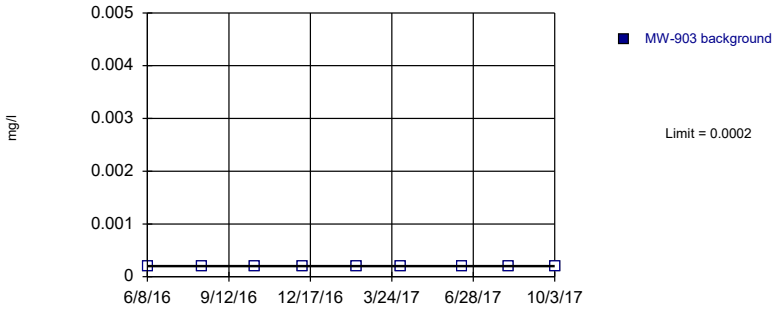
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MERCURY Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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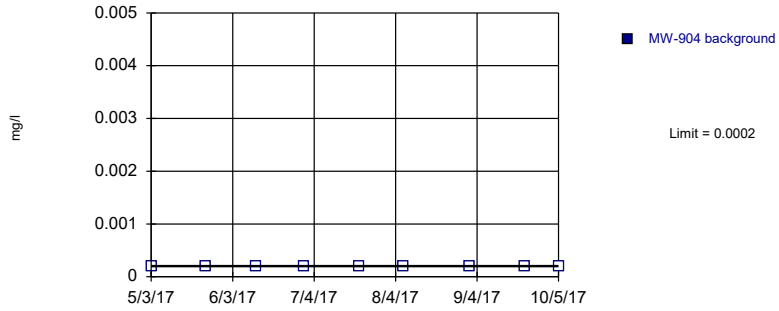
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



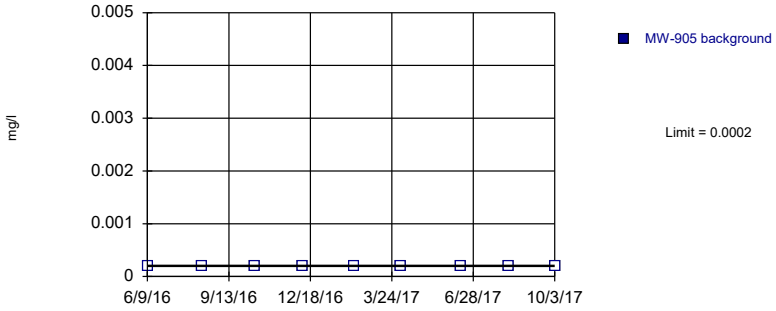
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MERCURY Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



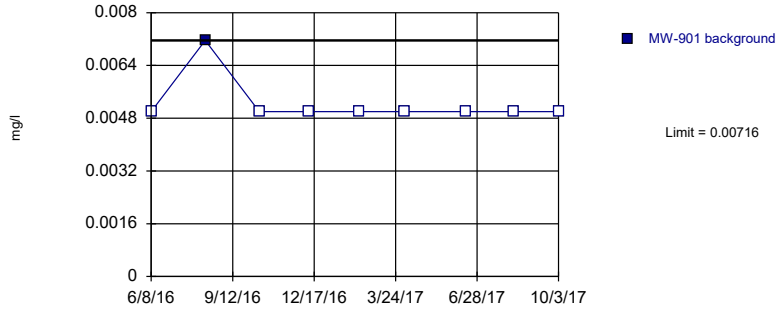
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MERCURY Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: MERCURY, MOLYBDENUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

