2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

FLY ASH IMPOUNDMENT
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

Presented To:
Evergy Missouri West, Inc.

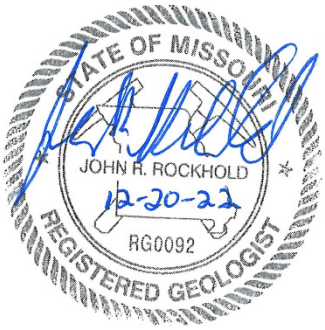
SCS ENGINEERS

27213169.21 | January 2022, Revised December 20, 2022

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

CERTIFICATIONS

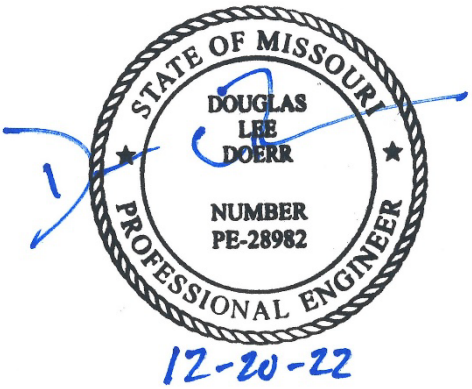
I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify that the 2021 Annual Groundwater Monitoring and Corrective Action Report for the Fly Ash Impoundment at the Sibley Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



John R. Rockhold, R.G.

SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify that the 2021 Annual Groundwater Monitoring and Corrective Action Report for the Fly Ash Impoundment at the Sibley 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 2022	NA	Original
1	December 20, 2022	Section 2.3	Removed reference to Appendix IV sampling during the spring sampling event.
1	December 20, 2022	Addendum 1	Added Addendum 1

Table of Contents

Appendices

1 INTRODUCTION

This 2021 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule) published by the United States Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent revisions. Specifically, this report was prepared for Evergy Missouri West, 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 2021 Annual Groundwater Monitoring and Corrective Action Report for the Fly Ash Impoundment at the Sibley 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, 2021), 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, 2021), the CCR Impoundment was operating under a detection monitoring program in compliance with § 257.94.

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

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

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

Monitoring Event	Monitoring Well	Constituent	ASD
Fall 2020	MW-803	Chloride	Successful
Spring 2021	MW-804	Chloride	Successful
Spring 2021	MW-805	Fluoride	Successful

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

Not applicable because an assessment monitoring program was not initiated.

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

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

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

This unit is not in assessment monitoring, however, during the process of preparation for closure, Appendix IV groundwater parameters were sampled to determine if concentrations were below groundwater protection standards (§ 257.102(c)). Appendix IV parameters were analyzed and detected and are being statistically evaluated. These will be compared to the groundwater protection standards in early 2022.

(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 Fly Ash Impoundment and all background (or upgradient) and downgradient monitoring wells with identification numbers for the Fly 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 Fly Ash Impoundment in 2021.

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

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

Only detection monitoring was required to be conducted during the reporting period (2021). Samples collected in 2021 were collected and analyzed for Appendix III detection monitoring constituents. In November 2021, during the process of preparation for closure, Appendix IV groundwater parameters were sampled to determine if concentrations were below groundwater protection standards (§ 257.102(c)). Appendix IV parameters were analyzed and detected and are being statistically evaluated. These will be compared to the groundwater protection standards in early 2022. Results of the sampling events are provided in **Appendix B**, **Table 1** (Appendix III and IV Detection and Appendix IV Closure Monitoring Results), and **Table 2** (Detection and Closure Monitoring Field Measurements). These tables include Fall

2020 semiannual detection monitoring event verification sample data collected and analyzed in 2021; Spring 2021 semiannual detection monitoring data, verification sample data, supplementary Appendix IV sample data for the potential development of background; and, the initial Fall 2021 semiannual detection monitoring data and Appendix IV sample data collected as part of the closure certification process. 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 2021. Only detection monitoring was conducted in 2021.

2.5 § 257.90(e)(5) OTHER REQUIREMENTS

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

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

2.5.1 § 257.90(e) Program Status

Status of Groundwater Monitoring and Corrective Action Program.

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

Summary of Key Actions Completed.

a. completion of the Fall 2020 verification sampling and analyses per the certified statistical method,

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

c. completion of the 2020 Annual Groundwater Monitoring and Corrective Action Report,

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

e. completion of the Spring 2021 semiannual detection monitoring sampling and analysis event with subsequent verification sampling per the certified statistical method, and supplemental Appendix IV sample analysis,

f. completion of the statistical evaluation of the Spring 2021 semiannual detection monitoring sampling and analysis event per the certified statistical method,

g. completion of a successful alternative source demonstration for the Spring 2021 semiannual

detection monitoring sampling and analysis event,

h. initiation of the Fall 2021 semiannual detection monitoring sampling and analysis event, and

i. initiation of sampling and analysis in support of closure-by-removal (§ 257.102(c).

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 (2022).

Completion of verification sampling and data analysis, and the statistical evaluation of Fall 2021 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s); statistical evaluation of results in support of closure-by-removal sampling from the Fall 2021 sampling and analysis event (§ 257.102(c)) and, if required, alternative source demonstration(s). Semiannual Spring and Fall 2022 groundwater sampling and analysis. Completion of the statistical evaluation of the Spring 2022 detection monitoring sampling and analysis event, and, if required, alternative source demonstration(s).

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

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

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

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

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

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

C.1 CCR Groundwater Monitoring Alternative Source Demonstration Report November 2020 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (May 2021).

C.2 CCR Groundwater Monitoring Alternative Source Demonstration Report May 2021 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (January 2022).

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 Sibley 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 Missouri West, Inc. for specific application to the Sibley Generating Station Fly Ash Impoundment. No warranties, express or implied, are intended or made.

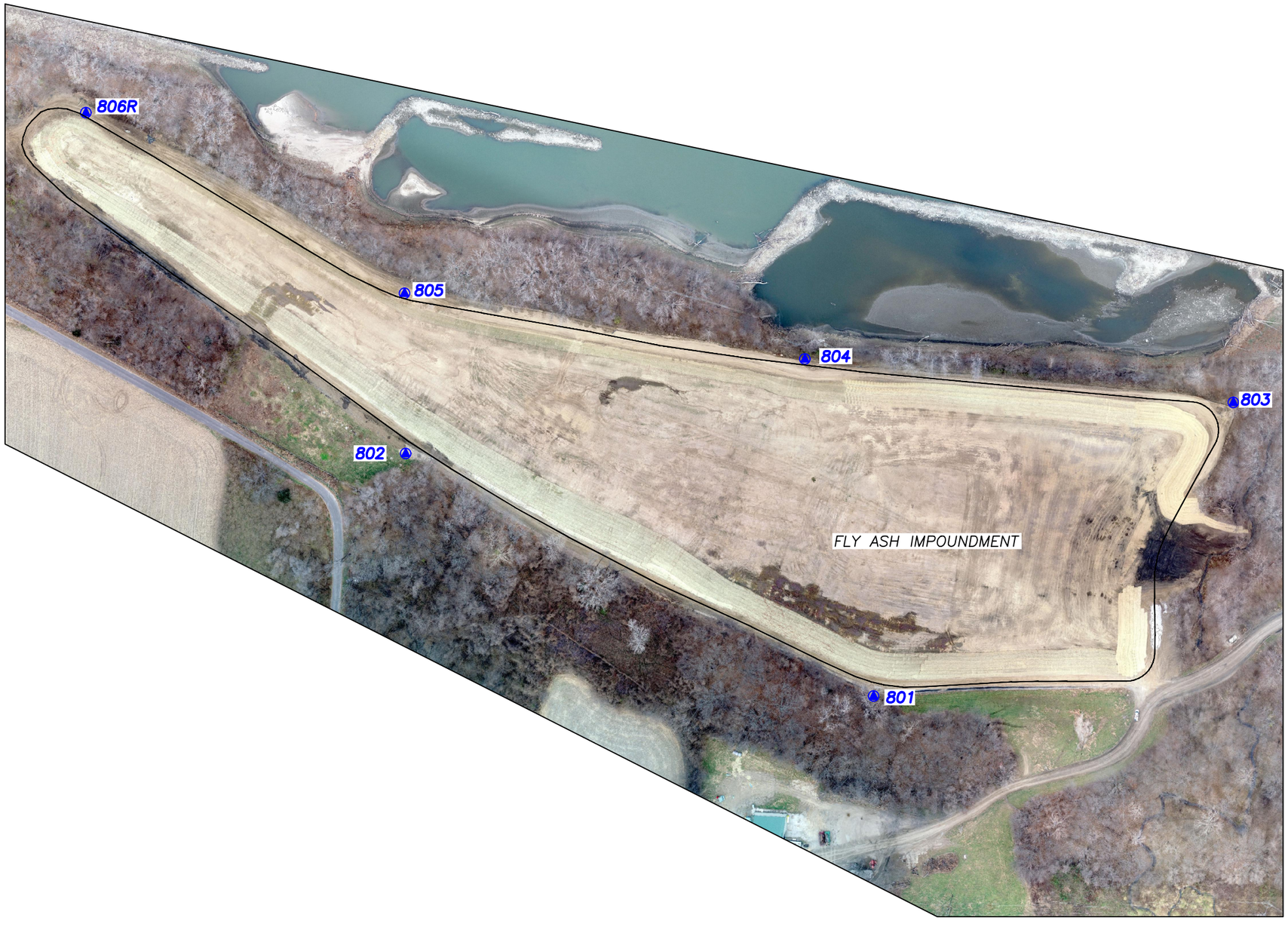
APPENDIX A

FIGURES

Figure 1: Site Map

Figure 2: Potentiometric Surface Map (May 2021)

Figure 3: Potentiometric Surface Map (November 2021)



LEGEND:

- 803 — GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
- CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY

NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010
2. AERIAL IMAGE BY TUKUH TECHNOLOGIES ON DECEMBER 10, 2021.
3. BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.

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SCALE FEET

REV.	DATE
-	-

SHEET TITLE: SITE MAP
FLY ASH IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE: 2020 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT: EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St. Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	DWN. BY:	Q/A RVW BY:
27213169.20	ALR	JRF
DSN. BY:	CHK. BY:	PROJ. MGR.
ALR	JRF	JRF

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DATE: 1/21/22

FIGURE NO. 1

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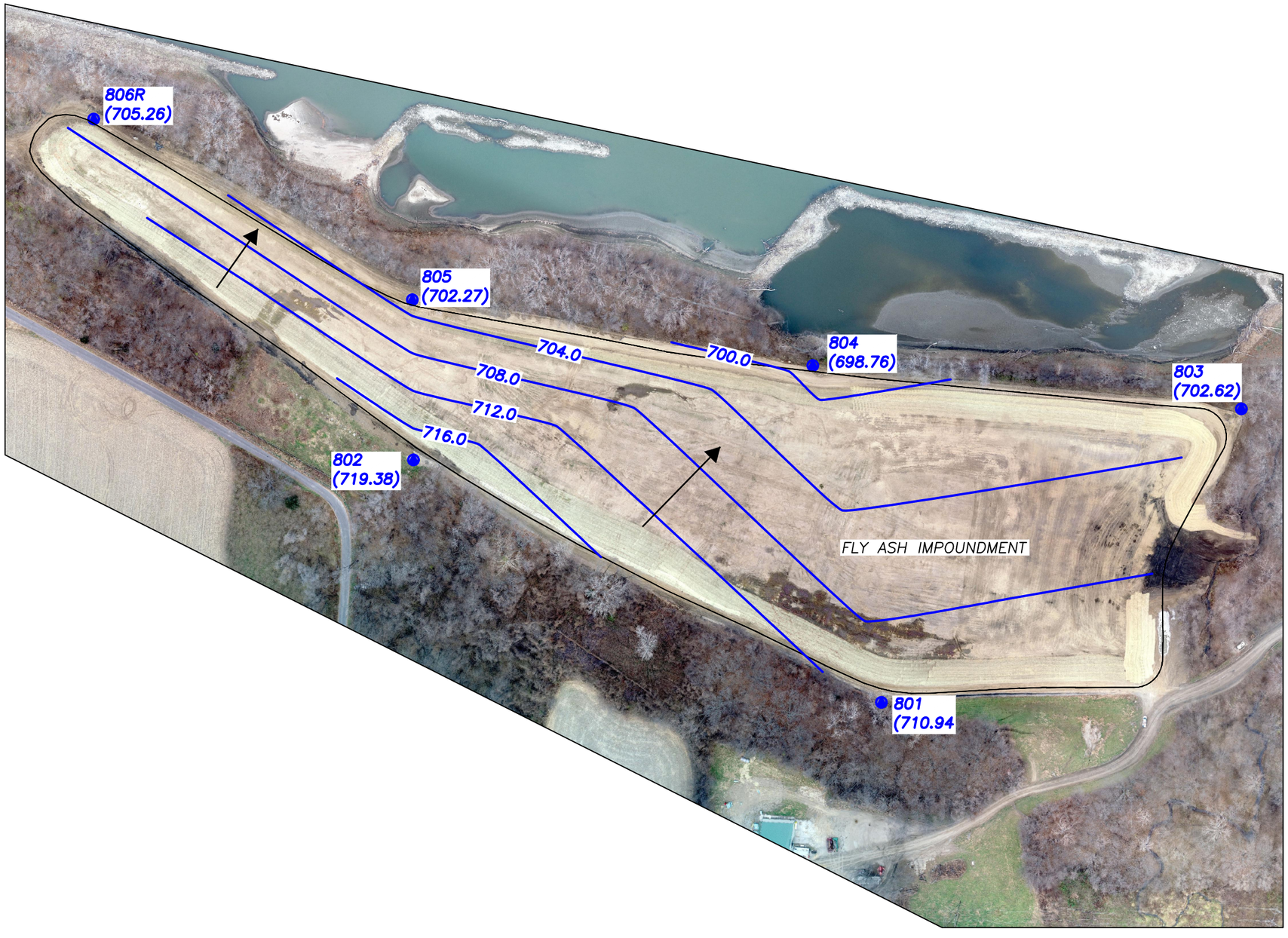

LEGEND:

- *760* — *GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)*
- *803 (699.19)* — *GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)*
- *CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY*
- *GROUNDWATER FLOW DIRECTION*

NOTES:

1. *HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010*
2. *AERIAL IMAGE BY TUKUH TECHNOLOGIES ON DECEMBER 10, 2021..*
3. *BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.*

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SCALE FEET

REV. | DATE
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- | -

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2021)
CCR FLY ASH IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
SIBLEY GROUNDWATER 2021

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St. Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO. 27213169.20 | DSN. BY: ALR | DWN. BY: ALR | CHK. BY: JRF | Q/A RVW BY: JRF | PROJ. MGR. JRF

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DATE: 1/21/22

FIGURE NO. **2**

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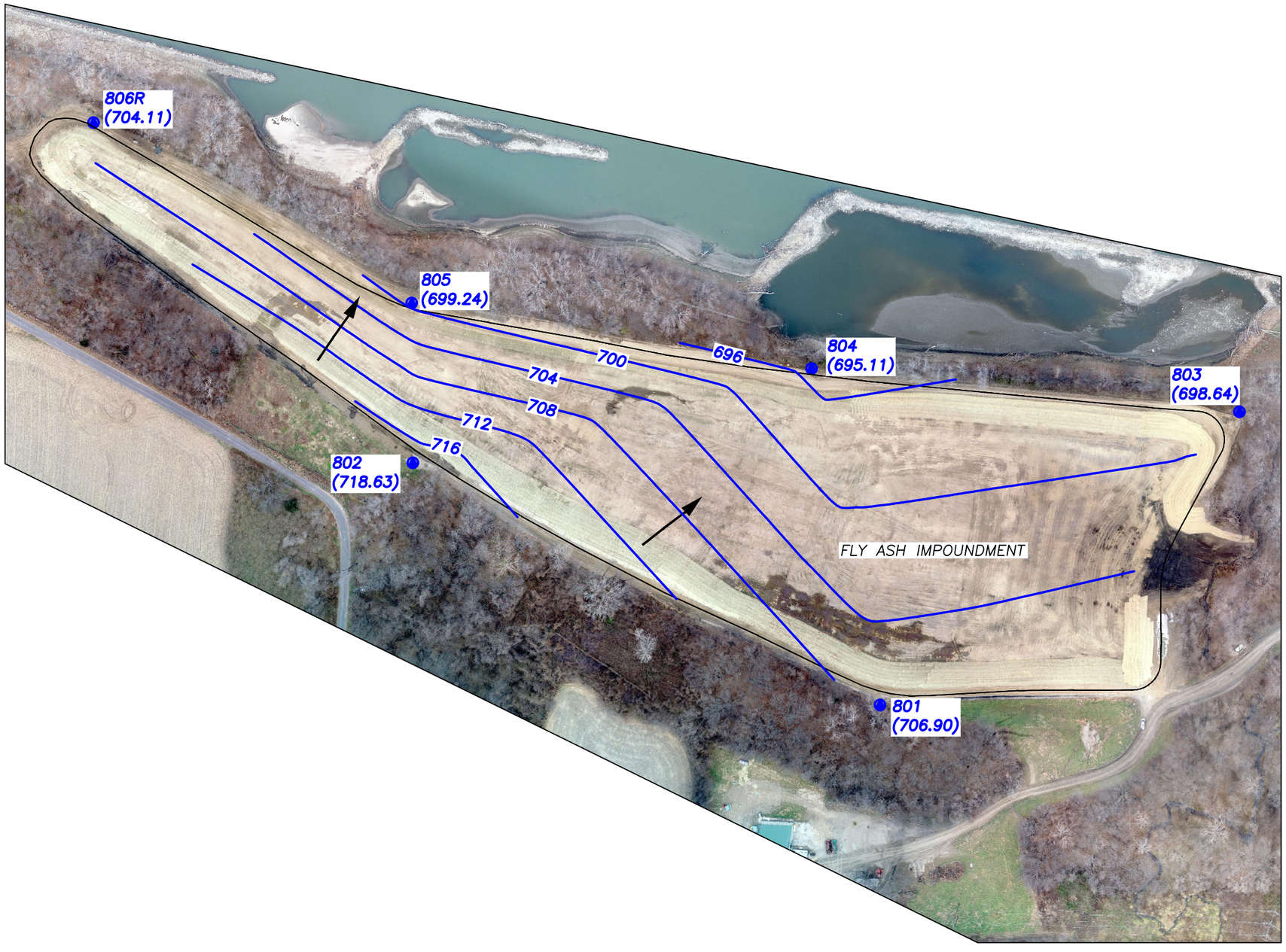

LEGEND:

- 760 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- ● 803 (699.19) GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
- CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY
- GROUNDWATER FLOW DIRECTION

NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010
2. AERIAL IMAGE BY TUKUH TECHNOLOGIES ON DECEMBER 10, 2021.
3. BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.
4. WATER LEVEL MEASUREMENTS COLLECTED ON NOVEMBER 15, 2021.

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOVEMBER 2021)
CCR FLY ASH IMPOUNDEMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
SIBLEY GROUNDWATER 2021

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St. Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO. 27213169.20
DSN. BY: ALR
DWN. BY: ALR
CHK. BY: JRF
Q/A RVW BY: JRF
PROJ. MGR. JRF

CADD FILE:
FIG 2 - NOVEMBER 2021 V1.DWG

DATE:
1/21/22

FIGURE NO.
3

APPENDIX B

TABLES

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

Table 2: Detection and Closure Monitoring Field Measurements

Table 1
Fly Ash Impoundment
Appendix III and IV Detection and Appendix IV Closure Monitoring Results
Evergy Sibley 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)	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-801	5/24/2021	0.326	136	92.9	0.208	7.11	60.0	550	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-801	7/6/2021	---	---	---	*0.192	**6.63	---	---	**<0.00400	**<0.00200	**0.136	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.192	**<0.00200	**0.0166	**<0.000200	**<0.00500	**<0.00200	**<0.00200	---
MW-801	11/15/2021	<0.200	144	144	0.150	6.34	49.4	633	<0.00400	<0.00200	0.154	<0.00200	<0.00100	<0.0100	<0.00200	0.15	<0.00200	<0.0150	<0.000200	<0.00500	<0.00200	<0.00200	0.916
MW-802	5/25/2021	<0.200	70.2	48.0	0.211	6.36	27.1	321	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-802	7/6/2021	---	---	---	**0.203	**6.43	---	---	**<0.00400	**0.00286	**0.165	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.203	**0.00203	**<0.0150	**<0.000200	**<0.00500	**<0.00200	**<0.00200	---
MW-802	11/15/2021	<0.200	60.8	50.3	<0.150	6.10	68.7	335	<0.00400	0.00267	0.16	<0.00200	<0.00100	<0.0100	<0.00200	<0.150	<0.00200	<0.0150	<0.000200	<0.00500	0.00511	<0.00200	0.786
MW-803	2/3/2021	---	---	*18.1	---	*6.99	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-803	3/1/2021	---	---	*18.5	---	**7.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-803	5/25/2021	2.42	113	17.2	0.303	6.70	124	512	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-803	7/6/2021	---	---	*17.1	**0.282	*7.06	---	---	**<0.00400	**<0.00200	**0.114	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.282	**0.0045	**0.0150	**<0.000200	**<0.00500	**<0.00200	**<0.00200	---
MW-803	11/15/2021	2.94	117	17.9	0.276	6.91	110	504	<0.00400	0.00265	0.122	<0.00200	<0.00100	<0.0100	<0.00200	0.276	<0.00200	<0.0150	<0.000200	<0.00500	<0.00200	<0.00200	0.707
MW-804	2/3/2021	*6.79	---	*16.8	---	**6.90	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-804	5/25/2021	7.82	139	19.5	0.280	6.51	<5.00	575	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-804	7/6/2021	---	---	*20.1	*0.238	*6.92	---	---	**<0.00400	**0.00211	**0.429	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.238	**<0.00200	**0.0228	**<0.000200	**<0.00500	**<0.00200	**<0.00200	---
MW-804	9/2/2021	---	---	*19.8	---	**6.90	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-804	11/15/2021	9.36	145	20.5	0.275	6.92	<5.00	571	<0.00400	0.00205	0.450	<0.00200	<0.00100	<0.0100	<0.00200	0.275	<0.00200	0.0196	<0.000200	<0.00500	<0.00200	<0.00200	0.949
MW-805	5/25/2021	<0.200	90.4	6.93	0.238	6.89	45.1	329	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-805	7/6/2021	---	---	---	*0.220	**7.31	---	---	**<0.00400	**<0.00200	**0.148	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.220	**<0.00200	**<0.0150	**<0.000200	**<0.00500	**<0.00200	**<0.00200	---
MW-805	9/2/2021	---	---	---	*0.222	**7.28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-805	11/15/2021	<0.200	86.7	6.38	0.213	7.04	41.8	337	<0.00400	<0.00200	0.14	<0.00200	<0.00100	<0.0100	<0.00200	0.213	<0.00200	<0.0150	<0.000200	<0.00500	<0.00200	<0.00200	1.42
MW-806R	5/24/2021	4.35	145	27.7	0.253	6.61	209	651	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-806R	7/6/2021	---	---	---	**0.236	*7.35	---	---	**<0.00400	**0.00546	**0.0775	**<0.00200	**<0.00100	**<0.0100	**<0.00200	**0.236	**<0.00200	**0.0176	**<0.000200	**1.73	**<0.00200	**<0.00200	---
MW-806R	11/15/2021	4.40	149	27.8	0.222	7.10	209	662	<0.00400	0.00362	0.0723	<0.00200	<0.00100	<0.0100	<0.00200	0.222	<0.00200	<0.0150	<0.000200	1.64	<0.00200	<0.00200	1.78

* 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
Fly Ash Impoundment
Detection and Closure Monitoring Field Measurements
Evergy Sibley 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-801	5/24/2021	7.11	2380	13.56	18.5	172	2.39	19.42	710.94
MW-801	7/6/2021	**6.63	1010	16.53	0.9	142	1.53	19.50	710.86
MW-801	11/15/2021	6.34	1013	12.87	0.0	169	0.42	23.46	706.90
MW-802	5/25/2021	6.36	518	15.02	18.8	90	0.00	11.79	719.38
MW-802	7/6/2021	**6.43	597	16.03	18.2	142	1.75	11.38	719.79
MW-802	11/15/2021	6.10	569	13.24	23.0	229	4.42	12.54	718.63
MW-803	2/3/2021	*6.99	814	14.30	0.0	-106	0.88	29.09	697.80
MW-803	3/1/2021	**7.20	796	12.60	2.5	-113	1.84	29.02	697.87
MW-803	5/25/2021	6.70	733	16.17	0.0	-77	0.21	24.27	702.62
MW-803	7/6/2021	*7.06	780	20.62	9.2	-35	0.82	25.72	701.17
MW-803	11/15/2021	6.91	872	15.85	0.0	-117	0.00	28.25	698.64
MW-804	2/3/2021	**6.90	1020	14.01	13.1	-101	1.03	35.64	692.82
MW-804	5/25/2021	6.51	952	19.12	7.0	-121	0.00	29.70	698.76
MW-804	7/6/2021	*6.92	967	18.64	17.1	-103	0.00	31.73	696.73
MW-804	9/2/2021	**6.90	987	17.67	25.0	-136	0.35	33.82	694.64
MW-804	11/15/2021	6.92	1120	16.75	31.1	-136	0.00	33.35	695.11
MW-805	5/25/2021	6.89	518	17.34	0.0	12	0.99	26.52	702.27
MW-805	7/6/2021	**7.31	526	18.75	0.0	26	1.07	27.92	700.87
MW-805	9/2/2021	**7.28	529	17.77	2.4	-35	5.89	29.88	698.91
MW-805	11/15/2021	7.04	571	16.96	0.0	-27	0.00	29.55	699.24
MW-806R	5/24/2021	6.61	908	17.83	0.5	-95	1.23	23.90	705.26
MW-806R	7/6/2021	*7.35	893	18.72	9.0	-62	1.01	22.49	705.26
MW-806R	11/15/2021	7.10	1020	16.63	8.8	-103	0.00	25.05	704.11

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

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

S.U. - Standard Units

µS - microsiemens

°C - Degrees Celsius

ft btoc - Feet Below Top of Casing

ft NGVD - National Geodetic Vertical Datum (NAVD 88)

NTU - Nephelometric Turbidity Unit

APPENDIX C

ALTERNATIVE SOURCE DEMONSTRATIONS

C.1 Groundwater Monitoring Alternative Source Demonstration Report November 2020 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (May 2021)

C.2 Groundwater Monitoring Alternative Source Demonstration Report May 2021 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (January 2022)

C.1 Groundwater Monitoring Alternative Source Demonstration Report November 2020 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (May 2021)

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

FLY ASH IMPOUNDMENT

Sibley Generating Station
Evergy Missouri West, Inc.
Sibley, Missouri

SCS ENGINEERS

May 2021
File No. 27213169.20

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

CERTIFICATIONS

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

John R. Rockhold, R.G.

SCS Engineers

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

Douglas L. Doerr, P.E.

SCS Engineers

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Appendices

1 REGULATORY FRAMEWORK

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

2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the Fly Ash Impoundment at the Sibley 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 11, 2021. Review and validation of the results from the November 2020 Detection Monitoring Event was completed on December 24, 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 February 3, 2021 and March 1, 2021.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-803.

Constituent/Monitoring Well	*UPL	Observation November 11, 2020	1st Verification February 3, 2021	2nd Verification March 1, 2021
Chloride				
MW-803	17.17	17.4	18.1	18.5

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for chloride at monitoring well MW-803.

3 ALTERNATIVE SOURCE DEMONSTRATION

An Alternative Source Demonstration is a means to provide supporting lines of evidence that something other than a release from a regulated CCR unit caused an SSI. For the above-identified SSI for the Fly Ash Impoundment at the Sibley Generating Station, there are multiple lines of supporting evidence to indicate the above SSI was not caused by a release from the Fly Ash Impoundment. Select multiple lines of supporting evidence are described as follows.

3.1 BOX AND WHISKERS PLOTS

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

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

The box and whiskers plot for chloride in monitoring well MW-803 was compared to the concentration of chloride in the other monitoring wells. The box and whiskers plots for chloride from upgradient wells are significantly greater than the concentration in MW-803. The higher concentration of chloride in the upgradient wells demonstrates that a source other than the Fly Ash Impoundment caused the SSI over background levels for chloride, or that the SSI resulted from natural variation in groundwater quality. Box and whisker plots for chloride are provided in **Appendix A**.

3.2 PIPER DIAGRAM PLOTS

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

A piper diagram has two triangular plots on the right and left side of a 4-sided center field. The three major cations are plotted in the left triangle and anions in the right. Each of the three cation/anion variables, in milliequivalents, is divided by the sum of the three values, to produce a percent of total cation/anions. These percentages determine the location of the associated symbol. The data points in the center field are located by extending the points in the lower triangles to the point of intersection. In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO4), Carbonate (CO3), and Bicarbonate (HCO3).

A piper diagram was prepared to compare plots for MW-803 to plots for three ash pore water samples (ASD-1, ASD-2, and ASD-3) collected in the Fly Ash Impoundment with a Geoprobe® screen-point 15 groundwater sampler. Sample locations are shown on **Figure 1** in **Appendix B**. Samples were collected

on November 8, 2018 for the ash pore water. The analytical results are provided in **Appendix C** along with the piper diagram. The piper diagram plots indicate the groundwater from the wells does not exhibit the same geochemical characteristics as the ash pore water. The groundwater and the ash pore water plot in different areas indicating there are two types of water (groundwater and ash pore water) and that the waters are not mixing. This helps demonstrate that a source other than the Fly Ash Impoundment could have caused the SSIs over background levels for chloride or that the SSIs resulted from natural variation in groundwater quality.

3.3 TIME SERIES PLOTS

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

The times series plot for chloride in monitoring well MW-803 was compared to the time series plot for upgradient and downgradient wells. The chloride concentration in well MW-803 was similar to that of the other downgradient wells and lower than the upgradient wells. These time series plots demonstrate that a source other than the Fly Ash Impoundment caused the SSI over the background level for chloride or that the SSI resulted from natural variation in groundwater quality. Time series plots for chloride are provided in **Appendix D**.

4 CONCLUSION

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

5 GENERAL COMMENTS

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

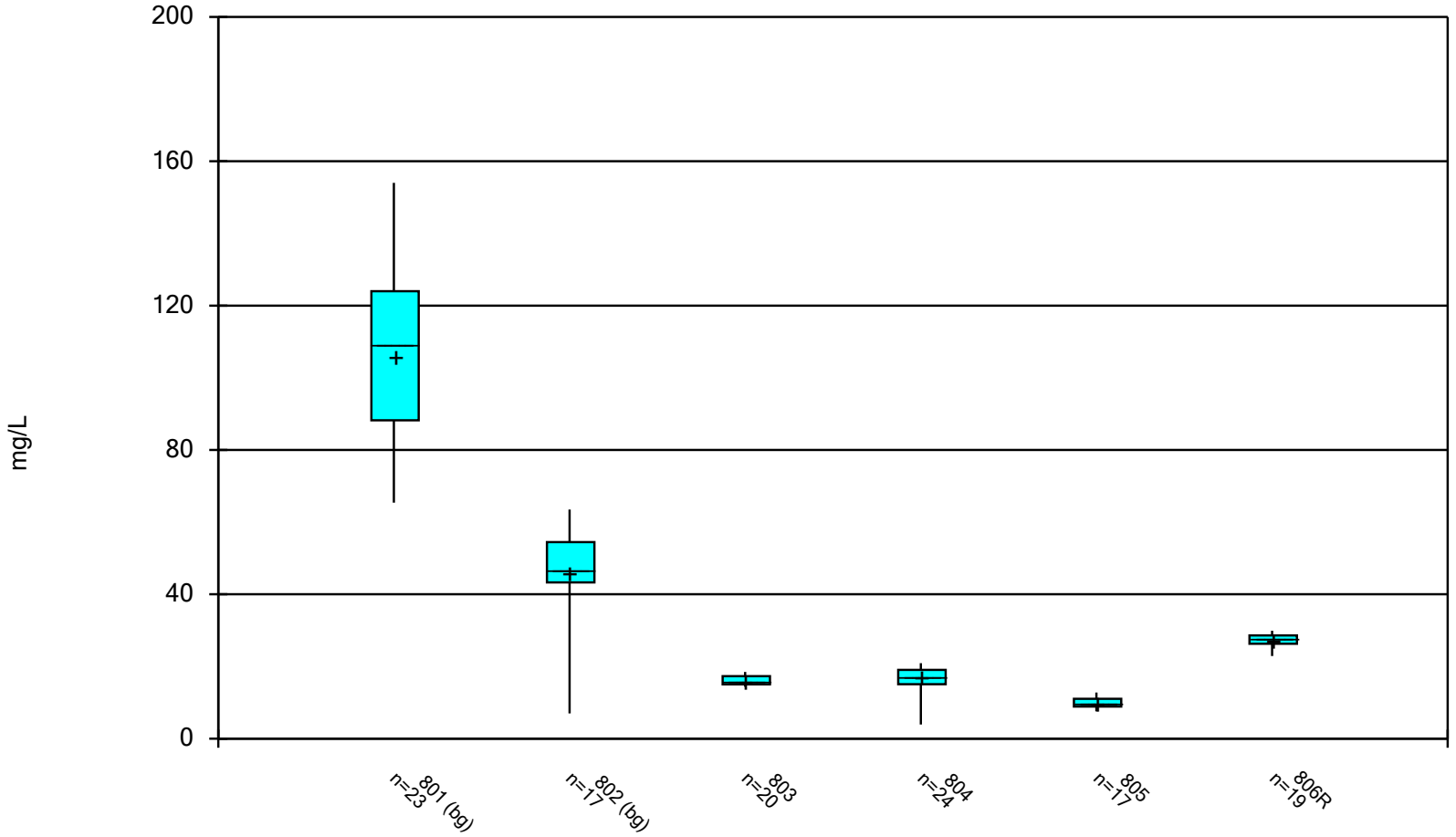
The signatures of the certifying registered geologist and professional engineer on this document represent that to the best of their knowledge, information, and belief in the exercise of their professional judgement in accordance with the standard of practice, it is their professional opinion that the aforementioned information is accurate as of the date of such signature. Any opinion or decisions by them are made on the basis of their experience, qualifications, and professional judgement and are not to be construed as

warranties or guaranties. In addition, opinions relating to regulatory, environmental, geologic, geochemical and geotechnical conditions interpretations or other estimates are based on available data, and actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

Appendix A

Box and Whiskers Plots

Box & Whiskers Plot



Constituent: Chloride Analysis Run 4/27/2021 12:19 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

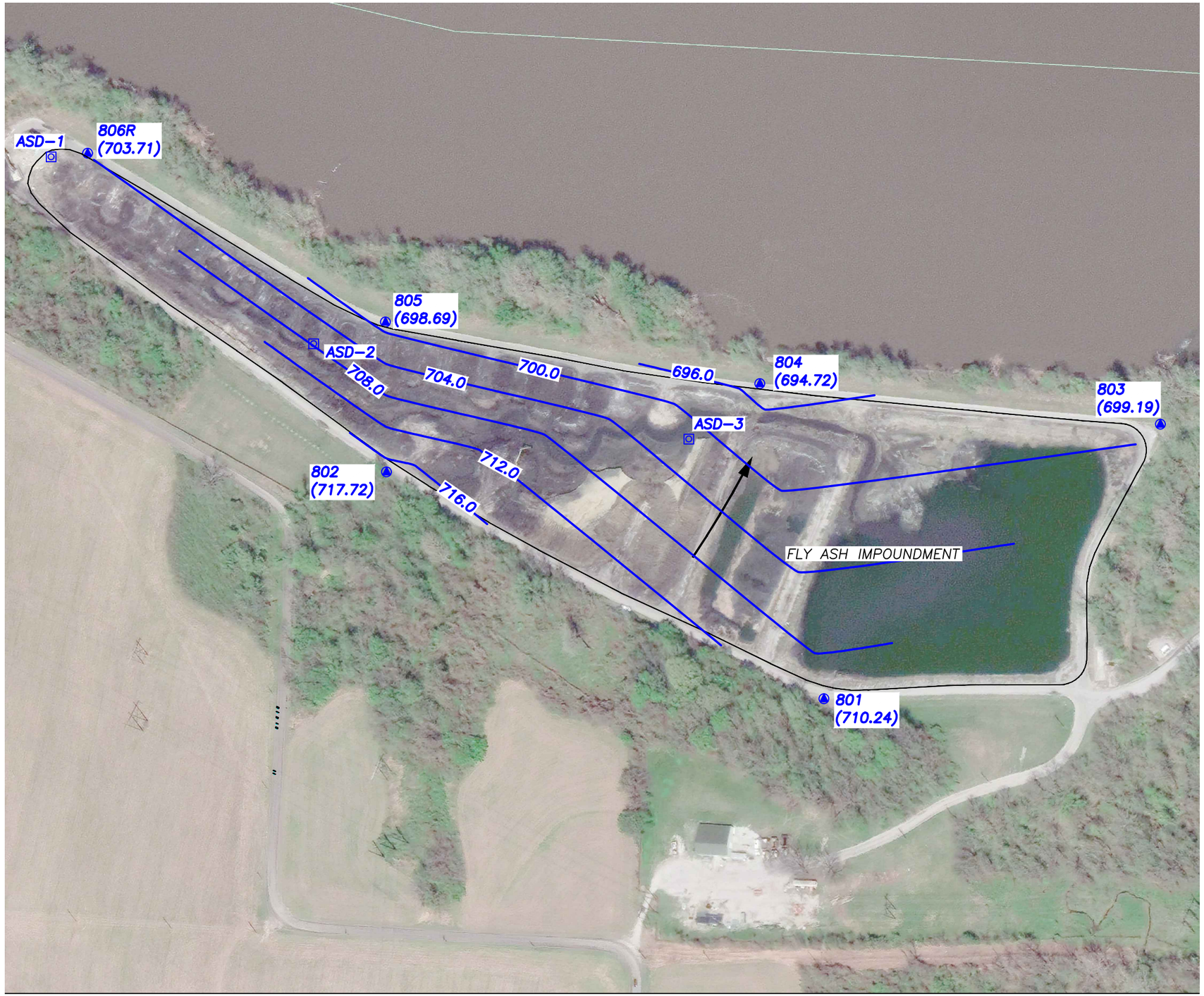
Box & Whiskers Plot

Sibley Client: SCS Engineers Data: Sibley Printed 4/27/2021, 12:20 PM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Chloride (mg/L)	801 (bg)	23	105.8	24.46	5.099	109	65.4	154	0
Chloride (mg/L)	802 (bg)	17	45.79	13.81	3.349	46.7	7	63.5	0
Chloride (mg/L)	803	20	16.24	1.195	0.2673	16.05	14.4	18.5	0
Chloride (mg/L)	804	24	16.89	3.53	0.7206	17.5	3.9	20.9	0
Chloride (mg/L)	805	17	9.985	1.397	0.3389	9.86	7.58	12.8	0
Chloride (mg/L)	806R	19	27.18	1.992	0.4571	27.7	22.9	29.9	0

Appendix B

Figure 1



LEGEND:

- 760 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 803 (699.19) GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
- ASD–2 GEOPROBE PORE WATER SAMPLE LOCATION
- FLY ASH IMPOUNDMENT UNIT BOUNDARY
- GROUNDWATER FLOW DIRECTION

NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010
2. GOOGLE EARTH AERIAL IMAGE. APRIL 2020.
3. BOUNDARY AND MONITORING WELL LOCATIONS SHOWN ARE APPROXIMATE.

200 0 200 400

SCALE FEET

REV.	DATE
-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOV 2020)
FLY ASH IMPOUNDEMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
ALTERNATIVE SOURCE DEMONSTRATION

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO. 27213169.20
DSN. BY: TGW
DWN. BY: ALR
CHK. BY: JRF
QA REW BY: JRF
PROJ. MGR: JRF

CADD FILE:
20 – NOVEMBER_GW V1 – ALTERNATIVE SOURCE DEMONSTRATION.DWG

DATE: 4/27/21

FIGURE NO. 1

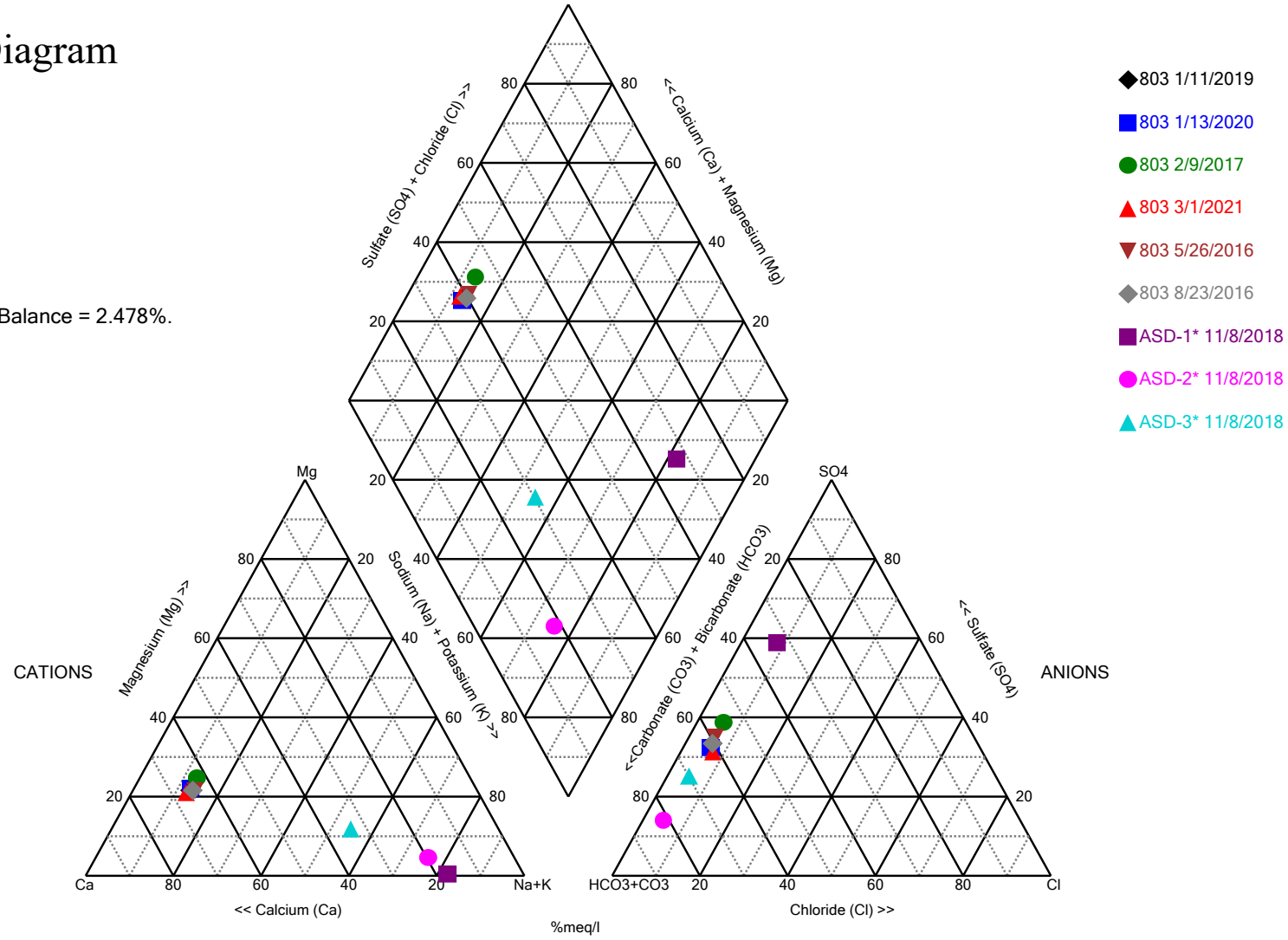
N:\KCPL\Projects\Groundwater\DWG\Sibley\2020\GW\NOVEMBER 2020\20 - NOVEMBER_GW v1 - Alternative Source Demonstration.dwg Apr 27, 2021 - 2:21pm Layout Name: Fig 2C By: 4415alr

Appendix C

Piper Diagram Plots and Laboratory Results

Piper Diagram

Cation-Anion Balance = 2.478%.



Analysis Run 4/27/2021 1:11 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Piper Diagram

Analysis Run 4/27/2021 1:13 PM View: Ash Pond III

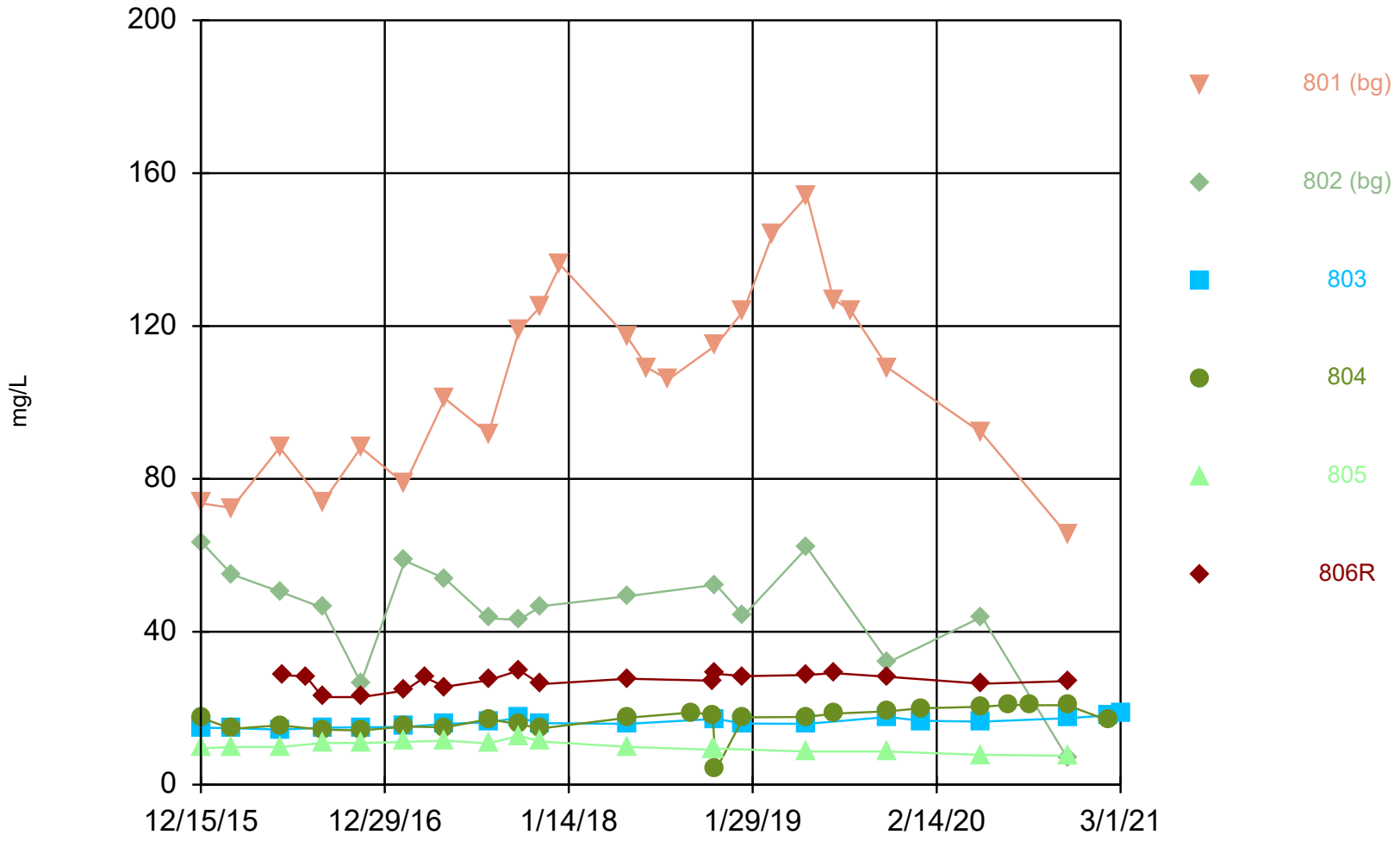
Sibley Client: SCS Engineers Data: Sibley

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
803 5/26/2016	28.5	2.67	120	23.8	14.4	135	275	10
803 8/23/2016	27.6	2.47	120	24.2	14.9	130	282	10
803 2/9/2017	24.3	2.46	105	25	15.1	157	271	10
803 1/11/2019	25.3	2.33	116	23.1	16	125	275	10
803 1/13/2020	24.9	2.25	114	23	16.7	130	302	10
803 3/1/2021	23	2.15	115	22	18.5	115	274	10
ASD-1* 11/8/2018	178	38.6	37.1	0.5	29.3	303	10	104
ASD-2* 11/8/2018	497	82.4	124	17	43.8	211	10	795
ASD-3* 11/8/2018	365	42.2	208	43.8	41.5	336	10	592

Appendix D

Time Series Plots

Time Series



Constituent: Chloride Analysis Run 4/27/2021 12:15 PM View: Ash Pond III Sibley Client: SCS Engineers Data: Sibley

Time Series

Constituent: Chloride (mg/L) Analysis Run 4/27/2021 12:18 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

	801 (bg)	802 (bg)	803	804	805	806R
12/15/2015			14.9	17.5	9.51	
12/16/2015	73.6	63.5				
2/17/2016	72.4	55	14.8	14.6	9.86	
5/26/2016	88.2	50.5	14.4	15.5	9.85	
6/2/2016						28.6
7/19/2016						28.4
8/23/2016	73.8	46.3	14.9	14.4	10.9	22.9
11/10/2016	88.2	26.6	15	14.2	10.9	
11/11/2016						22.9
2/9/2017	78.6	58.6	15.1	15.2	11.2	24.6
3/22/2017						28.1
5/3/2017	101	53.9	15.9	15	11.5	25.6
8/1/2017	91.8	43.5	16.3	17.1	10.8	27.3
10/4/2017	119	43.1	17.5	15.8	12.8	29.9
11/16/2017	125		16.1	14.7	11.3	
11/17/2017		46.7				26.3
12/28/2017	136					
5/16/2018	117	49.3	15.9	17.5	9.88	27.7
6/27/2018	109					
8/8/2018	106					
9/27/2018				18.9		
11/8/2018				18.3	9.12	27.2
11/15/2018	115	52.3	17.2	3.9	9.45	29
1/11/2019	124	44.2	16	17.6		28.4
3/12/2019	144					
5/22/2019	154	62	15.9	17.7	8.65	28.7
7/16/2019	127			18.6		29.2
8/21/2019	124					
11/6/2019	109	32	17.7	19.2	8.65	28.2
1/13/2020			16.7	20 (i)		
5/18/2020	92	43.9	16.5	20.4	7.79	26.4
7/14/2020				20.9		
8/26/2020				20.8		
11/11/2020	65.4	7	17.4	20.8	7.58	27.1
2/3/2021			18.1	16.8		
3/1/2021			18.5			

C.2 Groundwater Monitoring Alternative Source Demonstration Report May 2021 Groundwater Monitoring Event, Fly Ash Impoundment, Sibley Generating Station (January 2022)

CCR GROUNDWATER MONITORING ALTERNATIVE SOURCE DEMONSTRATION REPORT MAY 2021 GROUNDWATER MONITORING EVENT

FLY ASH IMPOUNDMENT

Sibley Generating Station
Evergy Missouri West, Inc.
Sibley, Missouri

SCS ENGINEERS

January 2022
File No. 27213169.20

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

CERTIFICATIONS

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

John R. Rockhold, R.G.
SCS Engineers

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

Douglas L. Doerr, P.E.
SCS Engineers

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Appendices

1 REGULATORY FRAMEWORK

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

2 STATISTICAL RESULTS

Statistical analysis of monitoring data from the groundwater monitoring system for the Fly Ash Impoundment at the Sibley 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 24 and 25, 2021. Review and validation of the results from the May 2021 Detection Monitoring Event was completed on July 9, 2021, 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 6, 2021 and September 2, 2021.

The completed statistical evaluation identified one Appendix III constituent above its prediction limit established for monitoring well MW-804, and one Appendix III constituent above its prediction limit established for monitoring well MW-805.

Constituent/Monitoring Well	*UPL	Observation May 25, 2021	1st Verification July 6, 2021	2nd Verification September 2, 2021
MW-804				
Chloride	19.5	19.5	20.1	19.8
MW-805				
Fluoride	0.2136	0.238	0.220	0.222

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified two SSIs above the background prediction limits. These included chloride at monitoring well MW-804 and fluoride at monitoring well MW-805.

3 ALTERNATIVE SOURCE DEMONSTRATION

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

3.1 BOX AND WHISKERS PLOTS

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

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

The box and whiskers plot for chloride in monitoring well MW-804 was compared to the concentration of chloride in the other monitoring wells. The box and whiskers plots for chloride from upgradient wells are significantly greater than the concentration in MW-804. The higher concentration of chloride in the upgradient wells demonstrates that a source other than the Fly Ash Impoundment caused the SSI over background levels for chloride, or that the SSI resulted from natural variation in groundwater quality.

The box and whiskers plot for fluoride in monitoring well MW-805 was compared to the concentration of fluoride in the other monitoring wells. The box and whiskers plots for fluoride from upgradient wells are significantly greater than the concentration in MW-805. The higher concentration of fluoride in the upgradient wells demonstrates that a source other than the Fly Ash Impoundment caused the SSI over background levels for fluoride, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

Box and whisker plots for chloride are provided in **Appendix A**.

3.2 PIPER DIAGRAM PLOTS

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

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

are located by extending the points in the lower triangles to the point of intersection. In order for a piper diagram to be produced, the selected data file must contain the following constituents: Sodium (Na), Potassium (K), Calcium (Ca), Magnesium (Mg), Chloride (Cl), Sulfate (SO4), Carbonate (CO3), and Bicarbonate (HCO3).