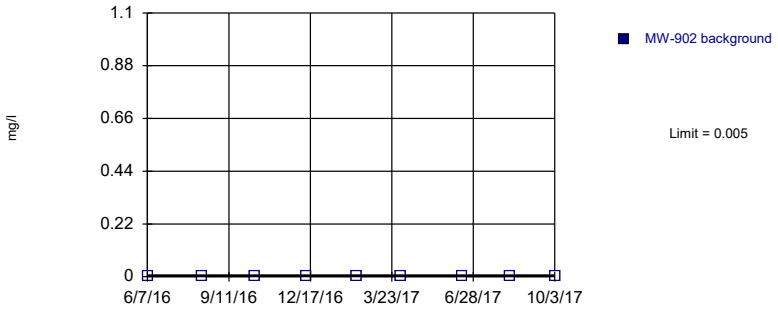
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-904	MW-905	MW-901
6/8/2016	<0.0002			<0.005
6/9/2016			<0.0002	
8/11/2016	<0.0002			0.00716
8/12/2016			<0.0002	
10/13/2016	<0.0002			
10/14/2016			<0.0002	<0.005
12/9/2016	<0.0002		<0.0002	
12/12/2016				<0.005
2/8/2017			<0.0002	
2/9/2017				<0.005
2/10/2017	<0.0002			
4/4/2017	<0.0002		<0.0002	<0.005
5/3/2017		<0.0002		
5/24/2017		<0.0002		
6/12/2017		<0.0002		
6/14/2017			<0.0002	
6/16/2017	<0.0002			<0.005
6/30/2017		<0.0002		
7/21/2017		<0.0002		
8/7/2017		<0.0002		
8/9/2017			<0.0002	
8/10/2017	<0.0002			
8/11/2017				<0.005
9/1/2017		<0.0002		
9/22/2017		<0.0002		
10/3/2017	<0.0002		<0.0002	<0.005
10/5/2017		<0.0002		

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



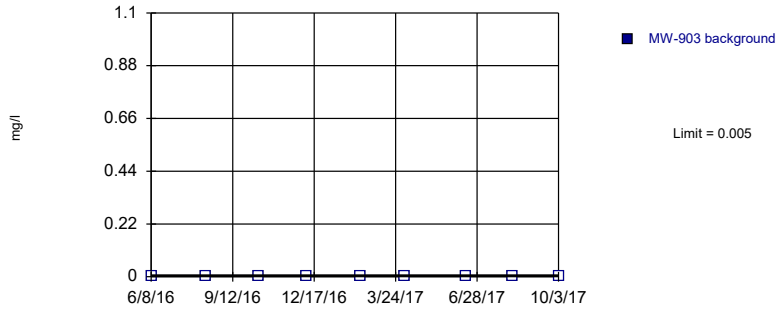
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903

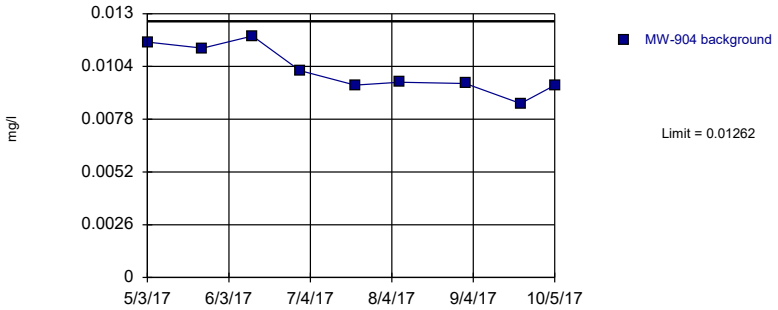


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Parametric, MW-904



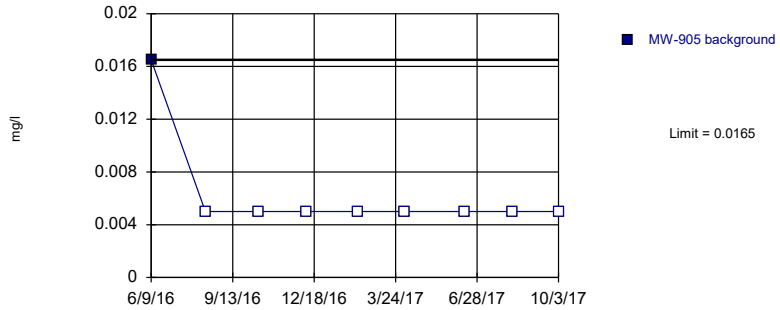
Background Data Summary: Mean=0.01019, Std. Dev.=0.001146, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8976, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

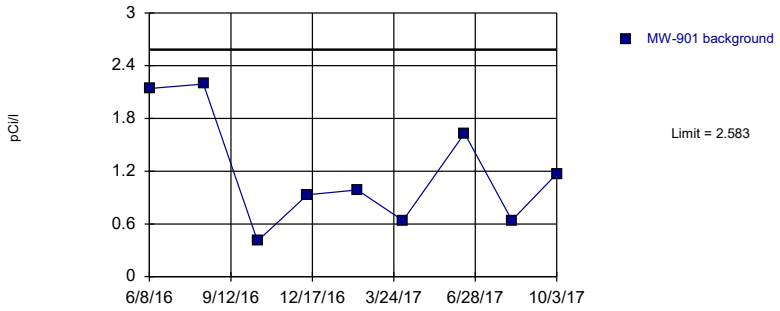
Constituent: MOLYBDENUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-902	MW-903	MW-904	MW-905
6/7/2016	<0.005			
6/8/2016		<0.005		
6/9/2016				0.0165
8/11/2016	<0.005	<0.005		
8/12/2016				<0.005
10/13/2016	<0.005	<0.005		
10/14/2016				<0.005
12/9/2016		<0.005		<0.005
12/12/2016	<0.005			
2/8/2017				<0.005
2/10/2017	<0.005	<0.005		
4/4/2017	<0.005	<0.005		<0.005
5/3/2017			0.0116	
5/24/2017			0.0113	
6/12/2017			0.0119	
6/14/2017				<0.005
6/15/2017	<0.005			
6/16/2017		<0.005		
6/30/2017			0.0102	
7/21/2017			0.00948	
8/7/2017			0.00962	
8/9/2017				<0.005
8/10/2017		<0.005		
8/11/2017	<0.005			
9/1/2017			0.00956	
9/22/2017			0.00857	
10/3/2017	<0.005	<0.005		<0.005
10/5/2017			0.00947	

Prediction Limit

Intrawell Parametric, MW-901 (bg)



Background Data Summary: Mean=1.193, Std. Dev.=0.6543, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8997, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: Radium Combined Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

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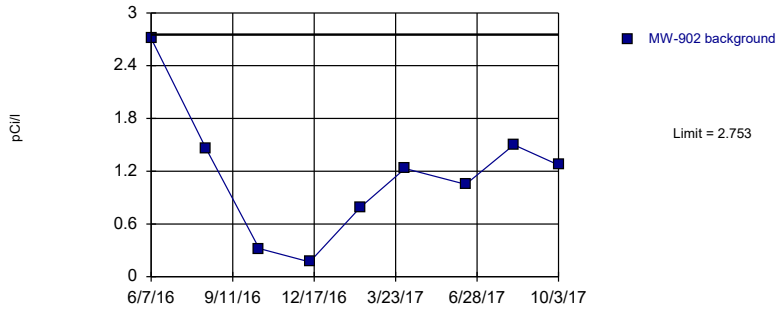
Prediction Limit

Intrawell Parametric, MW-902



Background Data Summary: Mean=1.166, Std. Dev.=0.7468, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9256, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: Radium Combined Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

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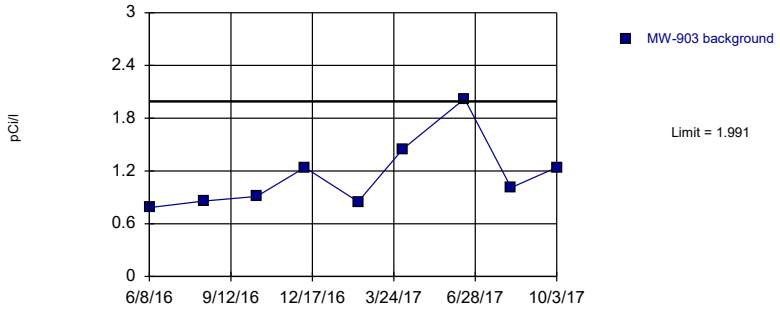
Prediction Limit

Intrawell Parametric, MW-903



Background Data Summary: Mean=1.151, Std. Dev.=0.3953, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8482, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: Radium Combined Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

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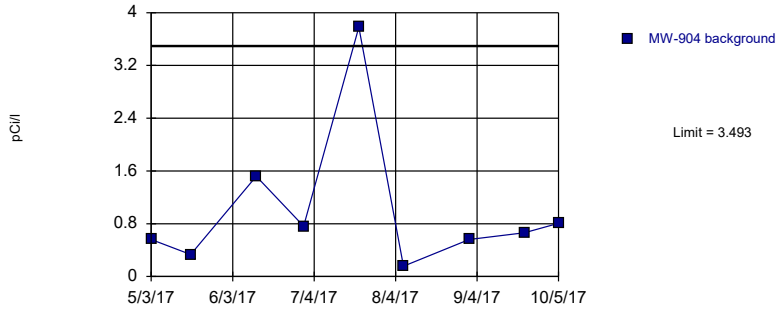
Prediction Limit