A piper diagram was prepared to compare plots for MW-804 and MW-805 to plots for three ash pore water samples (ASD-1, ASD-2, and ASD-3) collected in the Fly Ash Impoundment with a Geoprobe® screen-point 15 groundwater sampler. Sample locations are shown on **Figure 1** in **Appendix B**. Samples were collected on November 8, 2018 for the ash pore water. The analytical results are provided in **Appendix C** along with the piper diagram. The piper diagram plots indicate the groundwater from the wells does not exhibit the same geochemical characteristics as the ash pore water. The groundwater and the ash pore water plot in different areas indicating there are two types of water (groundwater and ash pore water) and that the waters are not mixing. This helps demonstrate that a source other than the Fly Ash Impoundment caused the SSIs over background levels for chloride and fluoride, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

3.3 TIME SERIES PLOTS

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

The times series plot for chloride in monitoring well MW-804 was compared to the time series plot for upgradient wells. The chloride concentration in well MW-804 is consistently lower than that of the upgradient wells. These time series plots demonstrate that a source other than the Fly Ash Impoundment caused the SSI over the background level for chloride or that the SSI resulted from natural variation in groundwater quality.

The times series plot for fluoride in monitoring well MW-805 was compared to the time series plot for upgradient and downgradient wells. The fluoride concentration in well MW-805 was similar to that of upgradient well MW-802 and similar to the other wells. These time series plots demonstrate that a source other than the Fly Ash Impoundment caused the SSI over the background level for fluoride or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

Time series plots for chloride are provided in **Appendix D**.

4 CONCLUSION

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

5 GENERAL COMMENTS

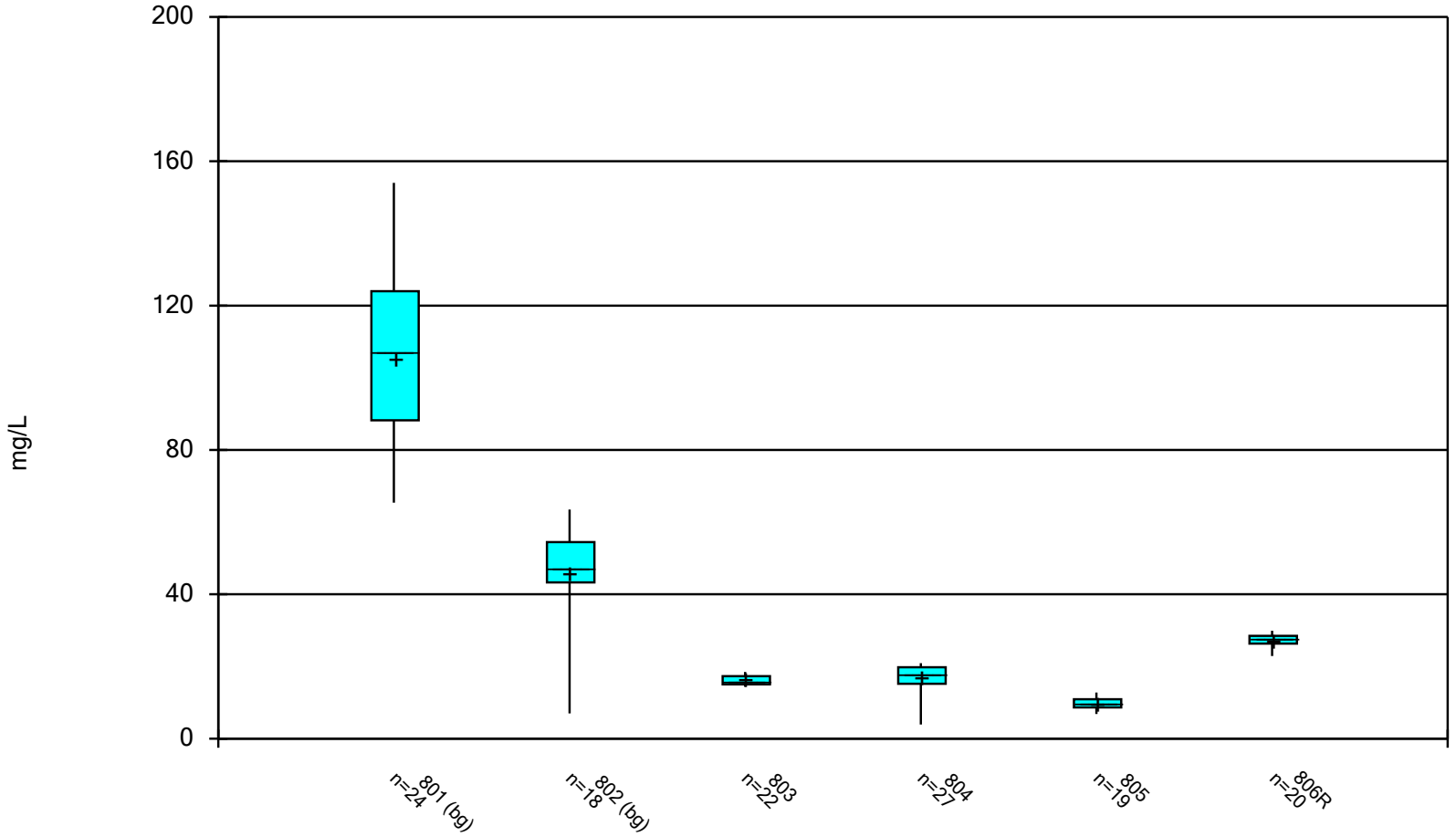
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report.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

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

Appendix A

Box and Whiskers Plots

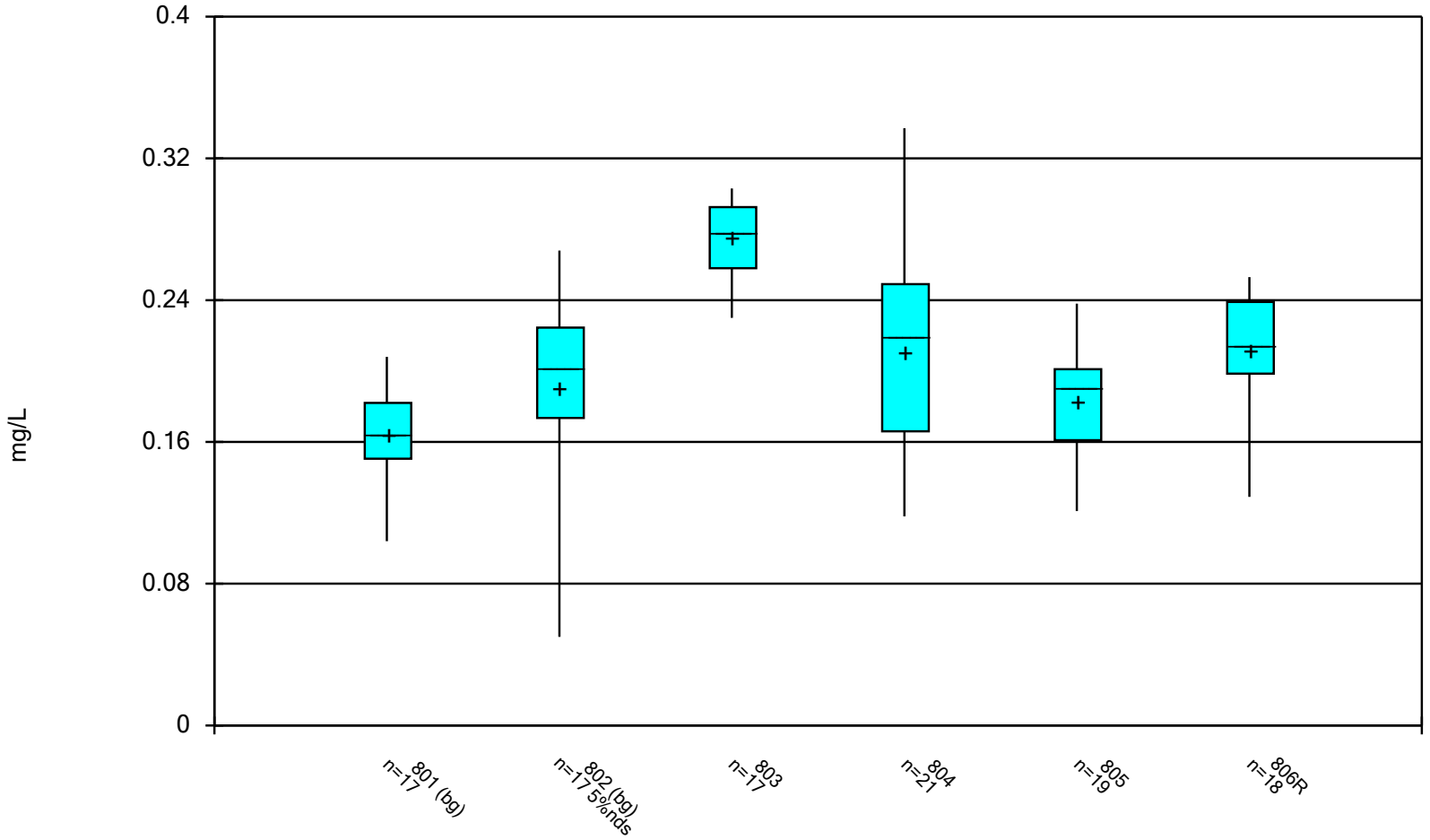
Box & Whiskers Plot



Constituent: Chloride Analysis Run 12/10/2021 3:47 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 12/10/2021 3:47 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

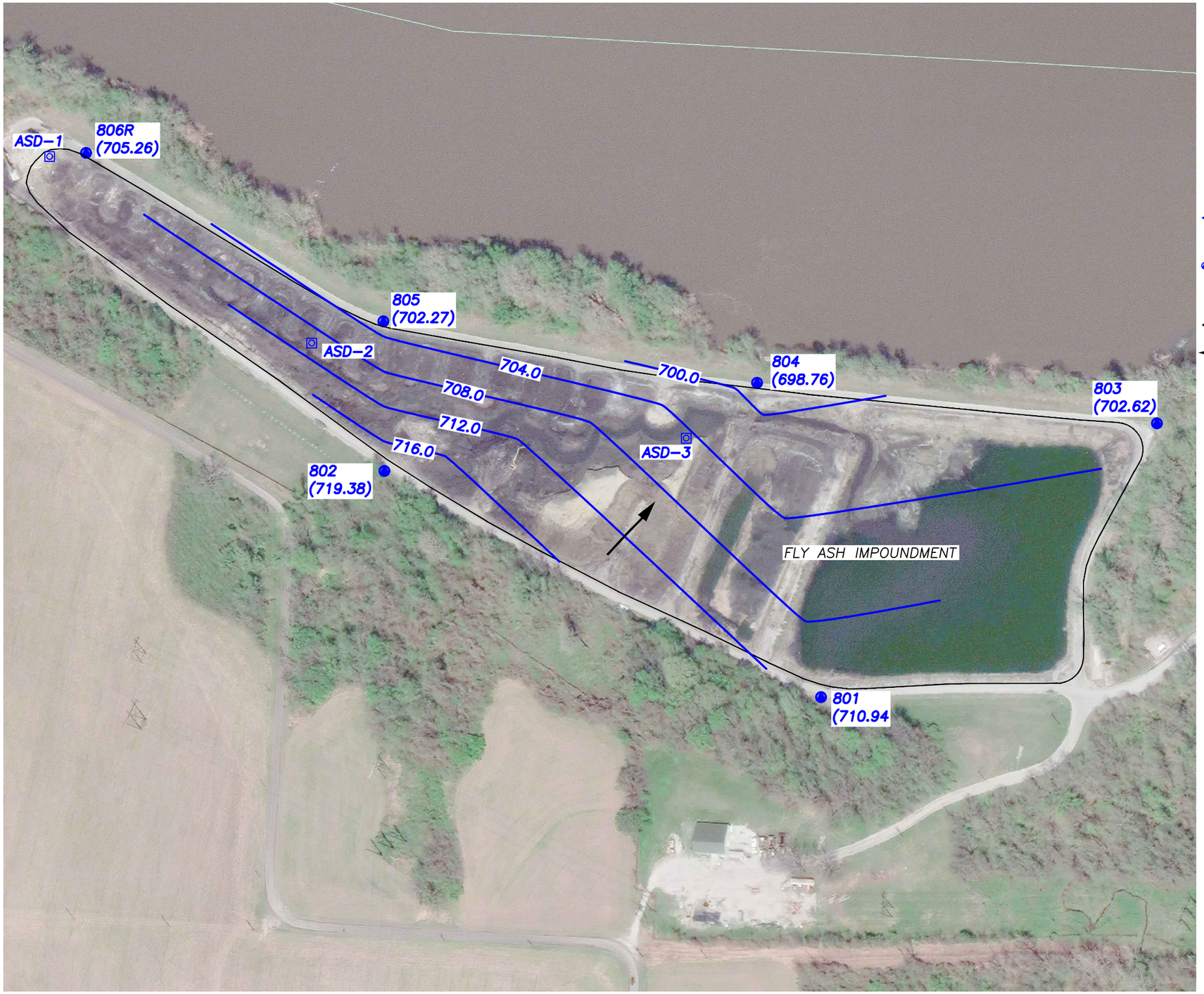
Box & Whiskers Plot

Sibley Client: SCS Engineers Data: Sibley Printed 12/10/2021, 3:48 PM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Chloride (mg/L)	801 (bg)	24	105.3	24.06	4.912	107.5	65.4	154	0
Chloride (mg/L)	802 (bg)	18	45.91	13.41	3.16	47.35	7	63.5	0
Chloride (mg/L)	803	22	16.32	1.168	0.2491	16.2	14.4	18.5	0
Chloride (mg/L)	804	27	17.21	3.45	0.6639	17.6	3.9	20.9	0
Chloride (mg/L)	805	19	9.658	1.641	0.3765	9.85	6.83	12.8	0
Chloride (mg/L)	806R	20	27.21	1.943	0.4344	27.7	22.9	29.9	0
Fluoride (mg/L)	801 (bg)	17	0.1641	0.02568	0.006229	0.165	0.104	0.208	0
Fluoride (mg/L)	802 (bg)	17	0.1907	0.0519	0.01259	0.202	0.05	0.268	5.882
Fluoride (mg/L)	803	17	0.2752	0.02109	0.005114	0.278	0.23	0.303	0
Fluoride (mg/L)	804	21	0.21	0.05728	0.0125	0.219	0.118	0.337	0
Fluoride (mg/L)	805	19	0.1832	0.02984	0.006846	0.191	0.121	0.238	0
Fluoride (mg/L)	806R	18	0.2124	0.03305	0.007791	0.214	0.129	0.253	0

Appendix B

Figure 1



LEGEND:

– 760 –	GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
803 (699.19)	GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
ASD–2	GEOPROBE PORE WATER SAMPLE LOCATION
	CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY
	GROUNDWATER FLOW DIRECTION

NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010
2. GOOGLE EARTH AERIAL IMAGE. APRIL 2020.
3. BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.

200 0 200 400

SCALE FEET

REV.	DATE
-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2021)
CCR FLY ASH IMPOUNDEMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
ALTERNATIVE SOURCE DEMONSTRATION

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO.	27213169.20
DSN. BY:	ALR
DWN. BY:	ALR
CHK. BY:	JRF
QA RVW BY:	JRF
PROJ. MGR	JRF

CADD FILE:
FIG 1 – MAY 2021 – ASD.DWG

DATE:
12/14/21

FIGURE NO.
1

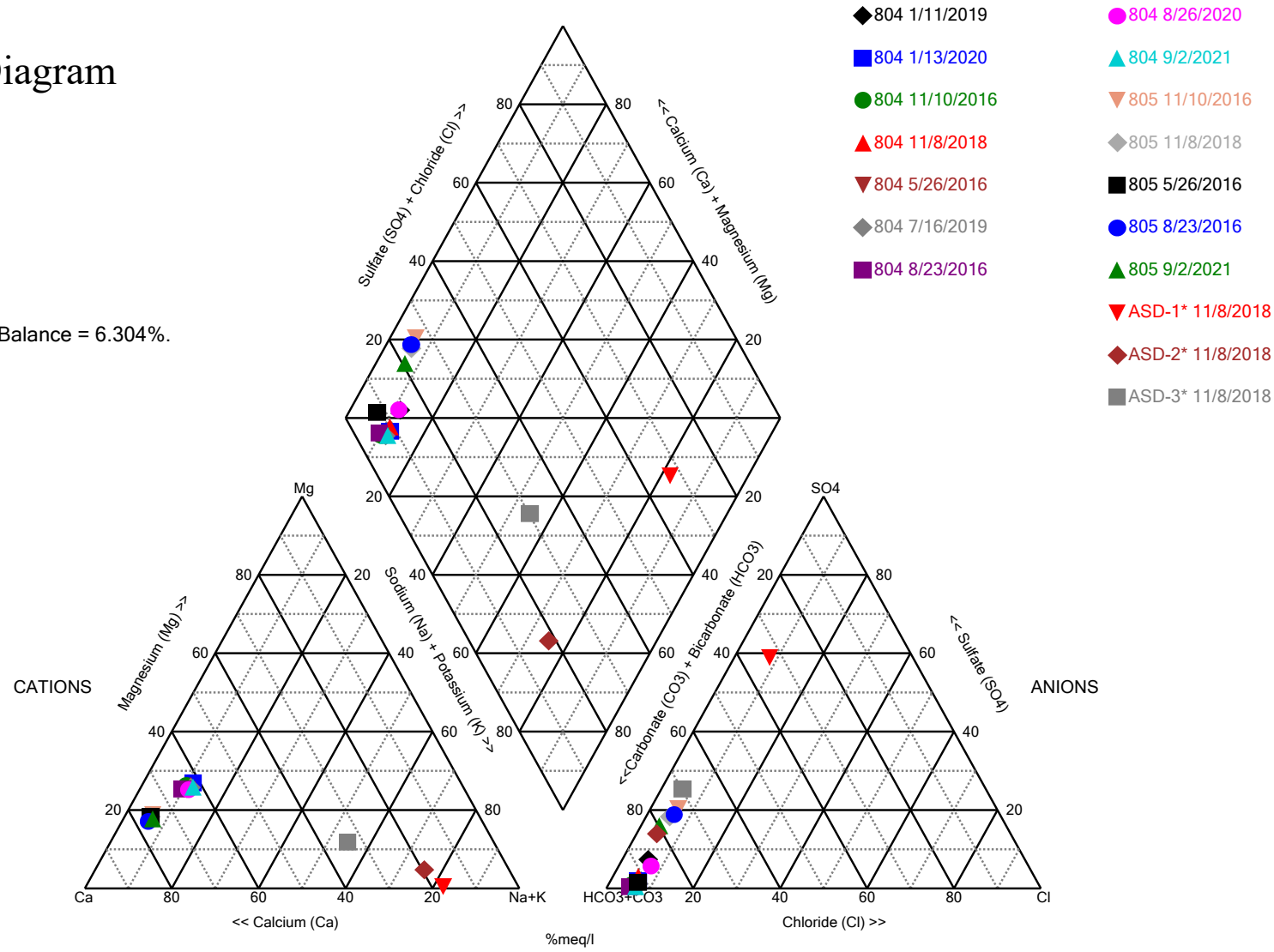
N:\KCPL\Projects\Groundwater\DWG\Sibley\2021\ASD\Fig 1 - May 2021 - ASD.dwg Dec 14, 2021 - 9:42am Layout Name: Fig 2C By: 4415alr

Appendix C

Piper Diagram Plots and Laboratory Results

Piper Diagram

Cation-Anion Balance = 6.304%.



Analysis Run 12/10/2021 3:55 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Piper Diagram

Analysis Run 12/10/2021 3:57 PM View: Ash Pond III

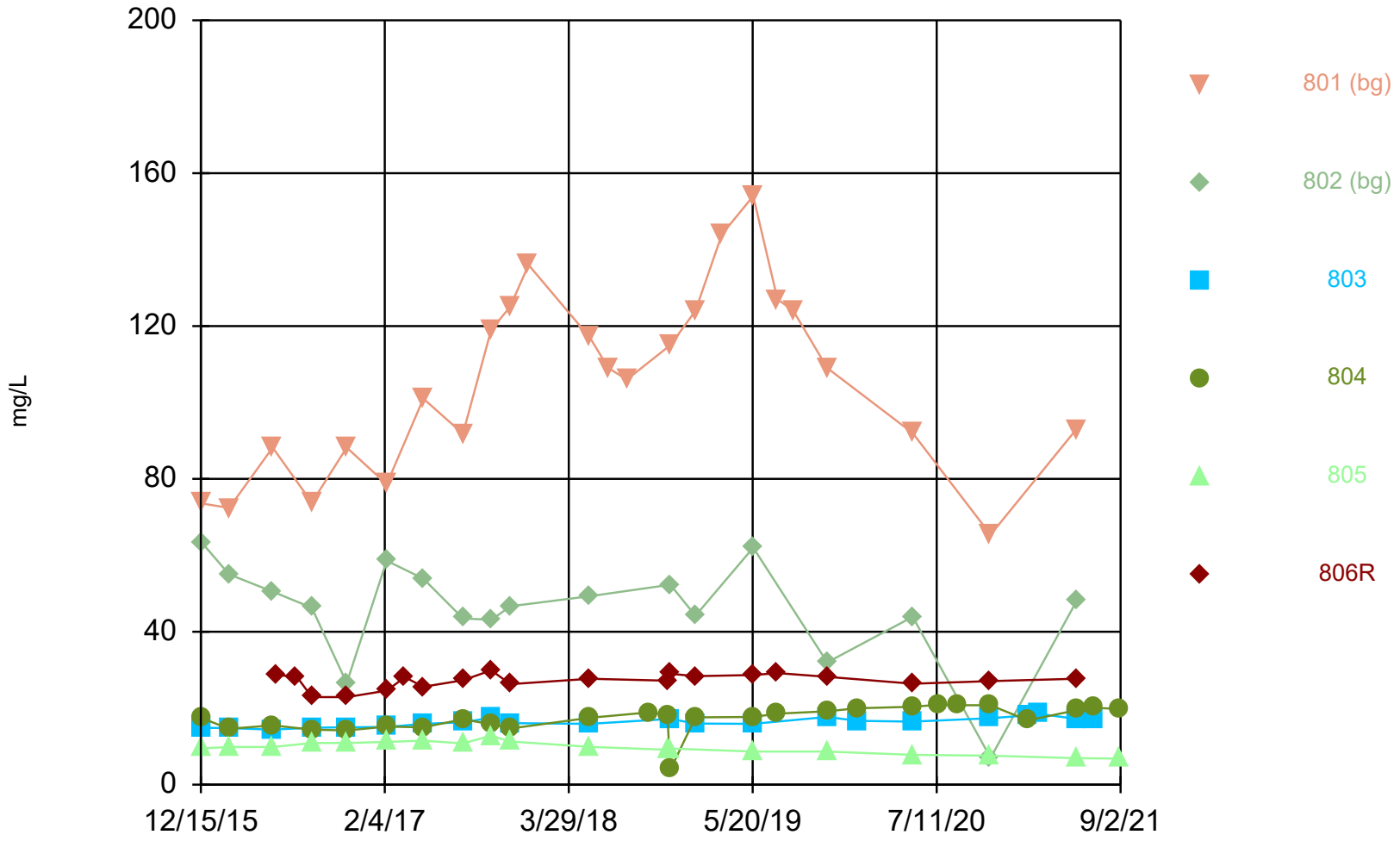
Sibley Client: SCS Engineers Data: Sibley

Totals (ppm)	Na	K	Ca	Mg	Cl	SO4	HCO3	CO3
804 5/26/2016	27.8	5.99	167	39.8	15.5	2.5	596	10
804 8/23/2016	24.9	4.62	157	37	14.4	2.5	551	10
804 11/10/2016	26.2	4.71	155	39	14.2	2.5	525	10
804 11/8/2018	30.1	5.76	158	39.8	18.3	14.1	561	10
804 1/11/2019	26.8	5.58	145	35.7	17.6	31.8	479	10
804 7/16/2019	28.6	6.68	158	39.3	18.6	2.5	545	10
804 1/13/2020	28	6.02	145	37.9	20	9.37	571	10
804 8/26/2020	26.9	5.41	148	35.1	20.8	27.1	491	10
804 9/2/2021	27.2	5.48	139	34.4	19.8	2.5	554	10
805 5/26/2016	8.85	1.14	98.5	14.2	9.85	2.5	251	10
805 8/23/2016	9.1	0.5	105	14.2	10.9	51.7	251	10
805 11/10/2016	9.01	0.5	98.9	15.1	10.9	54.7	238	10
805 11/8/2018	8.85	0.5	97.6	14	9.12	50.1	250	10
805 9/2/2021	8.42	1	88.7	12.3	6.83	41.7	249	10
ASD-1* 11/8/2018	178	38.6	37.1	0.5	29.3	303	10	104
ASD-2* 11/8/2018	497	82.4	124	17	43.8	211	10	795
ASD-3* 11/8/2018	365	42.2	208	43.8	41.5	336	10	592

Appendix D

Time Series Plots

Time Series



Constituent: Chloride Analysis Run 12/10/2021 3:41 PM View: Ash Pond III
Sibley Client: SCS Engineers Data: Sibley

Time Series

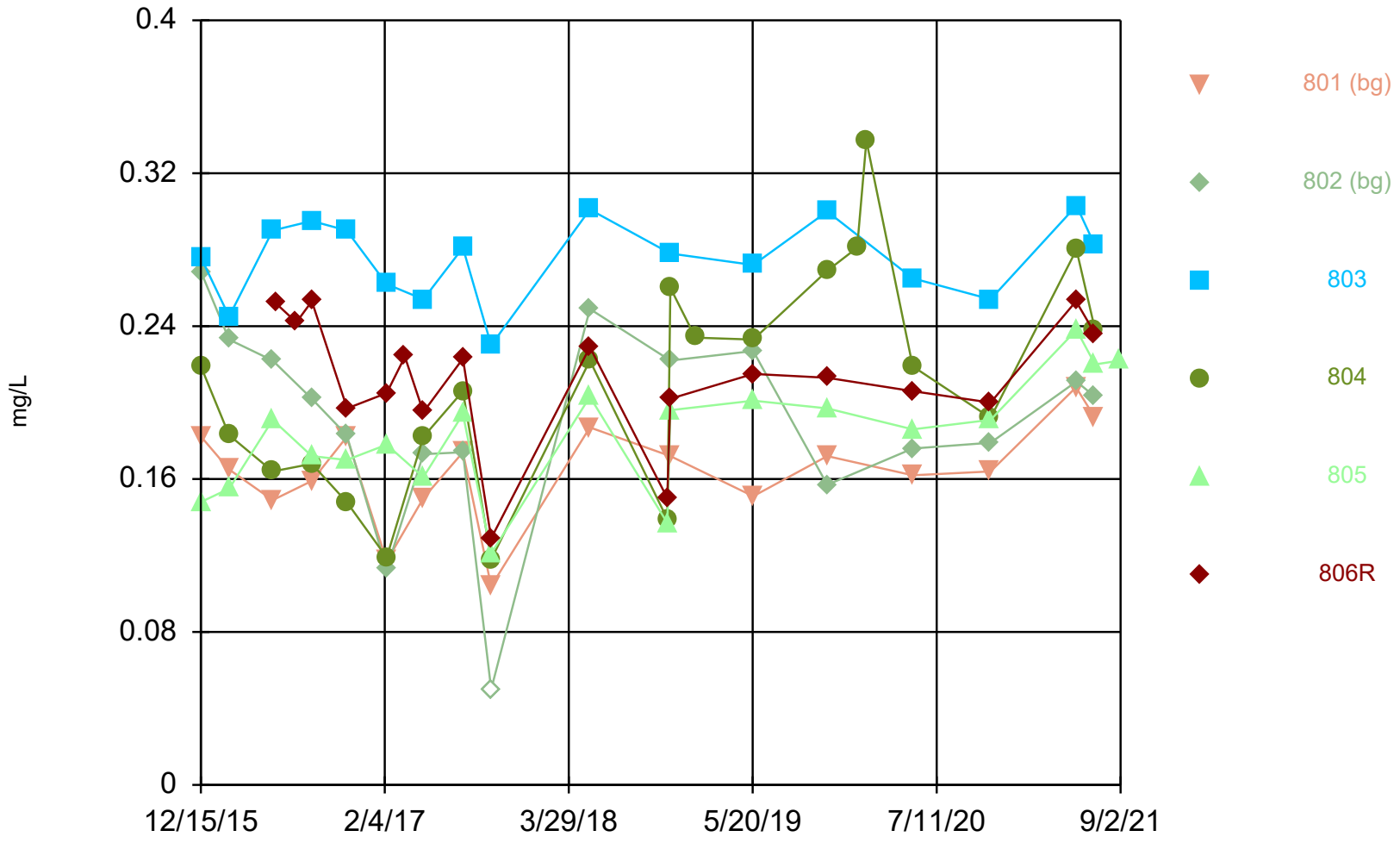
Constituent: Chloride (mg/L) Analysis Run 12/10/2021 3:45 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