Intrawell Parametric, MW-904



Background Data Summary (based on square root transformation): Mean=0.9146, Std. Dev.=0.4492, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8442, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: Radium Combined Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

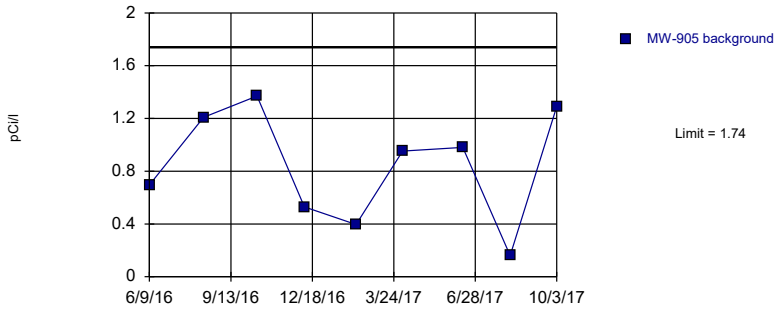
Constituent: Radium Combined Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-901	MW-902	MW-903	MW-904
6/7/2016		2.71		
6/8/2016	2.14		0.783	
8/11/2016	2.191	1.458	0.857	
10/13/2016		0.32	0.911	
10/14/2016	0.407			
12/9/2016			1.24	
12/12/2016	0.932	0.168		
2/9/2017	0.986			
2/10/2017		0.791	0.85	
4/4/2017	0.639	1.23	1.45	
5/3/2017				0.562
5/18/2017				0.332
6/12/2017				1.52
6/15/2017		1.05		
6/16/2017	1.63		2.02	
6/30/2017				0.762
7/21/2017				3.78
8/7/2017				0.155
8/10/2017			1.01	
8/11/2017	0.641	1.5		
9/1/2017				0.56
9/22/2017				0.664
10/3/2017	1.17	1.27	1.24	
10/5/2017				0.807

Prediction Limit

Intrawell Parametric, MW-905



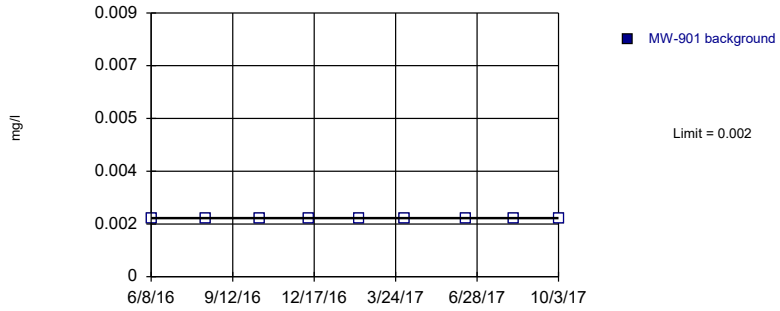
Background Data Summary: Mean=0.8424, Std. Dev.=0.4224, n=9. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9479, critical = 0.764. Kappa = 2.125 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022. Assumes 1 future value.

Constituent: Radium Combined Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



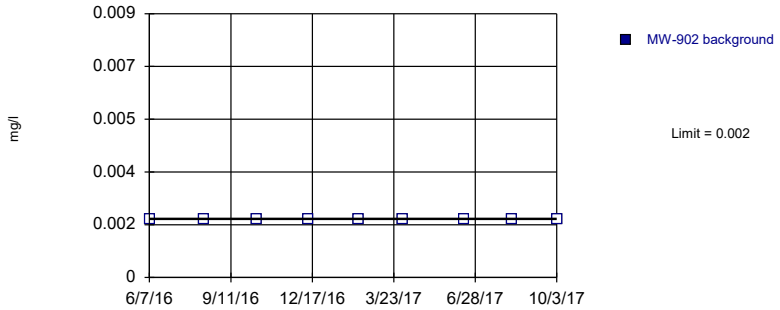
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: SELENIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Non-parametric, MW-902