	801 (bg)	802 (bg)	803	804	805	806R
12/15/2015			14.9	17.5	9.51	
12/16/2015	73.6	63.5				
2/17/2016	72.4	55	14.8	14.6	9.86	
5/26/2016	88.2	50.5	14.4	15.5	9.85	
6/2/2016						28.6
7/19/2016						28.4
8/23/2016	73.8	46.3	14.9	14.4	10.9	22.9
11/10/2016	88.2	26.6	15	14.2	10.9	
11/11/2016						22.9
2/9/2017	78.6	58.6	15.1	15.2	11.2	24.6
3/22/2017						28.1
5/3/2017	101	53.9	15.9	15	11.5	25.6
8/1/2017	91.8	43.5	16.3	17.1	10.8	27.3
10/4/2017	119	43.1	17.5	15.8	12.8	29.9
11/16/2017	125		16.1	14.7	11.3	
11/17/2017		46.7				26.3
12/28/2017	136					
5/16/2018	117	49.3	15.9	17.5	9.88	27.7
6/27/2018	109					
8/8/2018	106					
9/27/2018				18.9		
11/8/2018				18.3	9.12	27.2
11/15/2018	115	52.3	17.2	3.9	9.45	29
1/11/2019	124	44.2	16	17.6		28.4
3/12/2019	144					
5/22/2019	154	62	15.9	17.7	8.65	28.7
7/16/2019	127			18.6		29.2
8/21/2019	124					
11/6/2019	109	32	17.7	19.2	8.65	28.2
1/13/2020			16.7	20		
5/18/2020	92	43.9	16.5	20.4	7.79	26.4
7/14/2020				20.9		
8/26/2020				20.8		
11/11/2020	65.4	7	17.4	20.8	7.58	27.1
2/3/2021			18.1	16.8		
3/1/2021			18.5			
5/24/2021	92.9					27.7
5/25/2021		48	17.2	19.5	6.93	
7/6/2021			17.1	20.1		
9/2/2021				19.8	6.83	

Sanitas™ v.9.6.32 Sanitas software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Fluoride Analysis Run 12/10/2021 3:41 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/10/2021 3:45 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

	801 (bg)	802 (bg)	803	804	805	806R
12/15/2015			0.276	0.219	0.148	
12/16/2015	0.182	0.268				
2/17/2016	0.165	0.233	0.245	0.183	0.155	
5/26/2016	0.149	0.222	0.29	0.164	0.191	
6/2/2016						0.252
7/19/2016						0.242
8/23/2016	0.159	0.202	0.295	0.168	0.172	0.253
11/10/2016	0.182	0.183	0.29	0.148	0.17	
11/11/2016						0.197
2/9/2017	0.117	0.113	0.262	0.119	0.178	0.205
3/22/2017						0.224
5/3/2017	0.15	0.173	0.254	0.182	0.161	0.195
8/1/2017	0.174	0.174	0.281	0.206	0.194	0.223
10/4/2017	0.104	<0.1	0.23	0.118	0.121	0.129
5/16/2018	0.187	0.249	0.301	0.222	0.203	0.229
11/8/2018				0.139	0.137	0.15
11/15/2018	0.172	0.222	0.278	0.26	0.196	0.202
1/11/2019				0.234		
5/22/2019	0.151	0.227	0.272	0.233	0.201	0.215
11/6/2019	0.172	0.157	0.3	0.269	0.197	0.213
1/13/2020				0.281		
2/3/2020				0.337		
5/18/2020	0.162	0.176	0.265	0.219	0.186	0.206
11/11/2020	0.164	0.179	0.254	0.192	0.191	0.2
5/24/2021	0.208					0.253
5/25/2021		0.211	0.303	0.28	0.238	
7/6/2021	0.192	0.203	0.282	0.238	0.22	0.236
9/2/2021					0.222	

Addendum 1

2021 Groundwater Monitoring and Corrective Action Report
Addendum 1

December 20, 2022
File No. 27213167.21

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

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

Subject: 2021 Annual Groundwater Monitoring and Corrective Action Report Addendum 1
Evergy Missouri West, Inc.
Fly Ash Impoundment
Sibley Generating Station – Sibley, Missouri

The Fly Ash Impoundment at the Sibley Generating Station is subject to the groundwater monitoring and corrective action requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule); as described in CFR 40 257.90 through CFR 40 257.98. An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting activities completed in 2021 for the Fly Ash Impoundment was completed and placed in the facility's operating record on January 28, 2022, as required by the Rule. The Annual GWMCA report was to fulfill the requirements specified in 40 CFR 257.90(e).

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

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

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

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:

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

  - February 2021 – First verification sampling for the Fall 2020 detection monitoring sampling event.
  - March 2021 – Second verification sampling for the Fall 2020 detection monitoring sampling event.
  - May 2021 – Spring 2021 semiannual detection monitoring sampling event.
  - July 2021 – First verification sampling for the Spring 2021 detection monitoring sampling event.
  - September 2021 – Second verification sampling for the Spring 2021 detection monitoring sampling event.
  - November 2021 – Closure sampling event.
  - December 2021 – Alternative source demonstration 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 2021 included the following:

  - Fall 2020 semiannual detection monitoring statistical analyses.
  - Spring 2021 semiannual detection monitoring statistical analyses.

- Attachment 3 - Groundwater Potentiometric Surface Maps:

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

  - May 2021 - Spring 2021 semiannual detection monitoring sampling event.
  - November 2021 - Fall 2021 semiannual detection monitoring sampling event.

Jared Morrison
December 20, 2022

ATTACHMENT 1

Laboratory Analytical Reports

Jared Morrison
December 20, 2022

ATTACHMENT 1-1

February 2021 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 12, 2021

SCS Engineers - KS

Sample Delivery Group:	L1314460
Samples Received:	02/05/2021
Project Number:	27213169.21
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-803 L1314460-01 GW

Collected by: Whit Martin
Collected date/time: 02/03/21 14:20
Received date/time: 02/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618819	1	02/11/21 18:26	02/11/21 18:26	MCG	Mt. Juliet, TN

MW-804 L1314460-02 GW

Collected by: Whit Martin
Collected date/time: 02/03/21 13:35
Received date/time: 02/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618819	1	02/11/21 19:18	02/11/21 19:18	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1618516	1	02/11/21 16:01	02/11/21 19:04	CCE	Mt. Juliet, TN

DUPLICATE 2 L1314460-03 GW

Collected by: Whit Martin
Collected date/time: 02/03/21 13:35
Received date/time: 02/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1618819	1	02/11/21 18:39	02/11/21 18:39	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1618516	1	02/11/21 16:01	02/11/21 19:36	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 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18100		1000	1	02/11/2021 18:26	WG1618819

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	16800		1000	1	02/11/2021 19:18	WG1618819

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	6790		200	1	02/11/2021 19:04	WG1618516

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	16800		1000	1	02/11/2021 18:39	WG1618819

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	6800		200	1	02/11/2021 19:36	WG1618516

Method Blank (MB)

(MB) R3621989-1 02/11/21 10:25

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

L1314344-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1314344-02 02/11/21 15:25 • (DUP) R3621989-3 02/11/21 15:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	5	0.000		15

L1314536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1314536-01 02/11/21 21:03 • (DUP) R3621989-10 02/11/21 21:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	38000	38500	1	1.32		15

Laboratory Control Sample (LCS)

(LCS) R3621989-2 02/11/21 10:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.7	80.0-120	

L1314464-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314464-02 02/11/21 17:08 • (MS) R3621989-4 02/11/21 17:21 • (MSD) R3621989-5 02/11/21 17:34

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	10500	60400	61500	99.9	102	1	80.0-120			1.84	15

L1314460-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314460-02 02/11/21 19:18 • (MS) R3621989-6 02/11/21 19:32 • (MSD) R3621989-7 02/11/21 19:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	16800	66700	67500	99.8	101	1	80.0-120			1.15	15

L1314503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314503-01 02/11/21 19:58 • (MS) R3621989-8 02/11/21 20:11 • (MSD) R3621989-9 02/11/21 20:24

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 %
Chloride	50000	59300	107000	104000	94.8	88.9	1	80.0-120	E	E	2.80	15

Method Blank (MB)

(MB) R3621871-1 02/11/21 18:58

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

Laboratory Control Sample (LCS)

(LCS) R3621871-2 02/11/21 19:01

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	982	98.2	80.0-120	

L1314460-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314460-02 02/11/21 19:04 • (MS) R3621871-4 02/11/21 19:09 • (MSD) R3621871-5 02/11/21 19:12

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	6790	7710	7700	92.1	91.0	1	75.0-125			0.141	20

L1314464-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314464-02 02/11/21 19:15 • (MS) R3621871-6 02/11/21 19:17 • (MSD) R3621871-7 02/11/21 19:20

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1050	1060	98.8	99.7	1	75.0-125			0.835	20

L1314558-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1314558-10 02/11/21 19:23 • (MS) R3621871-8 02/11/21 19:31 • (MSD) R3621871-9 02/11/21 19:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1130	1130	100	100	1	75.0-125			0.0894	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.
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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.

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

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Alabama	40160
ANSI National Accreditation Board	L2239

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

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

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

Nevada	NV009412021-1

Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - Sibley Generating Station

City/State Collected: Sibley, MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213169.20

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Collected by (signature):
Whit Martin

Immediately Packed on Ice N ___ Y X

Site/Facility ID #

P.O. #

Quote #

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

Date Results Needed: Std

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	Chloride 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-803	Grab	GW		2/3/21	1420	1		X		-01
MW-804	Grab	GW		2/3/21	1335	2	X	X		02
DUPLICATE 2	Grab	GW		2/3/21	1335	2	X	X		03
MW-804 MS/MSD	Grab	GW		2/3/21	1335	2	X	X		02

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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

SDG # 1314460
G190

Acctnum: **AQUAOPKS**
Template: **T166706**
Prelogin: **P825427**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR	If preservation required by Login: Date/Time
Whit Martin	2/3/21		Glen Nelson 2-4-21 1340		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 10 D.5t,2=0.7A2 7	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kailey Miller	Date: 2/5/21 Time: 1330	Hold: Condition: NCF / OK

Jared Morrison
December 20, 2022

ATTACHMENT 1-2

March 2021 Sampling Event Laboratory Report

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 09, 2021

SCS Engineers - KS

Sample Delivery Group:	L1322453
Samples Received:	03/03/2021
Project Number:	27213169.21
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-803 L1322453-01 GW

Collected by	Collected date/time	Received date/time
Whit Martin	03/01/21 15:30	03/03/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1630926	1	03/09/21 05:27	03/09/21 05:27	MCG	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	18500		1000	1	03/09/2021 05:27	WG1630926

Method Blank (MB)

(MB) R3628601-1 03/08/21 11:30

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

L1322262-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1322262-01 03/08/21 21:48 • (DUP) R3628601-3 03/08/21 22:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	121000	121000	1	0.0180	E	15

L1322439-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1322439-02 03/09/21 04:55 • (DUP) R3628601-7 03/09/21 05:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	58000	58100	1	0.206		15

Laboratory Control Sample (LCS)

(LCS) R3628601-2 03/08/21 11:46

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

L1322262-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1322262-02 03/08/21 22:21 • (MS) R3628601-4 03/08/21 22:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	92600	141000	97.1	1	80.0-120	E

L1322439-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322439-01 03/09/21 03:33 • (MS) R3628601-5 03/09/21 04:22 • (MSD) R3628601-6 03/09/21 04:38

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	58200	102000	102000	87.1	87.2	1	80.0-120	E	E	0.0505	15

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

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

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

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

SDG # L1322453
1095

Acctnum: AQUAOPKS
Template: T166706
Prelogin: P830731
PM: 206 - Jeff Carr
PB:
Shipped Via:

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

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

Pres Chk

Report to: **Jason Franks**

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

Project Description: **Evergy - Sibley Generating Station**

City/State Collected: Sibley, MO

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project # **27213169.21**

Lab Project # **AQUAOPKS-SIBLEY**

Collected by (print): Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature): Whit Martin

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: Std

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-803	Grab	GW		3/1/21	1530	1	X		-01

* 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

	Date:	Time:		
Relinquished by : (Signature) Whit Martin	3/2/21	1214	Received by: (Signature) Alan Nelson	3-2-21 1214
Relinquished by : (Signature)			Received by: (Signature)	
Relinquished by : (Signature)			Received for lab by: (Signature)	

Trip Blank Received: Yes / No
HCl / MeoH
TBR

Temp: 0.5 °C Bottles Received: 1

If preservation required by Login: Date/Time

Date: 3/3/21 Time: 1300

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

March 10, 2021

SCS Engineers - KS

Sample Delivery Group:	L1322455
Samples Received:	03/03/2021
Project Number:	27213169.21
Description:	Evergy Sibley Generating Station

Report To:

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-506 L1322455-01 GW

Collected by: Whit Martin
Collected date/time: 03/01/21 16:20
Received date/time: 03/03/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1629824	1	03/05/21 06:34	03/05/21 06:34	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1630926	1	03/09/21 05:44	03/09/21 05:44	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1629875	1	03/08/21 17:27	03/09/21 11:56	KMG	Mt. Juliet, TN

MW-512 L1322455-02 GW

Collected by: Whit Martin
Collected date/time: 03/01/21 17:10
Received date/time: 03/03/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1629824	1	03/05/21 06:46	03/05/21 06:46	SL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1629875	1	03/08/21 17:27	03/09/21 11:59	KMG	Mt. Juliet, TN

MW-803 L1322455-03 GW

Collected by: Whit Martin
Collected date/time: 03/01/21 15:30
Received date/time: 03/03/21 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1629824	1	03/05/21 06:56	03/05/21 06:56	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1630926	5	03/09/21 06:00	03/09/21 06:00	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1629875	1	03/08/21 17:27	03/09/21 12:02	KMG	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	277000		20000	1	03/05/2021 06:34	WG1629824
Alkalinity,Carbonate	ND		20000	1	03/05/2021 06:34	WG1629824

Sample Narrative:

L1322455-01 WG1629824: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8050		1000	1	03/09/2021 05:44	WG1630926

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	93000		1000	1	03/09/2021 11:56	WG1629875
Magnesium	38800		1000	1	03/09/2021 11:56	WG1629875
Potassium	ND		2000	1	03/09/2021 11:56	WG1629875
Sodium	8140		3000	1	03/09/2021 11:56	WG1629875

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	340000		20000	1	03/05/2021 06:46	WG1629824
Alkalinity,Carbonate	ND		20000	1	03/05/2021 06:46	WG1629824

Sample Narrative:

L1322455-02 WG1629824: Endpoint pH 4.5 Headspace

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Magnesium	40800		1000	1	03/09/2021 11:59	WG1629875
Potassium	2130		2000	1	03/09/2021 11:59	WG1629875
Sodium	10000		3000	1	03/09/2021 11:59	WG1629875

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	274000		20000	1	03/05/2021 06:56	WG1629824
Alkalinity,Carbonate	ND		20000	1	03/05/2021 06:56	WG1629824

Sample Narrative:

L1322455-03 WG1629824: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	115000		25000	5	03/09/2021 06:00	WG1630926

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	115000		1000	1	03/09/2021 12:02	WG1629875
Magnesium	22000		1000	1	03/09/2021 12:02	WG1629875
Potassium	2150		2000	1	03/09/2021 12:02	WG1629875
Sodium	23000		3000	1	03/09/2021 12:02	WG1629875

Method Blank (MB)

(MB) R3627767-1 03/05/21 03:38

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

L1322190-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1322190-02 03/05/21 04:46 • (DUP) R3627767-2 03/05/21 04:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	145000	145000	1	0.147		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1322687-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1322687-02 03/05/21 13:21 • (DUP) R3627767-4 03/05/21 13:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	21300	20400	1	4.39		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3628601-1 03/08/21 11:30

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

L1322262-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1322262-01 03/08/21 21:48 • (DUP) R3628601-3 03/08/21 22:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	121000	121000	1	0.0180	E	15
Sulfate	53800	53800	1	0.0312		15

L1322439-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1322439-02 03/09/21 04:55 • (DUP) R3628601-7 03/09/21 05:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	58000	58100	1	0.206		15
Sulfate	1920000	1920000	1	0.0348	E	15

Laboratory Control Sample (LCS)

(LCS) R3628601-2 03/08/21 11:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	40800	102	80.0-120	
Sulfate	40000	42200	105	80.0-120	

L1322262-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1322262-02 03/08/21 22:21 • (MS) R3628601-4 03/08/21 22:37

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Chloride	50000	92600	141000	97.1	1	80.0-120	E
Sulfate	50000	37500	84100	93.2	1	80.0-120	

L1322439-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322439-01 03/09/21 03:33 • (MS) R3628601-5 03/09/21 04:22 • (MSD) R3628601-6 03/09/21 04:38

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	58200	102000	102000	87.1	87.2	1	80.0-120	E	E	0.0505	15
Sulfate	50000	1920000	1890000	1900000	0.000	0.000	1	80.0-120	E V	E V	0.269	15

Method Blank (MB)

(MB) R3628906-1 03/09/21 10:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000
Magnesium	U		85.3	1000
Potassium	U		261	2000
Sodium	U		504	3000

Laboratory Control Sample (LCS)

(LCS) R3628906-2 03/09/21 10:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9740	97.4	80.0-120	
Magnesium	10000	9670	96.7	80.0-120	
Potassium	10000	9080	90.8	80.0-120	
Sodium	10000	9550	95.5	80.0-120	

L1322448-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322448-02 03/09/21 10:54 • (MS) R3628906-4 03/09/21 11:00 • (MSD) R3628906-5 03/09/21 11:02

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 %
Calcium	10000	117000	125000	125000	77.5	74.0	1	75.0-125		V	0.278	20
Magnesium	10000	40500	49100	49100	85.6	86.3	1	75.0-125			0.134	20
Potassium	10000	2180	11500	11500	93.2	93.6	1	75.0-125			0.379	20
Sodium	10000	10200	19700	19700	95.3	95.0	1	75.0-125			0.171	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy Sibley Generating Station

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

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27213169.21

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

Immediately Packed on Ice N ___ Y **X**

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

Quote #

Date Results Needed: **std**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	Chloride - 9056 125mlHDPE-NoPres	K, Mg, Na - 6010 250mlHDPE-HNO3	SO4 - 9056 125mlHDPE-NoPres	Remarks	Sample # (lab only)
								12		12			
MW-506	Grab	GW		3/1/21	1620	3	X	X	X				-01
MW-512	Grab	GW		3/1/21	1710	2	X			X			02
MW-803	Grab	GW		3/1/21	1530	3	X	X			X		03

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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

SDG # L1322455
1096

Acctnum: **AQUAOPKS**
Template: **T152962**
Prelogin: **P830736**
PM: **206 - Jeff Carr**
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
Whit Martin	3/2/21	1214	Alan Wilson 3-2-21 1214	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2° °C 0.5-3=0.2 Bottles Received: 8
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3/3/21 Time: 1300

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Jared Morrison
December 20, 2022

ATTACHMENT 1-3

May 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

June 11, 2021

SCS Engineers - KS

Sample Delivery Group:	L1357998
Samples Received:	05/26/2021
Project Number:	27213169.21-A
Description:	Evergy - Sibley Generating Station

Report To:

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-801 L1357998-01 GW

Collected by: A. Thompson | Collected date/time: 05/24/21 14:45 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679335	1	05/28/21 19:41	05/28/21 20:56	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 01:30	05/30/21 01:30	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 01:52	EL	Mt. Juliet, TN

MW-802 L1357998-02 GW

Collected by: A. Thompson | Collected date/time: 05/25/21 12:30 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679941	1	05/29/21 18:13	05/29/21 19:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 01:49	05/30/21 01:49	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 01:55	EL	Mt. Juliet, TN

MW-803 L1357998-03 GW

Collected by: A. Thompson | Collected date/time: 05/25/21 10:15 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679941	1	05/29/21 18:13	05/29/21 19:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 02:25	05/30/21 02:25	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	5	05/30/21 02:44	05/30/21 02:44	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 01:58	EL	Mt. Juliet, TN

MW-804 L1357998-04 GW

Collected by: A. Thompson | Collected date/time: 05/25/21 10:55 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679941	1	05/29/21 18:13	05/29/21 19:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 03:02	05/30/21 03:02	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 02:00	EL	Mt. Juliet, TN

MW-805 L1357998-05 GW

Collected by: A. Thompson | Collected date/time: 05/25/21 11:45 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679941	1	05/29/21 18:13	05/29/21 19:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 03:39	05/30/21 03:39	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 02:09	EL	Mt. Juliet, TN

MW-806R L1357998-06 GW

Collected by: A. Thompson | Collected date/time: 05/24/21 14:55 | Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679335	1	05/28/21 19:41	05/28/21 20:56	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	1	05/30/21 04:53	05/30/21 04:53	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1679862	5	05/30/21 05:11	05/30/21 05:11	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 02:12	EL	Mt. Juliet, TN

DUPLICATE 1 804 L1357998-07 GW

Collected by: A. Thompson
Collected date/time: 05/25/21 10:55
Received date/time: 05/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1679873	1	05/29/21 16:29	05/29/21 17:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1682582	1	06/06/21 19:20	06/06/21 19:20	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1685901	1	06/10/21 05:05	06/11/21 02:15	EL	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	550		10.0	1	05/28/2021 20:56	WG1679335

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	92900		1000	1	05/30/2021 01:30	WG1679862
Fluoride	208		150	1	05/30/2021 01:30	WG1679862
Sulfate	60000		5000	1	05/30/2021 01:30	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	326		200	1	06/11/2021 01:52	WG1685901
Calcium	136000		1000	1	06/11/2021 01:52	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	321		10.0	1	05/29/2021 19:18	WG1679941

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48000		1000	1	05/30/2021 01:49	WG1679862
Fluoride	211		150	1	05/30/2021 01:49	WG1679862
Sulfate	27100		5000	1	05/30/2021 01:49	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	06/11/2021 01:55	WG1685901
Calcium	70200		1000	1	06/11/2021 01:55	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	512		10.0	1	05/29/2021 19:18	WG1679941

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	17200		1000	1	05/30/2021 02:25	WG1679862
Fluoride	303		150	1	05/30/2021 02:25	WG1679862
Sulfate	124000		25000	5	05/30/2021 02:44	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	2420		200	1	06/11/2021 01:58	WG1685901
Calcium	113000		1000	1	06/11/2021 01:58	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	575		10.0	1	05/29/2021 19:18	WG1679941

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	19500		1000	1	05/30/2021 03:02	WG1679862
Fluoride	280		150	1	05/30/2021 03:02	WG1679862
Sulfate	ND		5000	1	05/30/2021 03:02	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	7820		200	1	06/11/2021 02:00	WG1685901
Calcium	139000		1000	1	06/11/2021 02:00	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	329		10.0	1	05/29/2021 19:18	WG1679941

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6930		1000	1	05/30/2021 03:39	WG1679862
Fluoride	238		150	1	05/30/2021 03:39	WG1679862
Sulfate	45100		5000	1	05/30/2021 03:39	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	06/11/2021 02:09	WG1685901
Calcium	90400		1000	1	06/11/2021 02:09	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	651		10.0	1	05/28/2021 20:56	WG1679335

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	27700		1000	1	05/30/2021 04:53	WG1679862
Fluoride	253		150	1	05/30/2021 04:53	WG1679862
Sulfate	209000		25000	5	05/30/2021 05:11	WG1679862

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	4350		200	1	06/11/2021 02:12	WG1685901
Calcium	145000		1000	1	06/11/2021 02:12	WG1685901

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	584		10.0	1	05/29/2021 17:44	WG1679873

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20000		1000	1	06/06/2021 19:20	WG1682582
Fluoride	263		150	1	06/06/2021 19:20	WG1682582
Sulfate	ND		5000	1	06/06/2021 19:20	WG1682582

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	7760		200	1	06/11/2021 02:15	WG1685901
Calcium	138000		1000	1	06/11/2021 02:15	WG1685901

Method Blank (MB)

(MB) R3661353-1 05/28/21 20:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1357998-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1357998-01 05/28/21 20:56 • (DUP) R3661353-3 05/28/21 20:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	550	571	1	3.75		5

L1357998-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1357998-06 05/28/21 20:56 • (DUP) R3661353-4 05/28/21 20:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	651	654	1	0.460		5

Laboratory Control Sample (LCS)

(LCS) R3661353-2 05/28/21 20:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8420	95.7	77.4-123	

Method Blank (MB)

(MB) R3662371-1 05/29/21 17:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

Laboratory Control Sample (LCS)

(LCS) R3662371-2 05/29/21 17:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7890	89.7	77.4-123	

Method Blank (MB)

(MB) R3662359-1 05/29/21 19:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1357888-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1357888-01 05/29/21 19:18 • (DUP) R3662359-3 05/29/21 19:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1040	1070	1	3.04		5

L1357898-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1357898-04 05/29/21 19:18 • (DUP) R3662359-4 05/29/21 19:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	652	674	1	3.32		5

Laboratory Control Sample (LCS)

(LCS) R3662359-2 05/29/21 19:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8600	97.7	77.4-123	

Method Blank (MB)

(MB) R3661114-1 05/29/21 10:47

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

L1359527-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1359527-01 05/29/21 17:03 • (DUP) R3661114-3 05/29/21 17:21

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	27500	27500	1	0.00254		15
Fluoride	3730	3740	1	0.236		15
Sulfate	413000	413000	1	0.0340	E	15

L1359527-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1359527-01 05/29/21 19:29 • (DUP) R3661114-6 05/29/21 19:48

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	423000	414000	5	2.07		15

L1359541-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1359541-05 05/29/21 21:38 • (DUP) R3661114-7 05/30/21 00:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	133000	133000	1	0.0674	E	15
Fluoride	164	169	1	2.71		15
Sulfate	52700	52700	1	0.0408		15

Laboratory Control Sample (LCS)

(LCS) R3661114-2 05/29/21 11:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39800	99.5	80.0-120	
Fluoride	8000	8060	101	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3661114-2 05/29/21 11:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39800	99.6	80.0-120	

L1359527-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359527-02 05/29/21 17:39 • (MS) R3661114-4 05/29/21 17:57 • (MSD) R3661114-5 05/29/21 18:16

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	36100	85800	86400	99.4	101	1	80.0-120			0.670	15
Fluoride	5000	1930	6890	6950	99.1	100	1	80.0-120			0.917	15
Sulfate	50000	158000	203000	203000	89.7	90.8	1	80.0-120	E	E	0.288	15

L1359541-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1359541-05 05/29/21 21:38 • (MS) R3661114-8 05/30/21 01:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	133000	178000	90.1	1	80.0-120	E
Fluoride	5000	164	5070	98.0	1	80.0-120	
Sulfate	50000	52700	103000	100	1	80.0-120	E

Method Blank (MB)

(MB) R3663916-1 06/06/21 12:25

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

L1357675-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1357675-01 06/06/21 13:36 • (DUP) R3663916-3 06/06/21 13:47

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5690	5680	1	0.123		15
Fluoride	920	919	1	0.0870		15
Sulfate	53600	53600	1	0.0494		15

L1357800-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1357800-01 06/06/21 16:28 • (DUP) R3663916-6 06/06/21 16:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	32700	32700	1	0.0730		15
Fluoride	ND	ND	1	0.000		15
Sulfate	18200	18100	1	0.427		15

Laboratory Control Sample (LCS)

(LCS) R3663916-2 06/06/21 12:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39900	99.6	80.0-120	
Fluoride	8000	7930	99.1	80.0-120	
Sulfate	40000	39800	99.4	80.0-120	

L1357675-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1357675-02 06/06/21 13:59 • (MS) R3663916-4 06/06/21 14:10 • (MSD) R3663916-5 06/06/21 14:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	3580	53300	53300	99.4	99.4	1	80.0-120			0.00788	15
Fluoride	5000	ND	5160	5170	101	102	1	80.0-120			0.221	15
Sulfate	50000	25900	73400	73400	94.9	95.1	1	80.0-120			0.100	15

L1357802-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1357802-01 06/06/21 16:51 • (MS) R3663916-7 06/06/21 17:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	11000	61700	101	1	80.0-120	
Fluoride	5000	ND	5310	104	1	80.0-120	
Sulfate	50000	74900	121000	92.2	1	80.0-120	E

Method Blank (MB)

(MB) R3666012-1 06/11/21 01:35

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

Laboratory Control Sample (LCS)

(LCS) R3666012-2 06/11/21 01:38

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	962	96.2	80.0-120	
Calcium	10000	9580	95.8	80.0-120	

L1358234-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1358234-12 06/11/21 01:41 • (MS) R3666012-4 06/11/21 01:46 • (MSD) R3666012-5 06/11/21 01:49

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	ND	975	1000	94.7	97.5	1	75.0-125			2.85	20
Calcium	10000	96700	105000	105000	78.0	78.8	1	75.0-125			0.0709	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).

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

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

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - Sibley Generating Station

City/State Collected:

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27213169.21-A

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
A. Thompson

Collected by (signature):

Immediately Packed on Ice N____ Y____

Site/Facility ID #

P.O. #

Quote #

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

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	B, Ca - 6010 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-801	Grab	GW		5/24/21	1445	3	X	X	X		-01
MW-802		GW		5/25/21	1230	3	X	X	X		-02
MW-803		GW		5/25/21	1015	3	X	X	X		-03
MW-804		GW		5/25/21	1055	3	X	X	X		-04
MW-805		GW		5/25/21	1145	3	X	X	X		-05
MW-806R		GW		5/24/21	1455	3	X	X	X		-06
Duplicate1 804				5/25/21	1055	3					-07

Chain of Custody Page 1 of 1

Pace Analytical®

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

SDG # 1357998

Tab 1096

Acctnum: AQUAOPKS

Template: T166706

Prelogin: P846696

PM: 206 - Jeff Carr

PB: DN 5/11/21

Shipped Via: FedEX Ground

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 9883 1088 6579

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)
A. Thompson	5/25/21	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Richter

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.3 °C Bottles Received:
0.7+3=1.0

Date: 5/26 Time: 930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 20, 2022

ATTACHMENT 1-4

July 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

July 15, 2021

SCS Engineers - KS

Sample Delivery Group:	L1375727
Samples Received:	07/08/2021
Project Number:	27213167.21
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-801 L1375727-01 GW

Collected by: Jason Franks | Collected date/time: 07/06/21 13:45 | Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 14:16	07/14/21 14:16	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:03	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:28	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 15:44	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:14	LD	Mt. Juliet, TN

MW-802 L1375727-02 GW

Collected by: Jason Franks | Collected date/time: 07/06/21 11:55 | Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 14:48	07/14/21 14:48	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:06	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:36	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 16:05	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:17	LD	Mt. Juliet, TN

MW-803 L1375727-03 GW

Collected by: Jason Franks | Collected date/time: 07/06/21 12:50 | Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 15:04	07/14/21 15:04	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:08	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:38	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 16:08	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:20	LD	Mt. Juliet, TN

MW-804 L1375727-04 GW

Collected by: Jason Franks | Collected date/time: 07/06/21 14:25 | Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 15:21	07/14/21 15:21	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 11:56	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 16:48	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 14:35	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:01	LD	Mt. Juliet, TN

MW-805 L1375727-05 GW

Collected by: Jason Franks | Collected date/time: 07/06/21 13:15 | Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 16:10	07/14/21 16:10	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:15	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:41	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 16:12	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:23	LD	Mt. Juliet, TN

MW-806R L1375727-06 GW

Collected by: Jason Franks
Collected date/time: 07/06/21 12:10
Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 16:59	07/14/21 16:59	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:44	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 16:15	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:35	LD	Mt. Juliet, TN

DUPLICATE L1375727-07 GW

Collected by: Jason Franks
Collected date/time: 07/06/21 14:25
Received date/time: 07/08/21 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1705265	1	07/14/21 17:16	07/14/21 17:16	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1702965	1	07/10/21 11:11	07/12/21 12:20	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1703424	1	07/13/21 11:21	07/13/21 17:46	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 16:19	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1704258	1	07/13/21 11:38	07/13/21 22:38	LD	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	192		150	1	07/14/2021 14:16	WG1705265

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	07/12/2021 12:03	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	136		5.00	1	07/13/2021 17:28	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:28	WG1703424
Lithium	16.6		15.0	1	07/13/2021 17:28	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 17:28	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	07/13/2021 22:14	WG1704258
Arsenic	ND		2.00	1	07/13/2021 15:44	WG1704258
Beryllium	ND		2.00	1	07/13/2021 15:44	WG1704258
Cadmium	ND		1.00	1	07/13/2021 15:44	WG1704258
Cobalt	ND		2.00	1	07/13/2021 15:44	WG1704258
Lead	ND		2.00	1	07/13/2021 15:44	WG1704258
Selenium	ND		2.00	1	07/13/2021 15:44	WG1704258
Thallium	ND		2.00	1	07/13/2021 15:44	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	203		150	1	07/14/2021 14:48	WG1705265

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	07/12/2021 12:06	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	165		5.00	1	07/13/2021 17:36	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:36	WG1703424
Lithium	ND		15.0	1	07/13/2021 17:36	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 17:36	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	07/13/2021 22:17	WG1704258
Arsenic	2.86		2.00	1	07/13/2021 16:05	WG1704258
Beryllium	ND		2.00	1	07/13/2021 16:05	WG1704258
Cadmium	ND		1.00	1	07/13/2021 16:05	WG1704258
Cobalt	ND		2.00	1	07/13/2021 16:05	WG1704258
Lead	2.03		2.00	1	07/13/2021 16:05	WG1704258
Selenium	ND		2.00	1	07/13/2021 16:05	WG1704258
Thallium	ND		2.00	1	07/13/2021 16:05	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	17100		1000	1	07/14/2021 15:04	WG1705265
Fluoride	282		150	1	07/14/2021 15:04	WG1705265

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	07/12/2021 12:08	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Barium	114		5.00	1	07/13/2021 17:38	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:38	WG1703424
Lithium	15.0		15.0	1	07/13/2021 17:38	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 17:38	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	07/13/2021 22:20	WG1704258
Arsenic	ND		2.00	1	07/13/2021 16:08	WG1704258
Beryllium	ND		2.00	1	07/13/2021 16:08	WG1704258
Cadmium	ND		1.00	1	07/13/2021 16:08	WG1704258
Cobalt	ND		2.00	1	07/13/2021 16:08	WG1704258
Lead	4.50		2.00	1	07/13/2021 16:08	WG1704258
Selenium	ND		2.00	1	07/13/2021 16:08	WG1704258
Thallium	ND		2.00	1	07/13/2021 16:08	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	20100		1000	1	07/14/2021 15:21	WG1705265
Fluoride	238		150	1	07/14/2021 15:21	WG1705265

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	07/12/2021 11:56	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Barium	429		5.00	1	07/13/2021 16:48	WG1703424
Chromium	ND		10.0	1	07/13/2021 16:48	WG1703424
Lithium	22.8		15.0	1	07/13/2021 16:48	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 16:48	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	07/13/2021 22:01	WG1704258
Arsenic	2.11		2.00	1	07/13/2021 14:35	WG1704258
Beryllium	ND		2.00	1	07/13/2021 14:35	WG1704258
Cadmium	ND		1.00	1	07/13/2021 14:35	WG1704258
Cobalt	ND		2.00	1	07/13/2021 14:35	WG1704258
Lead	ND		2.00	1	07/13/2021 14:35	WG1704258
Selenium	ND		2.00	1	07/13/2021 14:35	WG1704258
Thallium	ND		2.00	1	07/13/2021 14:35	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	220		150	1	07/14/2021 16:10	WG1705265

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	07/12/2021 12:15	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	148		5.00	1	07/13/2021 17:41	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:41	WG1703424
Lithium	ND		15.0	1	07/13/2021 17:41	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 17:41	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	07/13/2021 22:23	WG1704258
Arsenic	ND		2.00	1	07/13/2021 16:12	WG1704258
Beryllium	ND		2.00	1	07/13/2021 16:12	WG1704258
Cadmium	ND		1.00	1	07/13/2021 16:12	WG1704258
Cobalt	ND		2.00	1	07/13/2021 16:12	WG1704258
Lead	ND		2.00	1	07/13/2021 16:12	WG1704258
Selenium	ND		2.00	1	07/13/2021 16:12	WG1704258
Thallium	ND		2.00	1	07/13/2021 16:12	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	236		150	1	07/14/2021 16:59	WG1705265

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	07/12/2021 12:18	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	77.5		5.00	1	07/13/2021 17:44	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:44	WG1703424
Lithium	17.6		15.0	1	07/13/2021 17:44	WG1703424
Molybdenum	1730		5.00	1	07/13/2021 17:44	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	07/13/2021 22:35	WG1704258
Arsenic	5.46		2.00	1	07/13/2021 16:15	WG1704258
Beryllium	ND		2.00	1	07/13/2021 16:15	WG1704258
Cadmium	ND		1.00	1	07/13/2021 16:15	WG1704258
Cobalt	ND		2.00	1	07/13/2021 16:15	WG1704258
Lead	ND		2.00	1	07/13/2021 16:15	WG1704258
Selenium	ND		2.00	1	07/13/2021 16:15	WG1704258
Thallium	ND		2.00	1	07/13/2021 16:15	WG1704258

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	20200		1000	1	07/14/2021 17:16	WG1705265
Fluoride	240		150	1	07/14/2021 17:16	WG1705265

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	07/12/2021 12:20	WG1702965

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Barium	432		5.00	1	07/13/2021 17:46	WG1703424
Chromium	ND		10.0	1	07/13/2021 17:46	WG1703424
Lithium	22.0		15.0	1	07/13/2021 17:46	WG1703424
Molybdenum	ND		5.00	1	07/13/2021 17:46	WG1703424

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		4.00	1	07/13/2021 22:38	WG1704258
Arsenic	2.34		2.00	1	07/13/2021 16:19	WG1704258
Beryllium	ND		2.00	1	07/13/2021 16:19	WG1704258
Cadmium	ND		1.00	1	07/13/2021 16:19	WG1704258
Cobalt	ND		2.00	1	07/13/2021 16:19	WG1704258
Lead	2.41		2.00	1	07/13/2021 16:19	WG1704258
Selenium	ND		2.00	1	07/13/2021 16:19	WG1704258
Thallium	ND		2.00	1	07/13/2021 16:19	WG1704258

Method Blank (MB)

(MB) R3679744-1 07/14/21 11:37

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

L1375727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1375727-01 07/14/21 14:16 • (DUP) R3679744-3 07/14/21 14:32

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	108000	108000	1	0.164	E	15
Fluoride	192	190	1	1.26		15

L1375727-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1375727-07 07/14/21 17:16 • (DUP) R3679744-6 07/14/21 22:12

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20200	20100	1	0.152		15
Fluoride	240	238	1	1.05		15

Laboratory Control Sample (LCS)

(LCS) R3679744-2 07/14/21 11:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.7	80.0-120	
Fluoride	8000	8070	101	80.0-120	

L1375727-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375727-04 07/14/21 15:21 • (MS) R3679744-4 07/14/21 15:37 • (MSD) R3679744-5 07/14/21 15:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	20100	72800	73200	105	106	1	80.0-120			0.518	15
Fluoride	5000	238	5490	5530	105	106	1	80.0-120			0.623	15

L1375727-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1375727-07 07/14/21 17:16 • (MS) R3679744-7 07/14/21 22:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	20200	72100	104	1	80.0-120	
Fluoride	5000	240	5330	102	1	80.0-120	

Method Blank (MB)

(MB) R3678280-1 07/12/21 11:51

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) R3678280-2 07/12/21 11:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.18	106	80.0-120	

L1375727-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375727-04 07/12/21 11:56 • (MS) R3678280-3 07/12/21 11:59 • (MSD) R3678280-4 07/12/21 12:01

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	3.02	3.09	101	103	1	75.0-125			2.29	20

Method Blank (MB)

(MB) R3679064-1 07/13/21 16:33

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

Laboratory Control Sample (LCS)

(LCS) R3679064-2 07/13/21 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1000	1030	103	80.0-120	
Chromium	1000	968	96.8	80.0-120	
Lithium	1000	1000	100	80.0-120	
Molybdenum	1000	1040	104	80.0-120	

L1375353-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375353-06 07/13/21 16:38 • (MS) R3679064-4 07/13/21 16:43 • (MSD) R3679064-5 07/13/21 16:46

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 %
Barium	1000	154	1160	1160	101	100	1	75.0-125			0.439	20
Chromium	1000	ND	973	968	97.0	96.5	1	75.0-125			0.573	20
Lithium	1000	ND	1020	1020	101	101	1	75.0-125			0.373	20
Molybdenum	1000	ND	1040	1030	104	103	1	75.0-125			0.577	20

L1375727-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375727-04 07/13/21 16:48 • (MS) R3679064-6 07/13/21 16:51 • (MSD) R3679064-7 07/13/21 16:53

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 %
Barium	1000	429	1410	1430	98.0	99.7	1	75.0-125			1.17	20
Chromium	1000	ND	952	963	95.0	96.1	1	75.0-125			1.19	20
Lithium	1000	22.8	1020	1030	99.5	101	1	75.0-125			1.35	20
Molybdenum	1000	ND	1020	1020	102	102	1	75.0-125			0.118	20

Method Blank (MB)

(MB) R3678913-1 07/13/21 14:28

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

Method Blank (MB)

(MB) R3679038-1 07/13/21 21:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	1.13		1.03	4.00

Laboratory Control Sample (LCS)

(LCS) R3678913-2 07/13/21 14:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	50.4	101	80.0-120	
Beryllium	50.0	49.2	98.5	80.0-120	
Cadmium	50.0	50.8	102	80.0-120	
Cobalt	50.0	53.1	106	80.0-120	
Lead	50.0	50.0	100	80.0-120	
Selenium	50.0	50.2	100	80.0-120	
Thallium	50.0	48.4	96.9	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3679038-2 07/13/21 21:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	49.9	99.9	80.0-120	

L1375727-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375727-04 07/13/21 14:35 • (MS) R3678913-4 07/13/21 14:42 • (MSD) R3678913-5 07/13/21 14:45

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 %
Arsenic	50.0	2.11	54.5	54.1	105	104	1	75.0-125			0.844	20
Beryllium	50.0	ND	50.5	50.2	101	100	1	75.0-125			0.547	20
Cadmium	50.0	ND	51.9	52.6	104	105	1	75.0-125			1.32	20
Cobalt	50.0	ND	53.6	51.8	106	103	1	75.0-125			3.47	20
Lead	50.0	ND	54.1	51.8	106	102	1	75.0-125			4.22	20
Selenium	50.0	ND	57.7	54.9	115	110	1	75.0-125			4.89	20
Thallium	50.0	ND	50.8	49.9	102	99.9	1	75.0-125			1.67	20

L1375727-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1375727-04 07/13/21 22:01 • (MS) R3679038-4 07/13/21 22:07 • (MSD) R3679038-5 07/13/21 22:10

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	51.7	50.7	103	101	1	75.0-125			2.01	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

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

Billing Information:

Report to: Jason Franks

Email To: Jfranks@scsengineers.com

Project Description: KCP&L Sibley Generating Station

City/State Collected: Sibley, MO

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

Client Project # 27213167.21

Lab Project #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Fluoride 125ml HDPE -NoPres	Metals 250ml HDPE - HNO3 *	Chloride 250ml HDPE -NoPres	Remarks	Sample # (lab only)
MW-801	GRAB	GW	-	7/6/21	1345	2	X	X			-01
MW-802		GW	-		1155	2	X	X			-02
MW-803		GW	-		1250	3	X	X	X		-03
MW-804		GW	-		1425	3	X	X	X		-04
MW-805		GW	-		1315	2	X	X			-05
MW-806R		GW	-		1210	2	X	X			-06
804 MS/MSD		GW	-		1425	2	X	X	X		-04
DUPLICATE		GW	-		1425	2	X	X	X		-07

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

L# L1375727
K158

Acctnum: AQUAOPKS
Template:
Prelogin:
TSR:
PB:
Shipped Via:

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

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

pH _____ Temp _____
Flow _____ Other _____

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

Tracking # 988300840945

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

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	7/7/21	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: -.1 °C .5 .4 Bottles Received: 18	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/8/21 Time: 1330	Hold: Condition: NCF / OK

Jared Morrison
December 20, 2022

ATTACHMENT 1-5

September 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

September 08, 2021

SCS Engineers - KS

Sample Delivery Group:	L1398798
Samples Received:	09/03/2021
Project Number:	27213169.21- G
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-804 L1398798-01 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 11:50 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1734517	1	09/03/21 17:08	09/03/21 17:08	ELN	Mt. Juliet, TN

DUPLICATE 1 L1398798-02 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 11:50 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 13:29	09/04/21 13:29	ELN	Mt. Juliet, TN

MW-805 L1398798-03 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 12:35 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 14:02	09/04/21 14:02	ELN	Mt. Juliet, TN

DUPLICATE 2 L1398798-04 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 12:35 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 14:51	09/04/21 14:51	ELN	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	19800		1000	1	09/03/2021 17:08	WG1734517

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20000		1000	1	09/04/2021 13:29	WG1734517

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	222		150	1	09/04/2021 14:02	WG1734517

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Fluoride	208		150	1	09/04/2021 14:51	WG1734517

QUALITY CONTROL SUMMARY

L1398798-01,02,03,04

Method Blank (MB)

(MB) R3700955-1 09/03/21 10:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	501	J	379	1000
Fluoride	U		64.0	150

L1398686-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1398686-01 09/03/21 12:17 • (DUP) R3700955-3 09/03/21 12:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10800	10800	1	0.0482		15
Fluoride	ND	ND	1	2.24		15

L1398798-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1398798-02 09/04/21 13:29 • (DUP) R3700966-3 09/04/21 13:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20000	20100	1	0.264		15
Fluoride	280	277	1	1.22		15

Laboratory Control Sample (LCS)

(LCS) R3700955-2 09/03/21 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40100	100	80.0-120	
Fluoride	8000	8590	107	80.0-120	

L1398798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398798-01 09/03/21 17:08 • (MS) R3700955-4 09/03/21 17:23 • (MSD) R3700955-5 09/03/21 17:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	19800	70600	70800	102	102	1	80.0-120			0.275	15
Fluoride	5000	249	5480	5490	105	105	1	80.0-120			0.210	15

L1398802-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398802-03 09/04/21 11:18 • (MS) R3700966-1 09/04/21 11:34 • (MSD) R3700966-2 09/04/21 11:51

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	10200	60900	60200	101	100	1	80.0-120			1.12	15
Fluoride	5000	239	5390	5340	103	102	1	80.0-120			0.997	15

L1398798-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398798-03 09/04/21 14:02 • (MS) R3700966-4 09/04/21 14:19 • (MSD) R3700966-5 09/04/21 14:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6750	57800	57800	102	102	1	80.0-120			0.0268	15
Fluoride	5000	222	5360	5370	103	103	1	80.0-120			0.246	15

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - Sibley Generating Station

City/State Collected: Sibley, MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213169.21- G

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Wit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N____ Y✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
_1_ 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 - 9056 125mlHDPE-NoPres	Fluoride - 9056 125mlHDPE-NoPres								Remarks	Sample # (lab only)
MW-804	Grab	GW		9/2/21	1150	1	X										-01
MW-804 MS/MSD	Grab	GW		9/2/21	1150	1	X										01
DUPLICATE 1	Grab	GW		9/2/21	1150	1	X										02
MW-805	Grab	GW		9/2/21	1235	1		X									03
MW-805 MS/MSD	Grab	GW		9/2/21	1235	1		X									03
DUPLICATE 2	Grab	GW		9/2/21	1235	1		X									04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®

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

SDG # L1398748

Tab J125

Acctnum: AQUAOPKS

Template: T194297

Prelogin: P870750

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 # 5117 4431 0720

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Wit Martin	9/2/21	1500		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.3 °C Bottles Received: 6
				0.5±0.0±0.5
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/3/21 Time: 930
			T. Robertson	

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

September 13, 2021

SCS Engineers - KS

Sample Delivery Group:	L1398801
Samples Received:	09/03/2021
Project Number:	27213169.21 - G
Description:	Evergy Sibley Generating Station

Report To:

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-505 L1398801-01 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 12:35 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1736008	1	09/07/21 12:56	09/07/21 12:56	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 15:08	09/04/21 15:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1736126	1	09/08/21 08:29	09/11/21 05:54	KMG	Mt. Juliet, TN

MW-506 L1398801-02 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 10:50 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1736008	1	09/07/21 12:58	09/07/21 12:58	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1736127	1	09/08/21 21:42	09/09/21 21:01	CCE	Mt. Juliet, TN

MW-512 L1398801-03 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 11:45 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1737291	1	09/09/21 11:13	09/09/21 11:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1736127	1	09/08/21 21:42	09/09/21 21:04	CCE	Mt. Juliet, TN

MW-804 L1398801-04 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 11:50 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1736008	1	09/07/21 13:02	09/07/21 13:02	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 09:56	09/04/21 09:56	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1736127	1	09/08/21 21:42	09/09/21 21:07	CCE	Mt. Juliet, TN

MW-805 L1398801-05 GW

Collected by: Whit Martin | Collected date/time: 09/02/21 12:35 | Received date/time: 09/03/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1736008	1	09/07/21 13:05	09/07/21 13:05	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1734517	1	09/04/21 10:12	09/04/21 10:12	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1736127	1	09/08/21 21:42	09/09/21 21:10	CCE	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	118000		20000	1	09/07/2021 12:56	WG1736008
Alkalinity,Carbonate	ND		20000	1	09/07/2021 12:56	WG1736008

Sample Narrative:

L1398801-01 WG1736008: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	1230	B	1000	1	09/04/2021 15:08	WG1734517
Sulfate	13000		5000	1	09/04/2021 15:08	WG1734517

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Magnesium	9340		1000	1	09/11/2021 05:54	WG1736126
Potassium	ND		2000	1	09/11/2021 05:54	WG1736126
Sodium	8970		3000	1	09/11/2021 05:54	WG1736126

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	296000		20000	1	09/07/2021 12:58	WG1736008
Alkalinity,Carbonate	ND		20000	1	09/07/2021 12:58	WG1736008

Sample Narrative:

L1398801-02 WG1736008: Endpoint pH 4.5 Headspace

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	91100		1000	1	09/09/2021 21:01	WG1736127
Magnesium	38300		1000	1	09/09/2021 21:01	WG1736127
Potassium	ND		2000	1	09/09/2021 21:01	WG1736127
Sodium	8430		3000	1	09/09/2021 21:01	WG1736127

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	349000		20000	1	09/09/2021 11:13	WG1737291
Alkalinity,Carbonate	ND		20000	1	09/09/2021 11:13	WG1737291

Sample Narrative:

L1398801-03 WG1737291: Endpoint pH 4.5 headspace

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Magnesium	39900		1000	1	09/09/2021 21:04	WG1736127
Potassium	2160		2000	1	09/09/2021 21:04	WG1736127
Sodium	10300		3000	1	09/09/2021 21:04	WG1736127

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity,Bicarbonate	554000		20000	1	09/07/2021 13:02	WG1736008
Alkalinity,Carbonate	ND		20000	1	09/07/2021 13:02	WG1736008

Sample Narrative:

L1398801-04 WG1736008: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	ND		5000	1	09/04/2021 09:56	WG1734517

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium	139000		1000	1	09/09/2021 21:07	WG1736127
Magnesium	34400		1000	1	09/09/2021 21:07	WG1736127
Potassium	5480		2000	1	09/09/2021 21:07	WG1736127
Sodium	27200		3000	1	09/09/2021 21:07	WG1736127

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	249000		20000	1	09/07/2021 13:05	WG1736008
Alkalinity,Carbonate	ND		20000	1	09/07/2021 13:05	WG1736008

Sample Narrative:

L1398801-05 WG1736008: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6830		1000	1	09/04/2021 10:12	WG1734517
Sulfate	41700		5000	1	09/04/2021 10:12	WG1734517

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	88700		1000	1	09/09/2021 21:10	WG1736127
Magnesium	12300		1000	1	09/09/2021 21:10	WG1736127
Potassium	ND		2000	1	09/09/2021 21:10	WG1736127
Sodium	8420		3000	1	09/09/2021 21:10	WG1736127

Method Blank (MB)

(MB) R3701170-2 09/07/21 12:38

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

Method Blank (MB)

(MB) R3702218-2 09/09/21 10:39

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

L1398801-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1398801-03 09/09/21 11:13 • (DUP) R3702218-3 09/09/21 11:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	349000	354000	1	1.45		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1399042-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1399042-01 09/09/21 11:26 • (DUP) R3702218-4 09/09/21 11:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	100000	97400	1	2.71		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

QUALITY CONTROL SUMMARY

L1398801-01,04,05

Method Blank (MB)

(MB) R3700955-1 09/03/21 10:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	501	J	379	1000
Sulfate	U		594	5000