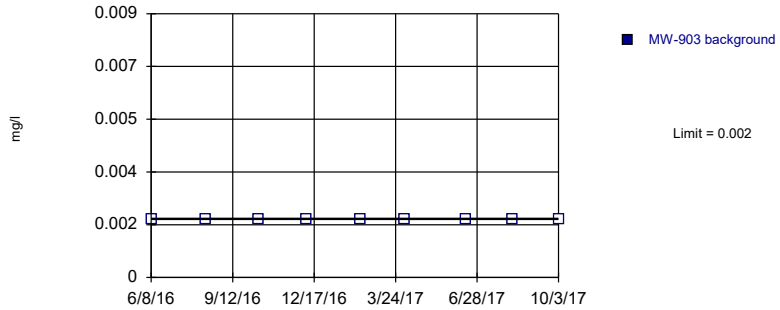
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: SELENIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Intrawell Non-parametric, MW-903



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: SELENIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: Radium Combined, SELENIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-905	MW-901	MW-902	MW-903
6/7/2016			<0.002	
6/8/2016		<0.002		<0.002
6/9/2016	0.695			
8/11/2016		<0.002	<0.002	<0.002
8/12/2016	1.208			
10/13/2016			<0.002	<0.002
10/14/2016	1.37	<0.002		
12/9/2016	0.529			<0.002
12/12/2016		<0.002	<0.002	
2/8/2017	0.396			
2/9/2017		<0.002		
2/10/2017			<0.002	<0.002
4/4/2017	0.953	<0.002	<0.002	<0.002
6/14/2017	0.98			
6/15/2017			<0.002	
6/16/2017		<0.002		<0.002
8/9/2017	0.161			
8/10/2017				<0.002
8/11/2017		<0.002	<0.002	
10/3/2017	1.29	<0.002	<0.002	<0.002

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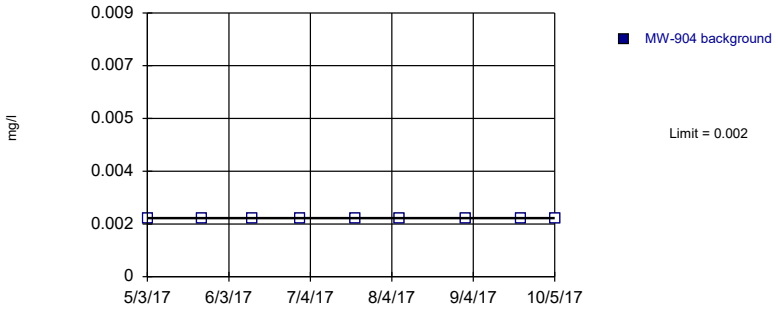
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



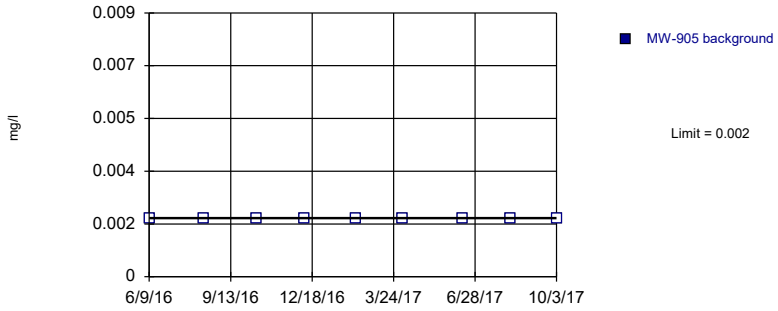
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: SELENIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



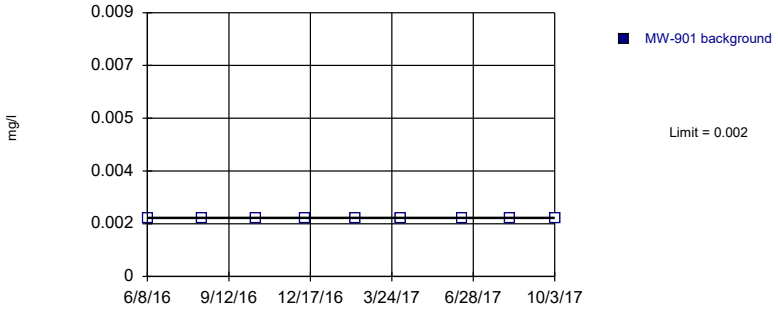
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: SELENIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-901 (bg)