L1398686-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1398686-01 09/03/21 12:17 • (DUP) R3700955-3 09/03/21 12:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10800	10800	1	0.0482		15
Sulfate	22900	22900	1	0.0577		15

L1398798-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1398798-02 09/04/21 13:29 • (DUP) R3700966-3 09/04/21 13:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20000	20100	1	0.264		15
Sulfate	ND	ND	1	0.832		15

Laboratory Control Sample (LCS)

(LCS) R3700955-2 09/03/21 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40100	100	80.0-120	
Sulfate	40000	40700	102	80.0-120	

L1398798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398798-01 09/03/21 17:08 • (MS) R3700955-4 09/03/21 17:23 • (MSD) R3700955-5 09/03/21 17:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	19800	70600	70800	102	102	1	80.0-120			0.275	15
Sulfate	50000	ND	51100	51100	101	101	1	80.0-120			0.114	15

L1398802-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398802-03 09/04/21 11:18 • (MS) R3700966-1 09/04/21 11:34 • (MSD) R3700966-2 09/04/21 11:51

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	10200	60900	60200	101	100	1	80.0-120			1.12	15
Sulfate	50000	107000	152000	152000	90.3	89.2	1	80.0-120	E	E	0.389	15

L1398798-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398798-03 09/04/21 14:02 • (MS) R3700966-4 09/04/21 14:19 • (MSD) R3700966-5 09/04/21 14:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6750	57800	57800	102	102	1	80.0-120			0.0268	15
Sulfate	50000	41700	89900	90400	96.4	97.4	1	80.0-120			0.582	15

Method Blank (MB)

(MB) R3703149-1 09/11/21 12:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Magnesium	U		85.3	1000
Potassium	U		261	2000
Sodium	U		504	3000

Laboratory Control Sample (LCS)

(LCS) R3703149-2 09/11/21 12:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Magnesium	10000	9230	92.3	80.0-120	
Potassium	10000	9210	92.1	80.0-120	
Sodium	10000	9670	96.7	80.0-120	

L1398737-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1398737-01 09/11/21 12:45 • (MS) R3703149-4 09/11/21 12:51 • (MSD) R3703149-5 09/11/21 12:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Magnesium	10000	24700	33700	33500	90.3	88.9	1	75.0-125			0.423	20
Potassium	10000	6670	15900	15800	92.7	91.7	1	75.0-125			0.636	20
Sodium	10000	73700	81600	81100	79.3	73.5	1	75.0-125		V	0.710	20

Method Blank (MB)

(MB) R3702618-1 09/09/21 20:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000
Magnesium	U		85.3	1000
Potassium	U		261	2000
Sodium	U		504	3000

Laboratory Control Sample (LCS)

(LCS) R3702618-2 09/09/21 20:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9420	94.2	80.0-120	
Magnesium	10000	9260	92.6	80.0-120	
Potassium	10000	8920	89.2	80.0-120	
Sodium	10000	9590	95.9	80.0-120	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
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.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy Sibley Generating Station

City/State Collected: Sibley, MO

Please Circle: PT MT CT ET

Phone: **913-681-0030**

Client Project #
27213169.21 - G

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

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

Date Results Needed: Std

Quote #

Immediately Packed on Ice N___ Y___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKBI, ALKCA 125mlHDPE-NoPres	Ca, K, Mg, Na - 6010 250mlHDPE-HNO3	Ca,K, Mg, Na - 6010 250mlHDPE-HNO3	Chloride, SO4 - 9056 125mlHDPE-NoPres	K, Mg, Na - 6010 250mlHDPE-HNO3	SO4 - 9056 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-505	Grab	GW	na	9/2/21	1235	3	X			X	X			-01
MW-506	Grab	GW	na	9/2/21	1050	2	X		X					02
MW-512	Grab	GW	na	9/2/21	1145	2	X				X			03
MW-804	Grab	GW	na	9/2/21	1150	3	X	X				X		04
MW-805	Grab	GW	na	9/2/21	1235	3	X	X		X				05

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®

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

SDG # L1398601

J127

Acctnum: AQUAOPKS

Template: T152962

Prelogin: P870744

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 # 5117 4143 0720

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	9/2/21	1500			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.3 °C Bottles Received: 13	
				0.5+0.0.5	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/3/21 Time: 0730	Hold: Condition: NCF (OK)
			T. Robertson		

Jared Morrison
December 20, 2022

ATTACHMENT 1-6

November 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

December 10, 2021

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

SCS Engineers - KS

Sample Delivery Group:	L1432297
Samples Received:	11/17/2021
Project Number:	27213169.21-G
Description:	Evergy - Sibley Gen Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

801 L1432297-01 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 10:50 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

802 L1432297-02 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 11:45 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

803 L1432297-03 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 15:55 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

804 L1432297-04 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 14:30 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/09/21 11:21	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/09/21 11:21	RGT	Mt. Juliet, TN

805 L1432297-05 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 13:45 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

806R L1432297-06 Non-Potable Water

Collected by: Jason R. Franks | Collected date/time: 11/15/21 12:50 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

DUPICATE L1432297-07 Non-Potable Water

Collected by: Jason R. Franks
Collected date/time: 11/15/21 14:30
Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG1779942	1	12/01/21 11:45	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1779033	1	12/01/21 15:00	12/08/21 15:35	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1779033	1	12/01/21 15:00	12/02/21 15:03	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.728		0.253	0.476	12/08/2021 15:35	WG1779942
(T) Barium	*104*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*104*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.916		0.487	0.801	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.188	J	0.234	0.325	12/02/2021 15:03	WG1779033
(T) Barium-133	*99.2*			*30.0-143*	*12/02/2021 15:03*	WG1779033

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.786		0.321	0.61	12/08/2021 15:35	WG1779942
(T) Barium	*98.8*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*98.7*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.786	J	0.412	0.92	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0440	U	0.0908	0.31	12/02/2021 15:03	WG1779033
(T) Barium-133	*102*			*30.0-143*	*12/02/2021 15:03*	WG1779033

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.269	U	0.317	0.619	12/08/2021 15:35	WG1779942
(T) Barium	*102*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*94.9*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.707	J	0.623	0.926	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.438		0.306	0.307	12/02/2021 15:03	WG1779033
(T) Barium-133	*95.1*			*30.0-143*	*12/02/2021 15:03*	WG1779033

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.662	J	0.372	0.715	12/08/2021 15:35	WG1779942
(T) Barium	*103*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*98.2*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.949	J	0.631	1.02	12/09/2021 11:21	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.287	J	0.259	0.307	12/09/2021 11:21	WG1779033
(T) Barium-133	*102*			*30.0-143*	*12/09/2021 11:21*	WG1779033

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.920		0.445	0.85	12/08/2021 15:35	WG1779942
(T) Barium	*102*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*103*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.42		0.738	1.08	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.503		0.293	0.232	12/02/2021 15:03	WG1779033
(T) Barium-133	*99.4*			*30.0-143*	*12/02/2021 15:03*	WG1779033

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

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.78		0.365	0.663	12/08/2021 15:35	WG1779942
(T) Barium	*104*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*94.5*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.78		0.426	0.91	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0208	U	0.0606	0.247	12/02/2021 15:03	WG1779033
(T) Barium-133	*96.1*			*30.0-143*	*12/02/2021 15:03*	WG1779033

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.91		0.376	0.679	12/08/2021 15:35	WG1779942
(T) Barium	*104*			*62.0-143*	*12/08/2021 15:35*	WG1779942
(T) Yttrium	*91.0*			*79.0-136*	*12/08/2021 15:35*	WG1779942

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.03		0.528	0.886	12/08/2021 15:35	WG1779033

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.123	J	0.152	0.207	12/02/2021 15:03	WG1779033
(T) Barium-133	*99.6*			*30.0-143*	*12/02/2021 15:03*	WG1779033

Method Blank (MB)

(MB) R3739406-1 12/08/21 15:35

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.369	J	0.214	0.412
(T) Barium	*97.3*		*97.3*	
(T) Yttrium	*101*		*101*	

L1432536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1432536-01 12/08/21 15:35 • (DUP) R3739406-5 12/08/21 15:35

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.860	0.264	0.492	-0.0200	0.505	0.492	1	200	1.54	U	20	3
(T) Barium	*105*			*102*	*102*							
(T) Yttrium	*108*			*97.4*	*97.4*							

Laboratory Control Sample (LCS)

(LCS) R3739406-2 12/08/21 15:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.84	96.7	80.0-120	
(T) Barium			*98.6*		
(T) Yttrium			*106*		

L1432297-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432297-04 12/08/21 15:35 • (MS) R3739406-3 12/08/21 15:35 • (MSD) R3739406-4 12/08/21 15:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.662	12.3	11.4	116	108	1	70.0-130			7.01		20
(T) Barium		*103*			*107*	*95.3*							
(T) Yttrium		*98.2*			*100*	*103*							

Method Blank (MB)

(MB) R3739034-1 12/02/21 15:03

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-226	0.00276	U	0.0286	0.0667
(T) Barium-133	*94.1*		*94.1*	

L1433517-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1433517-06 12/02/21 15:03 • (DUP) R3739034-5 12/02/21 15:03

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-226	0.0237	0.102	0.231	0.0708	0.175	0.231	1	99.7	0.233	U	20	3
(T) Barium-133	*103*			*98.0*	*98.0*							

Laboratory Control Sample (LCS)

(LCS) R3739034-2 12/02/21 15:03

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	4.67	93.1	80.0-120	
(T) Barium-133			*99.4*		

L1432297-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432297-04 12/09/21 11:21 • (MS) R3739034-6 12/09/21 11:21 • (MSD) R3739034-7 12/09/21 11:21

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	0.287	23.3	24.3	114	120	1	75.0-125			4.37		20
(T) Barium-133		*102*			*98.0*	*99.8*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - Sibley Gen Station

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

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213169.21-G

Lab Project #
AQUAOPKS-SIBLEY

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 1L-HDPE-Add HNO3										Remarks	Sample # (lab only)
801	GRAB	NPW	-	11/15/21	1050	2	X											-01
802		NPW	-		1145	2	X											-02
803		NPW	-		1555	2	X											-03
804		NPW	-		1430	2	X											-04
805		NPW	-		1345	2	X											-05
806R		NPW	-		1250	2	X											-06
DUPICATE		NPW	-		1430	2	X											-07
804 MS/MSD		NPW	-		1430	2	X											-04
		~~NPW~~				~~2~~	~~X~~											

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®

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

SDG # L1432297

Tab A124

Acctnum: **AQUAOPKS**

Template: **T198906**

Prelogin: **P887460**

PM: **206 - Jeff Carr**

PB:

Shipped Via: **FedEX Ground**

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

Remarks: REPORT SEPARATELY + COMBINED

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5300 4294 6238

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	
	11/16/21	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.2/3.9°C Bottles Received: 17.2 to 17.2 16	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/17/21 Time: 0900	Hold: Condition: NCF / OK

ANALYTICAL REPORT

December 20, 2021

SCS Engineers - KS

Sample Delivery Group:	L1432633
Samples Received:	11/17/2021
Project Number:	27213169.21-A
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

TABLE OF CONTENTS

MW-801 L1432633-01 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 10:50 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778738	1	11/22/21 17:16	11/22/21 18:06	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 14:29	12/08/21 14:29	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	10	12/08/21 14:45	12/08/21 14:45	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:23	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:29	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784743	1	12/15/21 15:34	12/15/21 20:48	LD	Mt. Juliet, TN

MW-802 L1432633-02 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 11:45 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778639	1	11/22/21 14:27	11/22/21 15:59	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 15:01	12/08/21 15:01	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:30	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:32	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784743	1	12/15/21 15:34	12/15/21 20:52	LD	Mt. Juliet, TN

MW-803 L1432633-03 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 15:55 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778639	1	11/22/21 14:27	11/22/21 15:59	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 15:17	12/08/21 15:17	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	5	12/08/21 15:33	12/08/21 15:33	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:32	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:34	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1784743	1	12/15/21 15:34	12/15/21 20:55	LD	Mt. Juliet, TN

MW-804 L1432633-04 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 14:30 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778612	1	11/22/21 14:13	11/22/21 17:21	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 15:49	12/08/21 15:49	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:13	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 22:38	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1789463	1	12/17/21 12:58	12/17/21 15:37	JPD	Mt. Juliet, TN

MW-805 L1432633-05 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 13:45 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1777787	1	11/20/21 12:11	11/20/21 17:39	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 17:24	12/08/21 17:24	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:34	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:37	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1789463	1	12/17/21 12:58	12/17/21 15:50	JPD	Mt. Juliet, TN

MW-806R L1432633-06 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 12:50 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778612	1	11/22/21 14:13	11/22/21 17:21	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 17:40	12/08/21 17:40	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1786815	5	12/09/21 20:30	12/09/21 20:30	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:40	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:40	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1789463	1	12/17/21 12:58	12/17/21 15:54	JPD	Mt. Juliet, TN

DUPLICATE L1432633-07 GW

Collected by: Jason R Franks | Collected date/time: 11/15/21 14:30 | Received date/time: 11/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1778612	1	11/22/21 14:13	11/22/21 17:21	VRP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1785621	1	12/08/21 17:56	12/08/21 17:56	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1778225	1	11/26/21 11:08	11/28/21 11:42	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1784618	1	12/16/21 00:56	12/16/21 23:42	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1789463	1	12/17/21 12:58	12/17/21 15:57	JPD	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	633		10.0	1	11/22/2021 18:06	WG1778738

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	144000		10000	10	12/08/2021 14:45	WG1785621
Fluoride	150		150	1	12/08/2021 14:29	WG1785621
Sulfate	49400		5000	1	12/08/2021 14:29	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:23	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	154		5.00	1	12/16/2021 23:29	WG1784618
Boron	ND		200	1	12/16/2021 23:29	WG1784618
Calcium	144000		1000	1	12/16/2021 23:29	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:29	WG1784618
Lithium	ND		15.0	1	12/16/2021 23:29	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 23:29	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/15/2021 20:48	WG1784743
Arsenic	ND		2.00	1	12/15/2021 20:48	WG1784743
Beryllium	ND		2.00	1	12/15/2021 20:48	WG1784743
Cadmium	ND		1.00	1	12/15/2021 20:48	WG1784743
Cobalt	ND		2.00	1	12/15/2021 20:48	WG1784743
Lead	ND		2.00	1	12/15/2021 20:48	WG1784743
Selenium	ND		2.00	1	12/15/2021 20:48	WG1784743
Thallium	ND		2.00	1	12/15/2021 20:48	WG1784743

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	335		10.0	1	11/22/2021 15:59	WG1778639

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	50300		1000	1	12/08/2021 15:01	WG1785621
Fluoride	ND		150	1	12/08/2021 15:01	WG1785621
Sulfate	68700		5000	1	12/08/2021 15:01	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:30	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	160		5.00	1	12/16/2021 23:32	WG1784618
Boron	ND		200	1	12/16/2021 23:32	WG1784618
Calcium	60800		1000	1	12/16/2021 23:32	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:32	WG1784618
Lithium	ND		15.0	1	12/16/2021 23:32	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 23:32	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/15/2021 20:52	WG1784743
Arsenic	2.67		2.00	1	12/15/2021 20:52	WG1784743
Beryllium	ND		2.00	1	12/15/2021 20:52	WG1784743
Cadmium	ND		1.00	1	12/15/2021 20:52	WG1784743
Cobalt	ND		2.00	1	12/15/2021 20:52	WG1784743
Lead	ND		2.00	1	12/15/2021 20:52	WG1784743
Selenium	5.11		2.00	1	12/15/2021 20:52	WG1784743
Thallium	ND		2.00	1	12/15/2021 20:52	WG1784743

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	504		10.0	1	11/22/2021 15:59	WG1778639

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	17900		1000	1	12/08/2021 15:17	WG1785621
Fluoride	276		150	1	12/08/2021 15:17	WG1785621
Sulfate	110000		25000	5	12/08/2021 15:33	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:32	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	122		5.00	1	12/16/2021 23:34	WG1784618
Boron	2940		200	1	12/16/2021 23:34	WG1784618
Calcium	117000		1000	1	12/16/2021 23:34	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:34	WG1784618
Lithium	ND		15.0	1	12/16/2021 23:34	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 23:34	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/15/2021 20:55	WG1784743
Arsenic	2.65		2.00	1	12/15/2021 20:55	WG1784743
Beryllium	ND		2.00	1	12/15/2021 20:55	WG1784743
Cadmium	ND		1.00	1	12/15/2021 20:55	WG1784743
Cobalt	ND		2.00	1	12/15/2021 20:55	WG1784743
Lead	ND		2.00	1	12/15/2021 20:55	WG1784743
Selenium	ND		2.00	1	12/15/2021 20:55	WG1784743
Thallium	ND		2.00	1	12/15/2021 20:55	WG1784743

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	571		12.5	1	11/22/2021 17:21	WG1778612

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20500		1000	1	12/08/2021 15:49	WG1785621
Fluoride	275		150	1	12/08/2021 15:49	WG1785621
Sulfate	ND		5000	1	12/08/2021 15:49	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:13	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	450		5.00	1	12/16/2021 22:38	WG1784618
Boron	9360		200	1	12/16/2021 22:38	WG1784618
Calcium	145000	V	1000	1	12/16/2021 22:38	WG1784618
Chromium	ND		10.0	1	12/16/2021 22:38	WG1784618
Lithium	19.6		15.0	1	12/16/2021 22:38	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 22:38	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/17/2021 15:37	WG1789463
Arsenic	2.05		2.00	1	12/17/2021 15:37	WG1789463
Beryllium	ND		2.00	1	12/17/2021 15:37	WG1789463
Cadmium	ND		1.00	1	12/17/2021 15:37	WG1789463
Cobalt	ND		2.00	1	12/17/2021 15:37	WG1789463
Lead	ND		2.00	1	12/17/2021 15:37	WG1789463
Selenium	ND		2.00	1	12/17/2021 15:37	WG1789463
Thallium	ND		2.00	1	12/17/2021 15:37	WG1789463

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	337		10.0	1	11/20/2021 17:39	WG1777787

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6380		1000	1	12/08/2021 17:24	WG1785621
Fluoride	213		150	1	12/08/2021 17:24	WG1785621
Sulfate	41800		5000	1	12/08/2021 17:24	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:34	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	140		5.00	1	12/16/2021 23:37	WG1784618
Boron	ND		200	1	12/16/2021 23:37	WG1784618
Calcium	86700		1000	1	12/16/2021 23:37	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:37	WG1784618
Lithium	ND		15.0	1	12/16/2021 23:37	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 23:37	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/17/2021 15:50	WG1789463
Arsenic	ND		2.00	1	12/17/2021 15:50	WG1789463
Beryllium	ND		2.00	1	12/17/2021 15:50	WG1789463
Cadmium	ND		1.00	1	12/17/2021 15:50	WG1789463
Cobalt	ND		2.00	1	12/17/2021 15:50	WG1789463
Lead	ND		2.00	1	12/17/2021 15:50	WG1789463
Selenium	ND		2.00	1	12/17/2021 15:50	WG1789463
Thallium	ND		2.00	1	12/17/2021 15:50	WG1789463

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	662		10.0	1	11/22/2021 17:21	WG1778612

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	27800		1000	1	12/08/2021 17:40	WG1785621
Fluoride	222		150	1	12/08/2021 17:40	WG1785621
Sulfate	209000		25000	5	12/09/2021 20:30	WG1786815

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:40	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	72.3		5.00	1	12/16/2021 23:40	WG1784618
Boron	4400		200	1	12/16/2021 23:40	WG1784618
Calcium	149000		1000	1	12/16/2021 23:40	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:40	WG1784618
Lithium	ND		15.0	1	12/16/2021 23:40	WG1784618
Molybdenum	1640		5.00	1	12/16/2021 23:40	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/17/2021 15:54	WG1789463
Arsenic	3.62		2.00	1	12/17/2021 15:54	WG1789463
Beryllium	ND		2.00	1	12/17/2021 15:54	WG1789463
Cadmium	ND		1.00	1	12/17/2021 15:54	WG1789463
Cobalt	ND		2.00	1	12/17/2021 15:54	WG1789463
Lead	ND		2.00	1	12/17/2021 15:54	WG1789463
Selenium	ND		2.00	1	12/17/2021 15:54	WG1789463
Thallium	ND		2.00	1	12/17/2021 15:54	WG1789463

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	633		10.0	1	11/22/2021 17:21	WG1778612

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20300		1000	1	12/08/2021 17:56	WG1785621
Fluoride	261		150	1	12/08/2021 17:56	WG1785621
Sulfate	ND		5000	1	12/08/2021 17:56	WG1785621

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/28/2021 11:42	WG1778225

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	465		5.00	1	12/16/2021 23:42	WG1784618
Boron	9480		200	1	12/16/2021 23:42	WG1784618
Calcium	150000		1000	1	12/16/2021 23:42	WG1784618
Chromium	ND		10.0	1	12/16/2021 23:42	WG1784618
Lithium	19.4		15.0	1	12/16/2021 23:42	WG1784618
Molybdenum	ND		5.00	1	12/16/2021 23:42	WG1784618

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		4.00	1	12/17/2021 15:57	WG1789463
Arsenic	2.02		2.00	1	12/17/2021 15:57	WG1789463
Beryllium	ND		2.00	1	12/17/2021 15:57	WG1789463
Cadmium	ND		1.00	1	12/17/2021 15:57	WG1789463
Cobalt	ND		2.00	1	12/17/2021 15:57	WG1789463
Lead	ND		2.00	1	12/17/2021 15:57	WG1789463
Selenium	ND		2.00	1	12/17/2021 15:57	WG1789463
Thallium	ND		2.00	1	12/17/2021 15:57	WG1789463

Method Blank (MB)

(MB) R3733767-1 11/20/21 17:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1431968-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1431968-13 11/20/21 17:39 • (DUP) R3733767-3 11/20/21 17:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	626	620	1	0.963		5

L1432587-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1432587-05 11/20/21 17:39 • (DUP) R3733767-4 11/20/21 17:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	527	535	1	1.51		5

Laboratory Control Sample (LCS)

(LCS) R3733767-2 11/20/21 17:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8660	98.4	77.4-123	

Method Blank (MB)

(MB) R3733765-1 11/22/21 17:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1432633-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1432633-04 11/22/21 17:21 • (DUP) R3733765-3 11/22/21 17:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	571	591	1	3.44		5

L1432633-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1432633-06 11/22/21 17:21 • (DUP) R3733765-4 11/22/21 17:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	662	632	1	4.64		5

Laboratory Control Sample (LCS)

(LCS) R3733765-2 11/22/21 17:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8570	97.4	77.4-123	

Method Blank (MB)

(MB) R3733766-1 11/22/21 15:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1432164-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1432164-05 11/22/21 15:59 • (DUP) R3733766-3 11/22/21 15:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	58.0	53.0	1	9.01	J3	5

L1432164-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1432164-06 11/22/21 15:59 • (DUP) R3733766-4 11/22/21 15:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	263	246	1	6.68	J3	5

Laboratory Control Sample (LCS)

(LCS) R3733766-2 11/22/21 15:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8130	92.4	77.4-123	

Method Blank (MB)

(MB) R3733768-1 11/22/21 18:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1433215-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1433215-11 11/22/21 18:06 • (DUP) R3733768-3 11/22/21 18:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	190	198	1	4.12		5

L1433215-74 Original Sample (OS) • Duplicate (DUP)

(OS) L1433215-74 11/22/21 18:06 • (DUP) R3733768-4 11/22/21 18:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	39.0	ND	1	200	P1	5

Laboratory Control Sample (LCS)

(LCS) R3733768-2 11/22/21 18:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7970	90.6	77.4-123	

Method Blank (MB)

(MB) R3738951-1 12/08/21 09:44

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

L1432633-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1432633-04 12/08/21 15:49 • (DUP) R3738951-3 12/08/21 16:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20500	20600	1	0.606		15
Fluoride	275	275	1	0.0727		15
Sulfate	ND	ND	1	2.95		15

L1433234-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1433234-03 12/08/21 19:00 • (DUP) R3738951-6 12/08/21 19:47

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8460	8590	1	1.46		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	4.33		15

Laboratory Control Sample (LCS)

(LCS) R3738951-2 12/08/21 10:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.7	80.0-120	
Fluoride	8000	8060	101	80.0-120	
Sulfate	40000	39900	99.7	80.0-120	

L1432633-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432633-04 12/08/21 15:49 • (MS) R3738951-4 12/08/21 16:52 • (MSD) R3738951-5 12/08/21 17:08

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	20500	69200	70200	97.4	99.4	1	80.0-120			1.40	15
Fluoride	5000	275	5150	5190	97.5	98.3	1	80.0-120			0.865	15
Sulfate	50000	ND	50900	50900	98.1	98.1	1	80.0-120			0.00511	15

L1433234-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1433234-03 12/08/21 19:00 • (MS) R3738951-7 12/08/21 20:03

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	8460	58200	99.5	1	80.0-120	
Fluoride	5000	ND	5000	99.9	1	80.0-120	
Sulfate	50000	ND	50400	98.6	1	80.0-120	

Method Blank (MB)

(MB) R3739422-1 12/09/21 20:04

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

L1440078-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1440078-01 12/09/21 20:43 • (DUP) R3739422-3 12/09/21 20:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	12100	11900	1	1.74		15

L1440177-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1440177-03 12/09/21 23:43 • (DUP) R3739422-6 12/09/21 23:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	35900	35600	1	0.705		15

Laboratory Control Sample (LCS)

(LCS) R3739422-2 12/09/21 20:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	40700	102	80.0-120	

L1440078-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1440078-01 12/09/21 20:43 • (MS) R3739422-4 12/09/21 21:08 • (MSD) R3739422-5 12/09/21 21:21

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	12100	60400	59100	96.6	94.0	1	80.0-120			2.21	15

L1440177-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1440177-03 12/09/21 23:43 • (MS) R3739422-7 12/10/21 00:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	35900	84800	97.8	1	80.0-120	

Method Blank (MB)

(MB) R3734450-1 11/28/21 11:02

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) R3734450-2 11/28/21 11:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.89	96.3	80.0-120	

L1432579-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432579-12 11/28/21 11:06 • (MS) R3734450-3 11/28/21 11:09 • (MSD) R3734450-4 11/28/21 11:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	2.86	2.87	95.2	95.8	1	75.0-125			0.641	20

L1432633-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432633-04 11/28/21 11:13 • (MS) R3734450-5 11/28/21 11:16 • (MSD) R3734450-6 11/28/21 11:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	2.77	2.67	92.4	89.1	1	75.0-125			3.57	20

Method Blank (MB)

(MB) R3741871-1 12/16/21 22:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Barium	U		0.736	5.00
Boron	U		20.0	200
Calcium	U		79.3	1000
Chromium	U		1.40	10.0
Lithium	U		4.85	15.0
Molybdenum	U		1.16	5.00

Laboratory Control Sample (LCS)

(LCS) R3741871-2 12/16/21 22:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1000	990	99.0	80.0-120	
Boron	1000	964	96.4	80.0-120	
Calcium	10000	9700	97.0	80.0-120	
Chromium	1000	947	94.7	80.0-120	
Lithium	1000	939	93.9	80.0-120	
Molybdenum	1000	985	98.5	80.0-120	

L1432579-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432579-12 12/16/21 22:28 • (MS) R3741871-4 12/16/21 22:33 • (MSD) R3741871-5 12/16/21 22:36

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 %
Barium	1000	331	1310	1310	98.1	97.8	1	75.0-125			0.233	20
Boron	1000	ND	999	1010	95.9	96.7	1	75.0-125			0.862	20
Calcium	10000	95800	104000	104000	86.6	84.7	1	75.0-125			0.183	20
Chromium	1000	ND	940	947	94.0	94.7	1	75.0-125			0.717	20
Lithium	1000	ND	957	963	94.9	95.5	1	75.0-125			0.618	20
Molybdenum	1000	ND	1000	1000	99.9	99.6	1	75.0-125			0.261	20

L1432633-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432633-04 12/16/21 22:38 • (MS) R3741871-6 12/16/21 22:41 • (MSD) R3741871-7 12/16/21 22:43

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 %
Barium	1000	450	1420	1450	97.5	100	1	75.0-125			1.80	20
Boron	1000	9360	10100	10500	76.9	112	1	75.0-125			3.42	20
Calcium	10000	145000	152000	158000	75.8	130	1	75.0-125		V	3.50	20

L1432633-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432633-04 12/16/21 22:38 • (MS) R3741871-6 12/16/21 22:41 • (MSD) R3741871-7 12/16/21 22:43

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 %
Chromium	1000	ND	934	962	93.4	96.2	1	75.0-125			2.97	20
Lithium	1000	19.6	958	995	93.8	97.6	1	75.0-125			3.86	20
Molybdenum	1000	ND	987	1010	98.6	101	1	75.0-125			2.49	20

QUALITY CONTROL SUMMARY

L1432633-01,02,03

Method Blank (MB)

(MB) R3741173-1 12/15/21 19:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.03	4.00
Arsenic	U		0.180	2.00
Beryllium	U		0.190	2.00
Cadmium	U		0.150	1.00
Cobalt	U		0.0596	2.00
Lead	U		0.849	2.00
Selenium	0.448	J	0.300	2.00
Thallium	U		0.121	2.00

Laboratory Control Sample (LCS)

(LCS) R3741173-2 12/15/21 19:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	50.7	101	80.0-120	
Arsenic	50.0	47.4	94.9	80.0-120	
Beryllium	50.0	51.2	102	80.0-120	
Cadmium	50.0	47.8	95.6	80.0-120	
Cobalt	50.0	49.0	97.9	80.0-120	
Lead	50.0	50.8	102	80.0-120	
Selenium	50.0	49.9	99.9	80.0-120	
Thallium	50.0	47.9	95.7	80.0-120	

L1432579-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432579-12 12/15/21 19:11 • (MS) R3741173-4 12/15/21 19:18 • (MSD) R3741173-5 12/15/21 19:21

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	51.1	52.4	102	105	1	75.0-125			2.60	20
Arsenic	50.0	ND	47.5	47.3	94.0	93.7	1	75.0-125			0.412	20
Beryllium	50.0	ND	47.0	47.0	94.1	94.0	1	75.0-125			0.110	20
Cadmium	50.0	ND	48.0	47.8	95.9	95.7	1	75.0-125			0.287	20
Cobalt	50.0	ND	47.2	46.8	93.6	92.8	1	75.0-125			0.848	20
Lead	50.0	ND	48.6	51.9	97.1	104	1	75.0-125			6.55	20
Selenium	50.0	7.12	58.5	56.7	103	99.2	1	75.0-125			3.08	20
Thallium	50.0	ND	47.0	48.3	94.0	96.6	1	75.0-125			2.76	20

QUALITY CONTROL SUMMARY

L1432633-04,05,06,07

Method Blank (MB)

(MB) R3742090-1 12/17/21 15:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.03	4.00
Arsenic	U		0.180	2.00
Beryllium	U		0.190	2.00
Cadmium	U		0.150	1.00
Cobalt	U		0.0596	2.00
Lead	U		0.849	2.00
Selenium	0.372	J	0.300	2.00
Thallium	U		0.121	2.00

Laboratory Control Sample (LCS)

(LCS) R3742090-2 12/17/21 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	55.6	111	80.0-120	
Arsenic	50.0	47.1	94.2	80.0-120	
Beryllium	50.0	48.5	97.0	80.0-120	
Cadmium	50.0	50.0	100	80.0-120	
Cobalt	50.0	48.7	97.4	80.0-120	
Lead	50.0	47.7	95.3	80.0-120	
Selenium	50.0	53.3	107	80.0-120	
Thallium	50.0	46.6	93.2	80.0-120	

L1432633-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432633-04 12/17/21 15:37 • (MS) R3742090-4 12/17/21 15:44 • (MSD) R3742090-5 12/17/21 15:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	58.3	55.4	117	111	1	75.0-125			4.96	20
Arsenic	50.0	2.05	48.6	49.3	93.1	94.5	1	75.0-125			1.42	20
Beryllium	50.0	ND	49.4	49.2	98.9	98.4	1	75.0-125			0.464	20
Cadmium	50.0	ND	49.0	48.7	98.0	97.3	1	75.0-125			0.681	20
Cobalt	50.0	ND	47.8	47.4	94.7	94.0	1	75.0-125			0.774	20
Lead	50.0	ND	49.2	48.7	98.3	97.5	1	75.0-125			0.898	20
Selenium	50.0	ND	51.7	51.1	102	101	1	75.0-125			1.10	20
Thallium	50.0	ND	48.0	48.0	96.0	96.0	1	75.0-125			0.0397	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Company Name/Address:
SCS Engineers - KS

8575 W. 110th Street
Overland Park, KS 66210

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

Pres Chk

Report to:
Jason Franks

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

Project Description:
Evergy - Sibley Generating Station

City/State Collected: Sibley, MO

Please Circle: PT MT (CT) ET

Phone: **913-681-0030**

Client Project #
27213169.21-A

Lab Project #
AQUAOPKS-SIBLEY

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions (Cld, F, SO4) 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres							Remarks	Sample # (lab only)
								L2									
MW-801	GRAB	GW	–	11/15/21	1050	3	X	X	X								-01
MW-802		GW	–		1145	3	X	X	X								-02
MW-803		GW	–		1555	3	X	X	X								-03
MW-804		GW	–		1430	3	X	X	X								-04
MW-805		GW	–		1345	3	X	X	X								-05
MW-806R		GW	–		1250	3	X	X	X								-06
804 MS/MSD		GW	–		1430	3	X	X									
DUPLICATE		GW	–		1430	3	X	X	X								-07

Chain of Custody Page 1 of 1

Pace Analytical®

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

SDG # 1432633
F048

Acctnum: **AQUAOPKS**
Template: **T166706**
Prelogin: **P885803**
PM: **206 - Jeff Carr**
PB:
Shipped Via: **FedEX Ground**

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

Remarks: 6010 - B, Ba, Ca, Cr, Li, Mo
6020 - Sb, As, Be, Cd, Co, Pb, Se, TL
7470 - 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
	11/16/21	1600		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				5.2 0252 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				11/17/21 0900

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Jared Morrison
December 20, 2022

ATTACHMENT 1-7

December 2021 Sampling Event Laboratory Report

ANALYTICAL REPORT

January 10, 2022

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

SCS Engineers - KS

Sample Delivery Group:	L1438318
Samples Received:	12/04/2021
Project Number:	27213169.21-G
Description:	Evergy - Sibley Generating Station

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

Entire Report Reviewed By:

Jeff Carr
Project Manager

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

TABLE OF CONTENTS

MW-807 L1438318-01 GW

Collected by: Britta Coleman | Collected date/time: 12/03/21 11:35 | Received date/time: 12/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1785801	1	12/09/21 05:40	12/09/21 05:40	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1791449	1	12/19/21 15:41	12/19/21 15:41	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1797466	1	01/04/22 22:57	01/08/22 15:12	CCE	Mt. Juliet, TN

MW-808 L1438318-02 GW

Collected by: Britta Coleman | Collected date/time: 12/03/21 13:05 | Received date/time: 12/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG1785801	1	12/09/21 05:45	12/09/21 05:45	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1791449	1	12/19/21 16:05	12/19/21 16:05	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1791449	5	12/19/21 16:40	12/19/21 16:40	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1797466	1	01/04/22 22:57	01/08/22 15:15	CCE	Mt. Juliet, TN

MW-807 L1438318-03 GW

Collected by: Britta Coleman | Collected date/time: 12/03/21 11:35 | Received date/time: 12/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1795326	1	01/04/22 13:57	01/07/22 18:18	KMG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1797466	1	01/04/22 22:57	01/08/22 15:23	CCE	Mt. Juliet, TN

MW-808 L1438318-04 GW

Collected by: Britta Coleman | Collected date/time: 12/03/21 13:05 | Received date/time: 12/04/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1795326	1	01/04/22 13:57	01/07/22 18:26	KMG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1797466	1	01/04/22 22:57	01/08/22 15:26	CCE	Mt. Juliet, TN

CASE NARRATIVE

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

Jeff Carr
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	246000		20000	1	12/09/2021 05:40	WG1785801
Alkalinity,Carbonate	ND		20000	1	12/09/2021 05:40	WG1785801

Sample Narrative:

L1438318-01 WG1785801: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	13600		1000	1	12/19/2021 15:41	WG1791449
Sulfate	24600		5000	1	12/19/2021 15:41	WG1791449

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	85600		1000	1	01/08/2022 15:12	WG1797466
Magnesium	14100		1000	1	01/08/2022 15:12	WG1797466
Potassium	ND		2000	1	01/08/2022 15:12	WG1797466
Sodium	11800		3000	1	01/08/2022 15:12	WG1797466

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity,Bicarbonate	232000		20000	1	12/09/2021 05:45	WG1785801
Alkalinity,Carbonate	ND		20000	1	12/09/2021 05:45	WG1785801

Sample Narrative:

L1438318-02 WG1785801: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	31800		1000	1	12/19/2021 16:05	WG1791449
Sulfate	219000		25000	5	12/19/2021 16:40	WG1791449

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Calcium	158000		1000	1	01/08/2022 15:15	WG1797466
Magnesium	21800		1000	1	01/08/2022 15:15	WG1797466
Potassium	2550		2000	1	01/08/2022 15:15	WG1797466
Sodium	16100		3000	1	01/08/2022 15:15	WG1797466

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Molybdenum	ND		5.00	1	01/08/2022 15:23	WG1797466
Molybdenum,Dissolved	ND		5.00	1	01/07/2022 18:18	WG1795326

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Molybdenum	ND		5.00	1	01/08/2022 15:26	WG1797466
Molybdenum,Dissolved	ND		5.00	1	01/07/2022 18:26	WG1795326

Method Blank (MB)

(MB) R3738705-2 12/09/21 04:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1438118-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1438118-01 12/09/21 05:28 • (DUP) R3738705-3 12/09/21 05:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity,Bicarbonate	449000	446000	1	0.828		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1438357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1438357-01 12/09/21 06:26 • (DUP) R3738705-4 12/09/21 06:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity,Bicarbonate	197000	195000	1	1.00		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3743127-1 12/19/21 07:17

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

L1436797-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1436797-06 12/19/21 10:09 • (DUP) R3743127-3 12/19/21 10:20

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11000	11000	1	0.290		15
Sulfate	73000	72900	1	0.173		15

L1436946-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1436946-02 12/19/21 14:43 • (DUP) R3743127-6 12/19/21 14:55

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5410	5380	1	0.598		15
Sulfate	85000	84900	1	0.0624		15

Laboratory Control Sample (LCS)

(LCS) R3743127-2 12/19/21 07:28

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

L1436887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1436887-02 12/19/21 12:17 • (MS) R3743127-4 12/19/21 12:29 • (MSD) R3743127-5 12/19/21 12:41

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	273000	310000	310000	72.7	72.9	1	80.0-120	E V	E V	0.0337	15

L1436946-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1436946-02 12/19/21 14:43 • (MS) R3743127-7 12/19/21 15:06

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	5410	54600	98.3	1	80.0-120	
Sulfate	50000	85000	127000	84.4	1	80.0-120	E

Method Blank (MB)

(MB) R3748137-1 01/07/22 17:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Molybdenum,Dissolved	U		1.16	5.00

Laboratory Control Sample (LCS)

(LCS) R3748137-2 01/07/22 17:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Molybdenum,Dissolved	1000	930	93.0	80.0-120	

L1438345-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1438345-07 01/07/22 17:24 • (MS) R3748137-4 01/07/22 17:29 • (MSD) R3748137-5 01/07/22 17:32

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 %
Molybdenum,Dissolved	1000	21.1	973	968	95.2	94.7	1	75.0-125			0.537	20

Method Blank (MB)

(MB) R3748372-1 01/08/22 14:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		79.3	1000
Magnesium	U		85.3	1000
Molybdenum	U		1.16	5.00
Potassium	U		261	2000
Sodium	539	J	504	3000

Laboratory Control Sample (LCS)

(LCS) R3748372-2 01/08/22 14:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9510	95.1	80.0-120	
Magnesium	10000	9220	92.2	80.0-120	
Molybdenum	1000	993	99.3	80.0-120	
Potassium	10000	9020	90.2	80.0-120	
Sodium	10000	10200	102	80.0-120	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

SCS Engineers - KS

8575 W 110th Street
Overland Park, Kansas 66210

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

Pres Chk

Report to: **Jason Franks**

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

Project Description: Evergy - Sibley Generating Station

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

Please Circle: PT MT CT ET

Phone: **913-749-0716**

Client Project # **27213169.21 - G**

Lab Project #

Collected by (print): **Britta Coleman**

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

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ca, K, Mg, Na, Total - 250ml HDPE-HNO3 +2	Chloride, SO4 - 250ml NoPres	ALKBI, ALKCA - 250 mll Nopres	Remarks	Sample # (lab only)
MW-807	Grab	GW		12/03/21	1134	3	X	X	X		-01
MW-808	Grab	GW		12/03/21	1305	3	X	X	X		-02

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

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

SDG # 14 38318

E138

Acctnum: **AQUAOPKS**

Template:

Prelogin:

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:
calcium chloride, magnesium, sodium, potassium, sulfate, carbonate/bi-carbonate

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 5117 4431 2295

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/3/21	1530	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 6 °C Bottles Received: 10
0.5+0=0.5

Date: 12-4-21 Time: 0900

Sample Receipt Checklist

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

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

SCS Engineers - KS

8575 W 110th Street
Overland Park, Kansas 66210

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

Report to: **Jason Franks**

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

Project Description: Evergy - Sibley Generating Station

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

Please Circle: PT MT CT ET

Phone: **913-749-0716**

Client Project # **27213169.21 - G**

Lab Project #

Collected by (print): **Britta Coleman**

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

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pres Chk	Mo, Total - 250ml HDPE-HNO3 (6010)	Mo, Diss - 250ml HDPE-HNO3 (6010)	Remarks	Sample # (lab only)
MW-807	Grab	GW		12/03/21	1135	2		X	X		-03
MW-808	Grab	GW		12/03/21	1305	2		X	X		-04

Chain of Custody Page 2 of 2

Pace Analytical®
National Center for Testing & Innovation

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

SDG # 1438318

Table #

Acctnum: **AQUAOPKS**

Template:

Prelogin:

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 X FedEx __ Courier __ ____

Tracking # 5117 4431 2295

Sample Receipt Checklist

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

	Date:	Time:		
Relinquished by : (Signature)	12/4/21	1430	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: BAG °C Bottles Received: 0.5+0.5 10
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12-4-21 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 20, 2022

ATTACHMENT 2

Statistical Analyses

Jared Morrison
December 20, 2022

ATTACHMENT 2-1

Fall 2020 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

March 24, 2021

To: Sibley Generating Station
33200 E Johnson Road
Sibley, Missouri 64088
Evergy Missouri West, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases - Fly Ash Impoundment
Fall 2020 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the Fly Ash Impoundment at the Sibley 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 11, 2021. Review and validation of the results from the November 2020 Detection Monitoring Event was completed on December 24, 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 February 3, 2021 and March 1, 2021.

The completed statistical evaluation identified one Appendix III constituent above the prediction limit established for monitoring well MW-803.

Constituent/Monitoring Well	*UPL	Observation November 11, 2020	1st Verification February 3, 2021	2nd Verification March 1, 2021
Chloride				
MW-803	17.17	17.4	18.1	18.5

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified a SSI above the background prediction limit for chloride at monitoring well MW-803.

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

Sibley Generating Station
Determination of Statistically Significant Increases
Fly Ash Impoundment
March 24, 2021

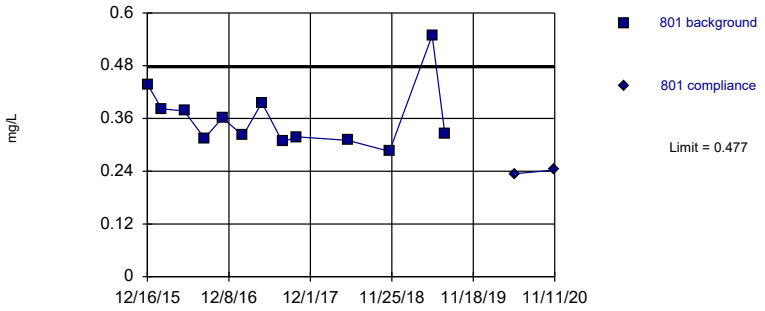
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3604, Std. Dev.=0.07146, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8325, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

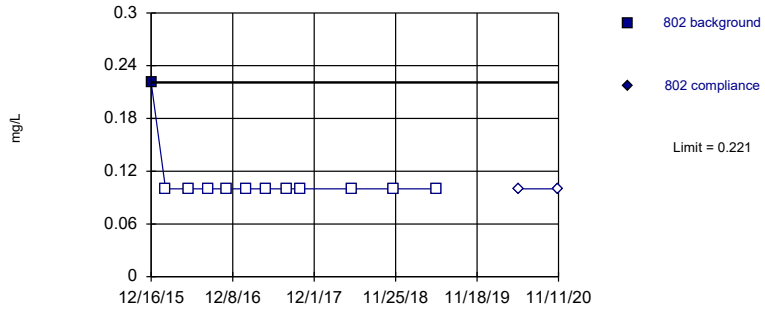
Sibley Client: SCS Engineers Data: Sibley

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. 91.67% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

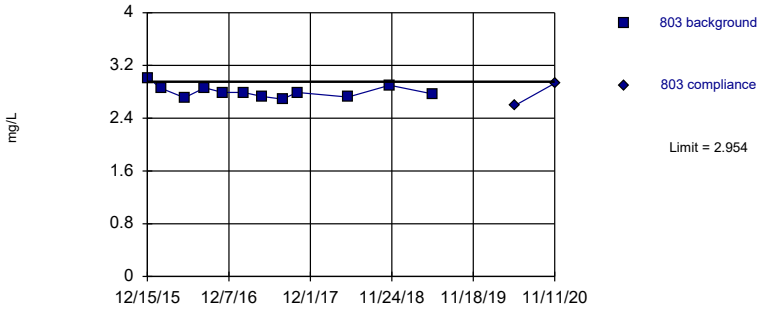
Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.801, Std. Dev.=0.0919, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9186, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

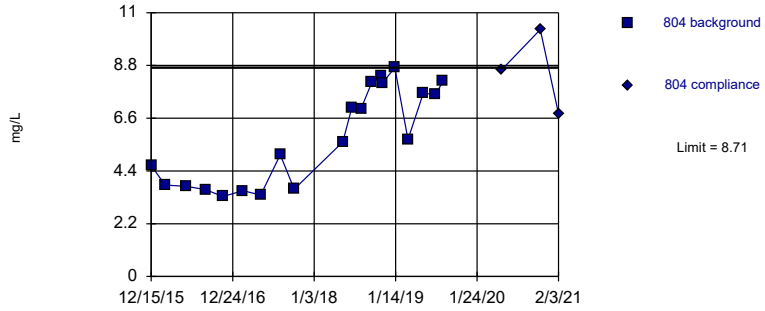
Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.001125. Individual comparison alpha = 0.0005627 (1 of 3).

Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Boron Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

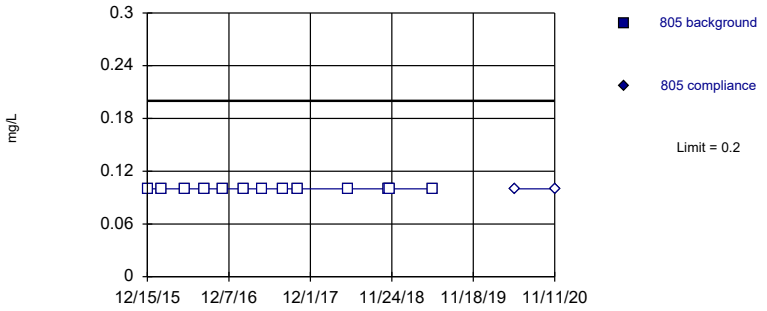
	801	801	802	802	803	803	804	804	
12/15/2015					3.01		4.63		
12/16/2015	0.438		0.221						
2/17/2016	0.382		<0.2		2.85		3.81		
5/26/2016	0.377		<0.2		2.71		3.76		
8/23/2016	0.315		<0.2		2.86		3.62		
11/10/2016	0.361		<0.2		2.79		3.33		
2/9/2017	0.321		<0.2		2.79		3.58		
5/3/2017	0.396		<0.2		2.73		3.4		
8/1/2017	0.307		<0.2		2.69		5.08		
10/4/2017	0.318		<0.2		2.79		3.64		
5/16/2018	0.31		<0.2		2.72		5.61		
6/27/2018							7.06		
8/8/2018							7		
9/27/2018							8.11		
11/8/2018							8.37		
11/15/2018	0.285		<0.2		2.9		8.07		
1/11/2019							8.71		
3/12/2019							5.71		
5/22/2019	0.549		<0.2		2.77		7.64		
7/16/2019	0.326						7.59		
8/21/2019							8.14		
5/18/2020		0.234		<0.2		2.59		8.63	
11/11/2020		0.243		<0.2		2.93		10.3	
2/3/2021								6.79	1st Verification

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 13) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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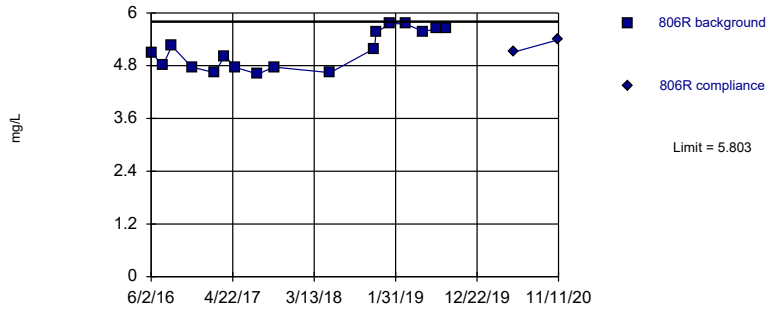
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.148, Std. Dev.=0.4319, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8769, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Boron Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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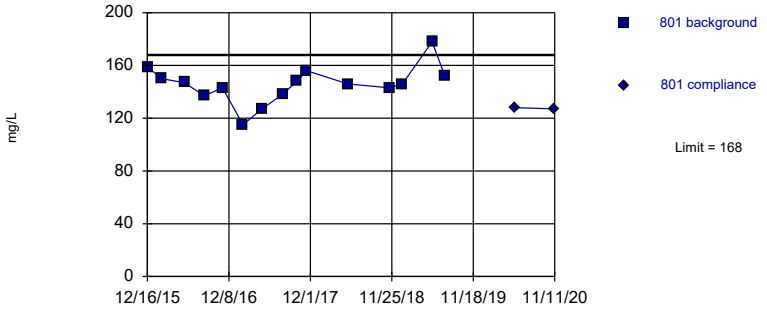
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=145.7, Std. Dev.=14.23, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9479, critical = 0.835. Kappa = 1.568 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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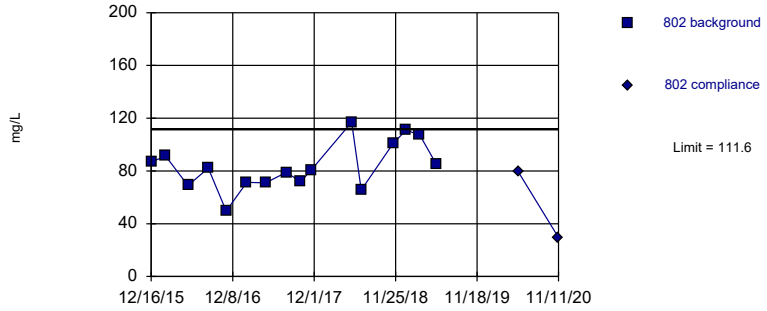
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=83.71, Std. Dev.=18.2, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Boron, Calcium Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

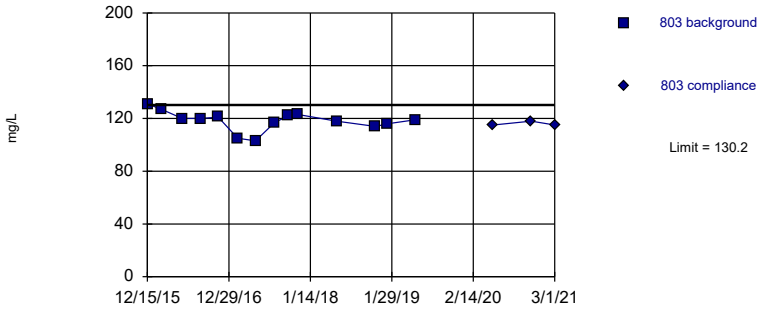
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	<0.2							
12/16/2015					159		86.6	
2/17/2016	<0.2				150		91.4	
5/26/2016	<0.2				147		68.9	
6/2/2016			5.1					
7/19/2016			4.81					
8/23/2016	<0.2		5.25		137		82.2	
11/10/2016	<0.2				143		49.6	
11/11/2016			4.77					
2/9/2017	<0.2		4.64		115		71.4	
3/22/2017			5.02					
5/3/2017	<0.2		4.76		127		71	
8/1/2017	<0.2		4.61		138		78.9	
10/4/2017	<0.2		4.77		148		72	
11/16/2017					156			
11/17/2017							80.3	
5/16/2018	<0.2		4.64		146		117	
6/27/2018							65.5	
11/8/2018	<0.2		5.19					
11/15/2018	<0.2		5.56		143		101	
1/11/2019			5.76		146		111	
3/12/2019			5.75				107	
5/22/2019	<0.2		5.58		178		85.5	
7/16/2019			5.64		152			
8/21/2019			5.66					
5/18/2020		<0.2		5.11		128		79.2
11/11/2020		<0.2		5.39		127		29.5

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=118.3, Std. Dev.=7.457, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9325, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