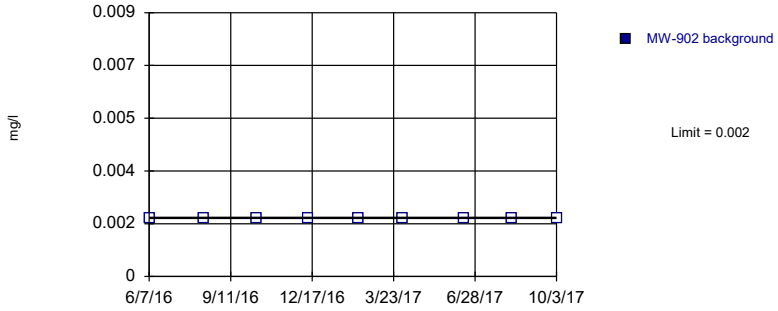
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: THALLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-902



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: THALLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: SELENIUM, THALLIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV

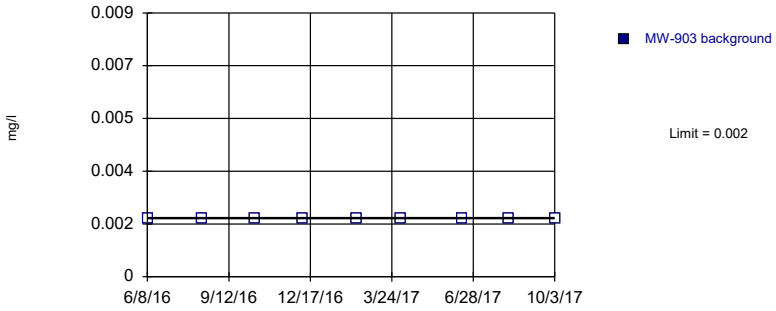
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-904	MW-905	MW-901	MW-902
6/7/2016				<0.002
6/8/2016			<0.002	
6/9/2016		<0.002		
8/11/2016			<0.002	<0.002
8/12/2016		<0.002		
10/13/2016				<0.002
10/14/2016		<0.002	<0.002	
12/9/2016		<0.002		
12/12/2016			<0.002	<0.002
2/8/2017		<0.002		
2/9/2017			<0.002	
2/10/2017				<0.002
4/4/2017		<0.002	<0.002	<0.002
5/3/2017	<0.002			
5/24/2017	<0.002			
6/12/2017	<0.002			
6/14/2017		<0.002		
6/15/2017				<0.002
6/16/2017			<0.002	
6/30/2017	<0.002			
7/21/2017	<0.002			
8/7/2017	<0.002			
8/9/2017		<0.002		
8/11/2017			<0.002	<0.002
9/1/2017	<0.002			
9/22/2017	<0.002			
10/3/2017		<0.002	<0.002	<0.002
10/5/2017	<0.002			

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-903



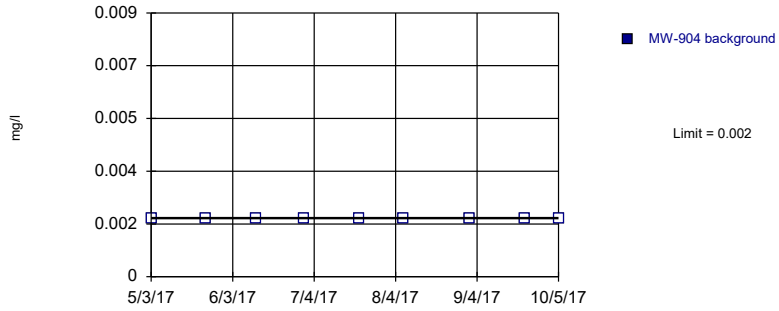
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: THALLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Sanitas™ v.9.6.25 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-904



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: THALLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

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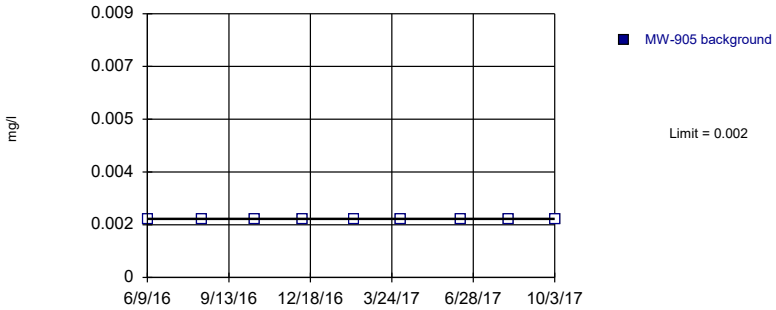
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-905



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 9) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.009329. Individual comparison alpha = 0.004675 (1 of 3). Assumes 1 future value.

Constituent: THALLIUM Analysis Run 5/13/2020 9:33 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

Prediction Limit

Constituent: THALLIUM Analysis Run 5/13/2020 9:39 AM View: Bottom Ash A IV
LaCygne Client: SCS Engineers Data: LaC GW Data

	MW-903	MW-904	MW-905
6/8/2016	<0.002		
6/9/2016			<0.002
8/11/2016	<0.002		
8/12/2016			<0.002
10/13/2016	<0.002		
10/14/2016			<0.002
12/9/2016	<0.002		<0.002
2/8/2017			<0.002
2/10/2017	<0.002		
4/4/2017	<0.002		<0.002
5/3/2017		<0.002	
5/24/2017		<0.002	
6/12/2017		<0.002	
6/14/2017			<0.002
6/16/2017	<0.002		
6/30/2017		<0.002	
7/21/2017		<0.002	
8/7/2017		<0.002	
8/9/2017			<0.002
8/10/2017	<0.002		
9/1/2017		<0.002	
9/22/2017		<0.002	
10/3/2017	<0.002		<0.002
10/5/2017		<0.002	

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 5/13/2020, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
ANTIMONY (mg/l)	MW-901	0.00251	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
ANTIMONY (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
ANTIMONY (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
ANTIMONY (mg/l)	MW-904	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
ANTIMONY (mg/l)	MW-905	0.00326	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
ARSENIC (mg/l)	MW-901	0.00237	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
ARSENIC (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
ARSENIC (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
ARSENIC (mg/l)	MW-904	0.00508	n/a	n/a	1 future	n/a	9	77.78	n/a	0.004675	NP Intra (NDs) 1 of 3
ARSENIC (mg/l)	MW-905	0.00387	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
BARIUM (mg/l)	MW-901	0.2249	n/a	n/a	1 future	n/a	9	0	x^2	0.000...	Param Intra 1 of 3
BARIUM (mg/l)	MW-902	0.1226	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
BARIUM (mg/l)	MW-903	0.0285	n/a	n/a	1 future	n/a	9	0	n/a	0.004675	NP Intra (normality) ...
BARIUM (mg/l)	MW-904	0.1888	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
BARIUM (mg/l)	MW-905	0.164	n/a	n/a	1 future	n/a	9	0	x^(1/3)	0.000...	Param Intra 1 of 3
BERYLLIUM (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
BERYLLIUM (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
BERYLLIUM (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
BERYLLIUM (mg/l)	MW-904	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
BERYLLIUM (mg/l)	MW-905	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CADMIUM (mg/l)	MW-901	0.001	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CADMIUM (mg/l)	MW-902	0.001	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CADMIUM (mg/l)	MW-903	0.001	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CADMIUM (mg/l)	MW-904	0.001	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CADMIUM (mg/l)	MW-905	0.001	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CHROMIUM (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CHROMIUM (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
CHROMIUM (mg/l)	MW-903	0.00409	n/a	n/a	1 future	n/a	9	77.78	n/a	0.004675	NP Intra (NDs) 1 of 3
CHROMIUM (mg/l)	MW-904	0.0159	n/a	n/a	1 future	n/a	9	77.78	n/a	0.004675	NP Intra (NDs) 1 of 3
CHROMIUM (mg/l)	MW-905	0.018	n/a	n/a	1 future	n/a	9	66.67	n/a	0.004675	NP Intra (NDs) 1 of 3
COBALT (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
COBALT (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
COBALT (mg/l)	MW-903	0.005243	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
COBALT (mg/l)	MW-904	0.0096	n/a	n/a	1 future	n/a	9	77.78	n/a	0.004675	NP Intra (NDs) 1 of 3
COBALT (mg/l)	MW-905	0.00283	n/a	n/a	1 future	n/a	9	66.67	n/a	0.004675	NP Intra (NDs) 1 of 3
FLUORIDE (mg/l)	MW-901	0.5695	n/a	n/a	1 future	n/a	12	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-902	0.5677	n/a	n/a	1 future	n/a	12	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-903	0.132	n/a	n/a	1 future	n/a	12	58.33	n/a	0.002173	NP Intra (NDs) 1 of 3
FLUORIDE (mg/l)	MW-904	0.47	n/a	n/a	1 future	n/a	12	0	No	0.000...	Param Intra 1 of 3
FLUORIDE (mg/l)	MW-905	0.6118	n/a	n/a	1 future	n/a	12	0	No	0.000...	Param Intra 1 of 3
LEAD (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
LEAD (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
LEAD (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
LEAD (mg/l)	MW-904	0.00451	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
LEAD (mg/l)	MW-905	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
LITHIUM (mg/l)	MW-901	0.09118	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
LITHIUM (mg/l)	MW-902	0.04536	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
LITHIUM (mg/l)	MW-903	0.0809	n/a	n/a	1 future	n/a	9	0	n/a	0.004675	NP Intra (normality) ...
LITHIUM (mg/l)	MW-904	0.07083	n/a	n/a	1 future	n/a	9	0	ln(x)	0.000...	Param Intra 1 of 3
LITHIUM (mg/l)	MW-905	0.07896	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3

Prediction Limit

LaCygne Client: SCS Engineers Data: LaC GW Data Printed 5/13/2020, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
MERCURY (mg/l)	MW-901	0.0002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MERCURY (mg/l)	MW-902	0.0002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MERCURY (mg/l)	MW-903	0.0002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MERCURY (mg/l)	MW-904	0.0002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MERCURY (mg/l)	MW-905	0.0002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MOLYBDENUM (mg/l)	MW-901	0.00716	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
MOLYBDENUM (mg/l)	MW-902	0.005	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MOLYBDENUM (mg/l)	MW-903	0.005	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
MOLYBDENUM (mg/l)	MW-904	0.01262	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
MOLYBDENUM (mg/l)	MW-905	0.0165	n/a	n/a	1 future	n/a	9	88.89	n/a	0.004675	NP Intra (NDs) 1 of 3
Radium Combined (pCi/l)	MW-901	2.583	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
Radium Combined (pCi/l)	MW-902	2.753	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
Radium Combined (pCi/l)	MW-903	1.991	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
Radium Combined (pCi/l)	MW-904	3.493	n/a	n/a	1 future	n/a	9	0	sqrt(x)	0.000...	Param Intra 1 of 3
Radium Combined (pCi/l)	MW-905	1.74	n/a	n/a	1 future	n/a	9	0	No	0.000...	Param Intra 1 of 3
SELENIUM (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
SELENIUM (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
SELENIUM (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
SELENIUM (mg/l)	MW-904	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
SELENIUM (mg/l)	MW-905	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
THALLIUM (mg/l)	MW-901	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
THALLIUM (mg/l)	MW-902	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
THALLIUM (mg/l)	MW-903	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
THALLIUM (mg/l)	MW-904	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3
THALLIUM (mg/l)	MW-905	0.002	n/a	n/a	1 future	n/a	9	100	n/a	0.004675	NP Intra (NDs) 1 of 3

Jared Morrison
December 16, 2022

ATTACHMENT 3

Groundwater Potentiometric Surface Map

LEGEND

- MW–901 (843.01) — CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 823 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS OF BOTTOM ASH IMPOUNDMENT)
- 141 FT/YR — DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
2. MONITOR WELL LOCATION ARE PROVIDED BY AECOM.
3. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 19, 2020.

100 0 100 200
SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2020)
BOTTOM ASH IMPOUNDMENT

PROJECT TITLE
2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
EVERGY METRO, INC
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX: (913) 681-0012

PROJ. NO.	DWN. BY:	CHK. BY:	QA/A R/W BY:
27217233.20	MBJ	JRR	JRR
DSN. BY:			PROJ. MGR
DAW			JRF

CADD FILE:
LA CYGNE BA KDHE GW_MAY2020.DWG

DATE:
11/29/22

FIGURE NO.
2

N:\KCPL\Projects\Groundwater\DWG\La Cygne\2020\La Cygne BA KDHE GW_MAY2020.dwg Nov 29, 2022 - 5:03pm Layout Name: Fig 1 By: swyly