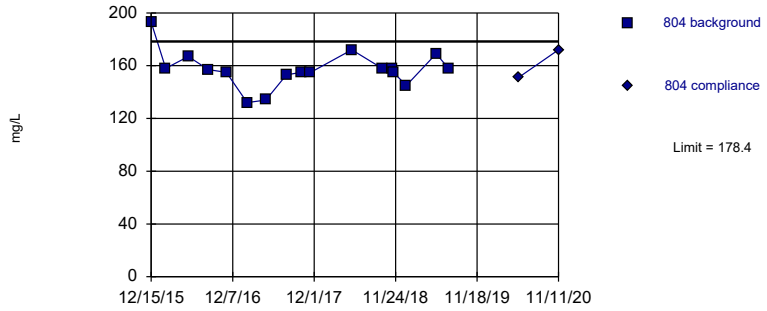
Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=157.3, Std. Dev.=13.91, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8979, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

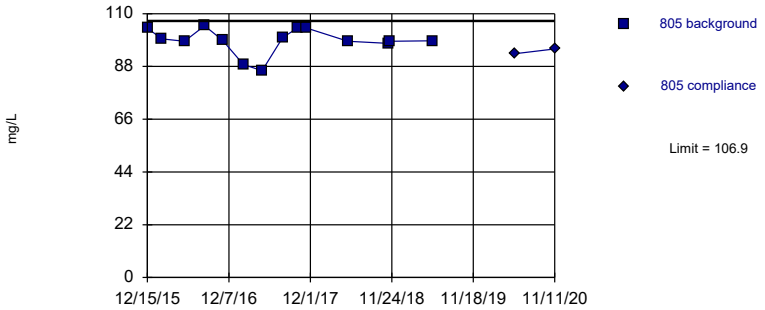
Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=9775, Std. Dev.=1039, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8389, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

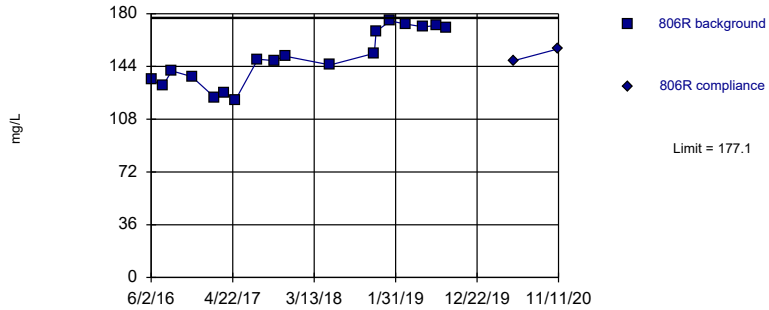
Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=149.4, Std. Dev.=18.5, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.918, critical = 0.858. Kappa = 1.499 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Calcium Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

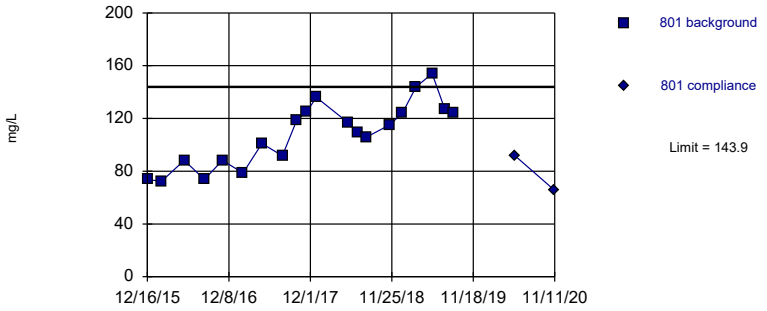
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	131		193		104			
2/17/2016	127		158		99.5			
5/26/2016	120		167		98.5			
6/2/2016							135	
7/19/2016							131	
8/23/2016	120		157		105		141	
11/10/2016	121		155		98.9			
11/11/2016							137	
2/9/2017	105		132		88.8		123	
3/22/2017							126	
5/3/2017	103		134		86.2		121	
8/1/2017	117		153		100		149	
10/4/2017	122		155		104		148	
11/16/2017	123		155		104			
11/17/2017							151	
5/16/2018	118		172		98.5		145	
9/27/2018			158					
11/8/2018			158		97.6		153	
11/15/2018	114		155		98.5		168	
1/11/2019	116		145				175	
3/12/2019							173	
5/22/2019	119		169		98.7		171	
7/16/2019			158				172	
8/21/2019							170	
5/18/2020		115		151		93.3		148
11/11/2020		118		172		95.3		156
3/1/2021		115	Extra Sample					

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=108.4, Std. Dev.=24.27, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9544, critical = 0.868. Kappa = 1.462 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

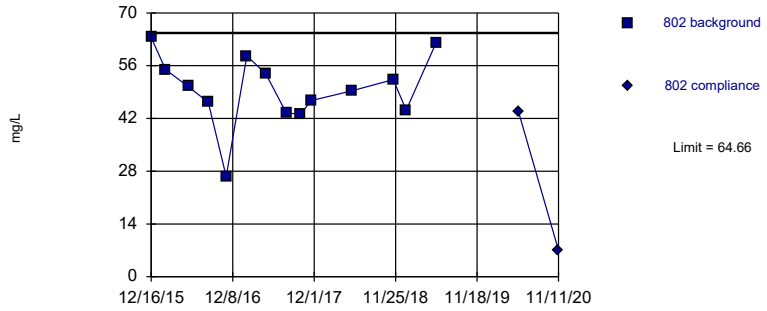
Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=49.68, Std. Dev.=9.367, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9367, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

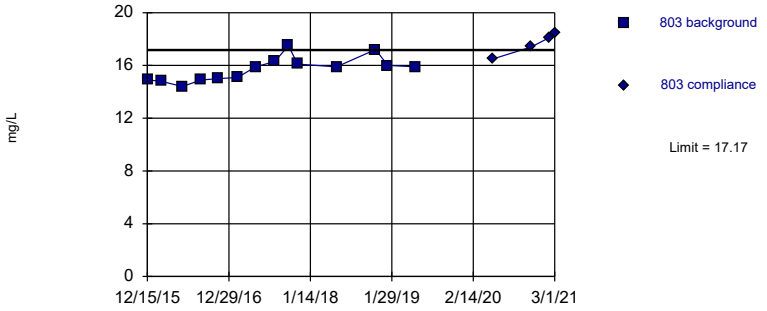
Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.71, Std. Dev.=0.9135, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9244, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

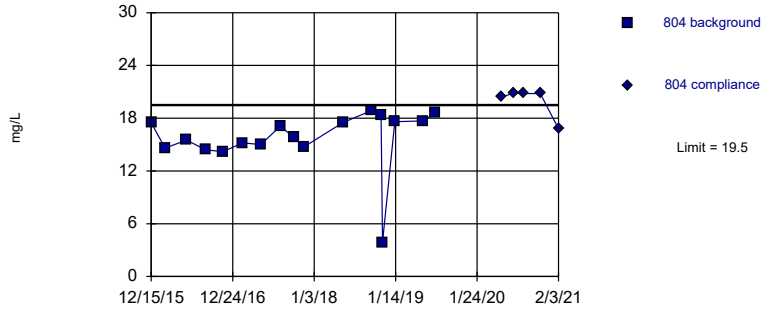
Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=256.8, Std. Dev.=81.28, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8518, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Chloride Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

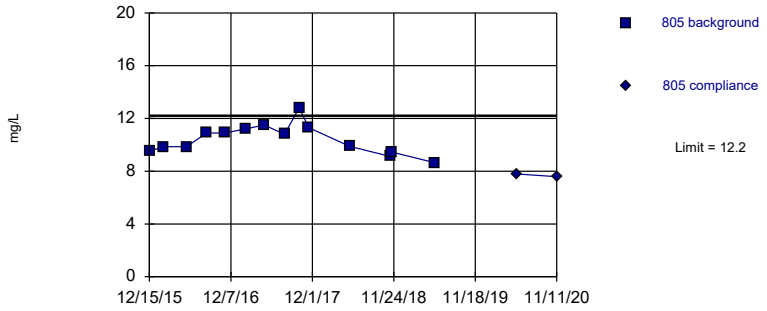
Sibley Client: SCS Engineers Data: Sibley

	801	801	802	802	803	803	804	804
12/15/2015					14.9		17.5	
12/16/2015	73.6		63.5					
2/17/2016	72.4		55		14.8		14.6	
5/26/2016	88.2		50.5		14.4		15.5	
8/23/2016	73.8		46.3		14.9		14.4	
11/10/2016	88.2		26.6		15		14.2	
2/9/2017	78.6		58.6		15.1		15.2	
5/3/2017	101		53.9		15.9		15	
8/1/2017	91.8		43.5		16.3		17.1	
10/4/2017	119		43.1		17.5		15.8	
11/16/2017	125				16.1		14.7	
11/17/2017			46.7					
12/28/2017	136							
5/16/2018	117		49.3		15.9		17.5	
6/27/2018	109							
8/8/2018	106							
9/27/2018							18.9	
11/8/2018							18.3	
11/15/2018	115		52.3		17.2		3.9	
1/11/2019	124		44.2		16		17.6	
3/12/2019	144							
5/22/2019	154		62		15.9		17.7	
7/16/2019	127						18.6	
8/21/2019	124							
5/18/2020		92		43.9		16.5		20.4
7/14/2020								20.9 1st Verification
8/26/2020								20.8 2nd Verification
11/11/2020		65.4		7		17.4		20.8
2/3/2021						18.1 1st Verification		16.8 1st Verification
3/1/2021						18.5 2nd Verification		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=10.41, Std. Dev.=1.121, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.958, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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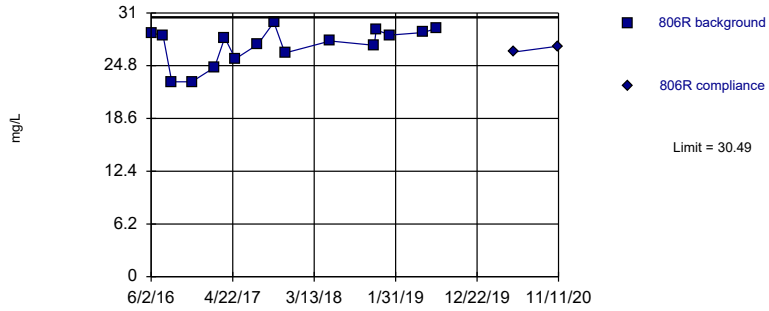
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=27.18, Std. Dev.=2.157, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8827, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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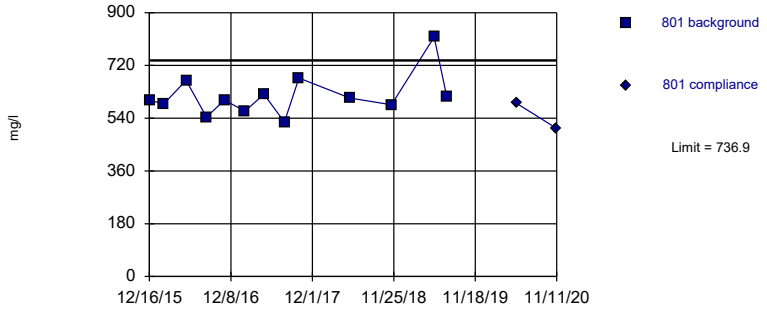
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=616.9, Std. Dev.=73.53, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8453, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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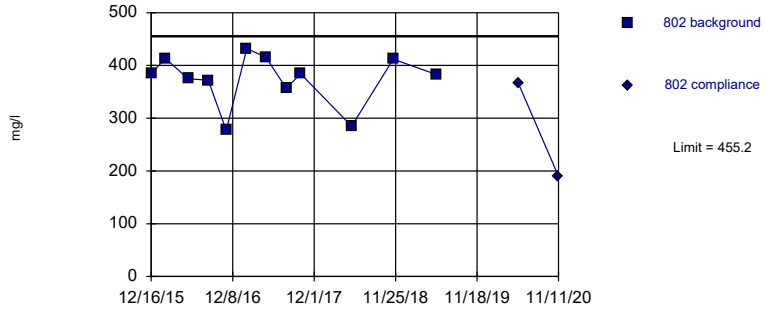
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=374.3, Std. Dev.=48.63, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8517, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

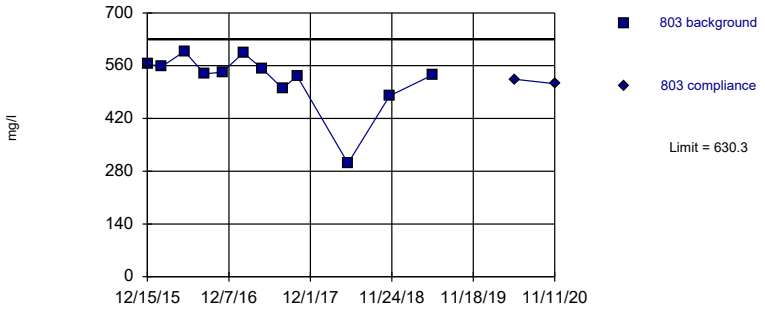
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	9.51							
12/16/2015					601		385	
2/17/2016	9.86				589		413	
5/26/2016	9.85				669		375	
6/2/2016			28.6					
7/19/2016			28.4					
8/23/2016	10.9		22.9		544		372	
11/10/2016	10.9				602		277	
11/11/2016			22.9					
2/9/2017	11.2		24.6		564		432	
3/22/2017			28.1					
5/3/2017	11.5		25.6		622		416	
8/1/2017	10.8		27.3		527		357	
10/4/2017	12.8		29.9		677		384	
11/16/2017	11.3							
11/17/2017			26.3					
5/16/2018	9.88		27.7		609		285	
11/8/2018	9.12		27.2					
11/15/2018	9.45		29		586		412	
1/11/2019			28.4					
5/22/2019	8.65		28.7		817		383	
7/16/2019			29.2		613			
5/18/2020		7.79		26.4		591		366
11/11/2020		7.58		27.1		505		190

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=280762, Std. Dev.=70036, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8114, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

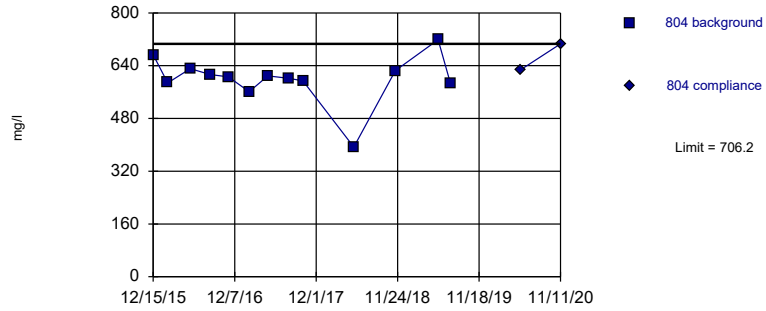
Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=364995, Std. Dev.=81975, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8666, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

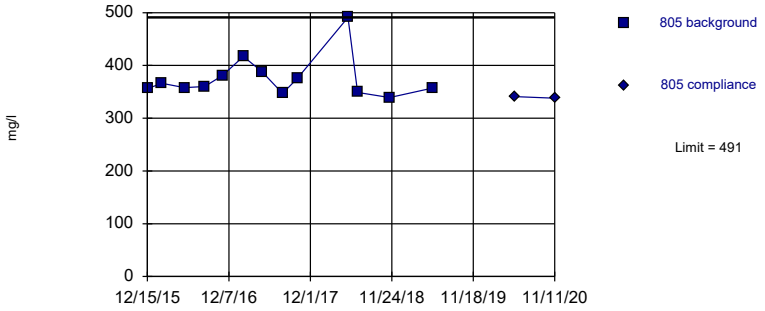
Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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).

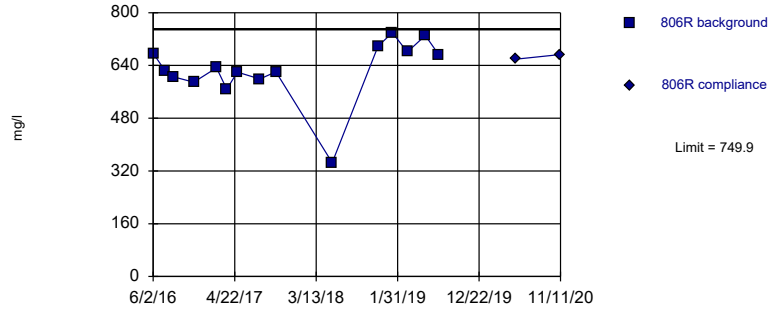
Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=400994, Std. Dev.=102955, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8926, critical = 0.835. Kappa = 1.568 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Dissolved Solids Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

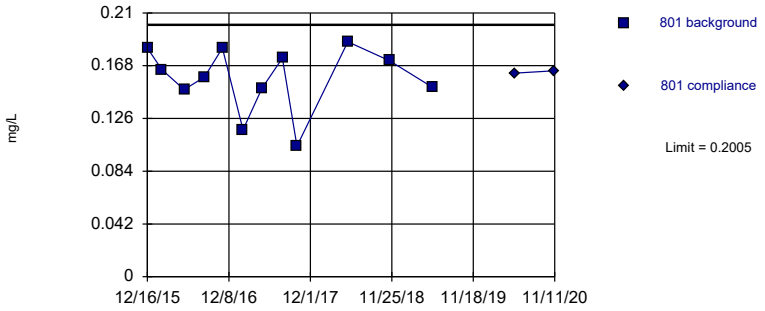
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	564		673		356			
2/17/2016	558		588		366			
5/26/2016	598		631		358			
6/2/2016							677	
7/19/2016							624	
8/23/2016	538		613		360		605	
11/10/2016	543		606		381			
11/11/2016							589	
2/9/2017	594		561		417		633	
3/22/2017							568	
5/3/2017	552		609		388		620	
8/1/2017	500		602		347		599	
10/4/2017	532		594		375		621	
5/16/2018	301		393		491		345	
6/27/2018					349			
11/15/2018	480		625		339		699	
1/11/2019							739	
3/12/2019							681	
5/22/2019	535		719		357		731	
7/16/2019			585				671	
5/18/2020		524		627		341		659
11/11/2020		512		706		338		673

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1577, Std. Dev.=0.02573, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8945, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

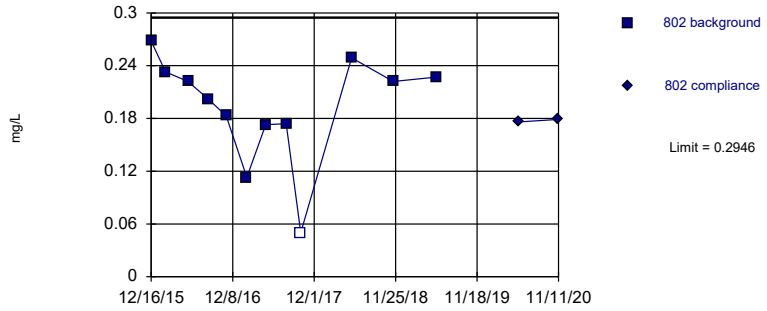
Sibley Client: SCS Engineers Data: Sibley

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.193, Std. Dev.=0.06104, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

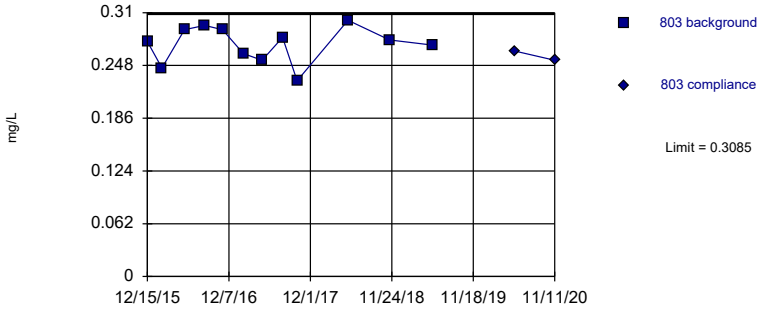
Constituent: Fluoride Analysis Run 3/10/2021 11:54 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2728, Std. Dev.=0.02145, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9486, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

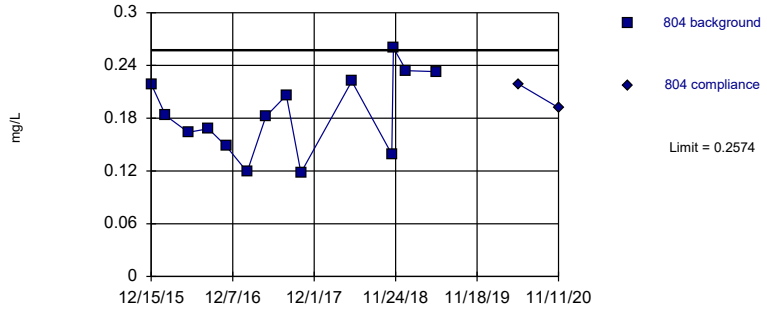
Constituent: Fluoride Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1854, Std. Dev.=0.04504, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9562, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Fluoride Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

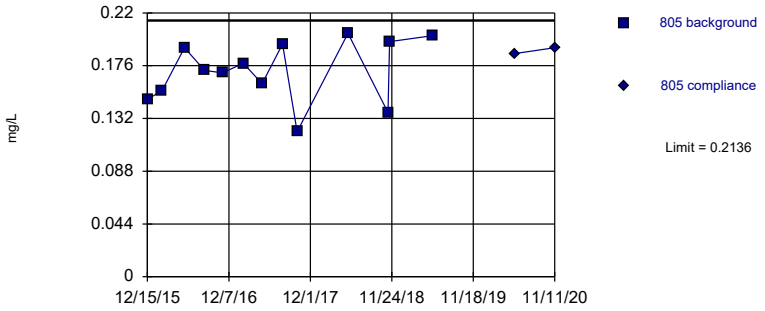
Sibley Client: SCS Engineers Data: Sibley

	801	801	802	802	803	803	804	804
12/15/2015					0.276		0.219	
12/16/2015	0.182		0.268					
2/17/2016	0.165		0.233		0.245		0.183	
5/26/2016	0.149		0.222		0.29		0.164	
8/23/2016	0.159		0.202		0.295		0.168	
11/10/2016	0.182		0.183		0.29		0.148	
2/9/2017	0.117		0.113		0.262		0.119	
5/3/2017	0.15		0.173		0.254		0.182	
8/1/2017	0.174		0.174		0.281		0.206	
10/4/2017	0.104		<0.1		0.23		0.118	
5/16/2018	0.187		0.249		0.301		0.222	
11/8/2018							0.139	
11/15/2018	0.172		0.222		0.278		0.26	
1/11/2019							0.234	
5/22/2019	0.151		0.227		0.272		0.233	
5/18/2020		0.162		0.176		0.265		0.219
11/11/2020		0.164		0.179		0.254		0.192

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1713, Std. Dev.=0.02593, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9421, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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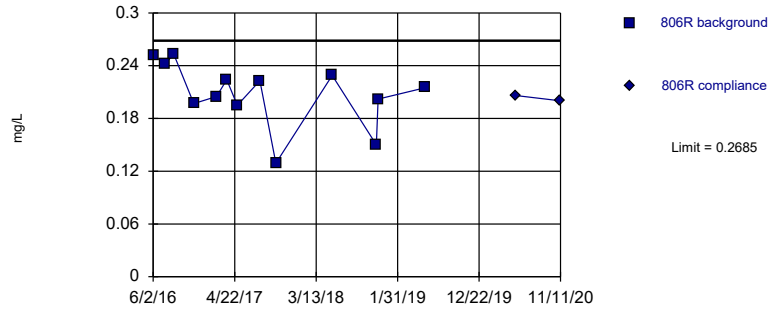
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2089, Std. Dev.=0.03653, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9074, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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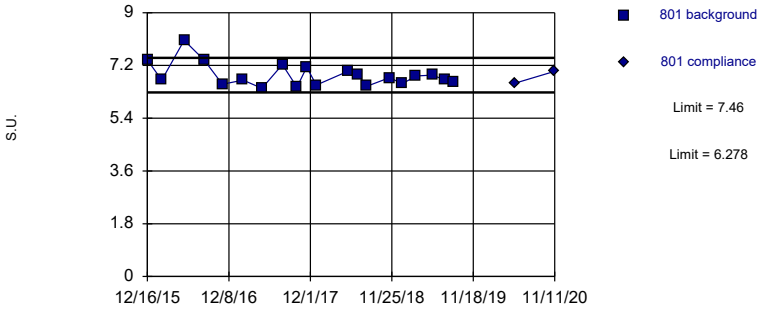
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.869, Std. Dev.=0.4045, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8703, critical = 0.868. Kappa = 1.462 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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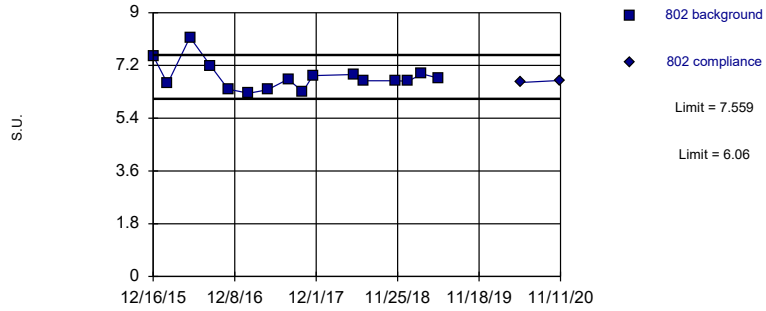
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.809, Std. Dev.=0.488, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8581, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Fluoride, pH Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

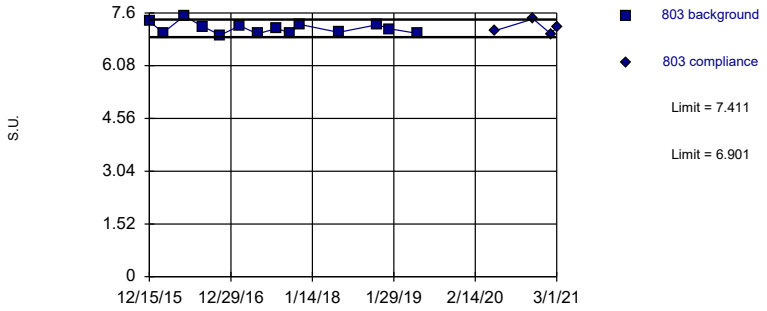
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	0.148							
12/16/2015					7.39		7.53	
2/17/2016	0.155				6.7		6.58	
5/26/2016	0.191				8.06		8.16	
6/2/2016			0.252					
7/19/2016			0.242					
8/23/2016	0.172		0.253		7.37		7.2	
11/10/2016	0.17				6.56		6.39	
11/11/2016			0.197					
2/9/2017	0.178		0.205		6.7		6.25	
3/22/2017			0.224					
5/3/2017	0.161		0.195		6.42		6.37	
8/1/2017	0.194		0.223		7.23		6.73	
10/4/2017	0.121		0.129		6.46		6.3	
11/16/2017					7.14			
11/17/2017							6.85	
12/28/2017					6.53			
5/16/2018	0.203		0.229		7		6.89	
6/27/2018					6.9		6.68	
8/8/2018					6.49			
11/8/2018	0.137		0.15					
11/15/2018	0.196		0.202		6.78		6.68	
1/11/2019					6.58		6.66	
3/12/2019					6.84		6.91	
5/22/2019	0.201		0.215		6.87		6.77	
7/16/2019					6.71			
8/21/2019					6.65			
5/18/2020		0.186		0.206		6.59		6.62
11/11/2020		0.191		0.2		7		6.69

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.156, Std. Dev.=0.1594, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9228, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

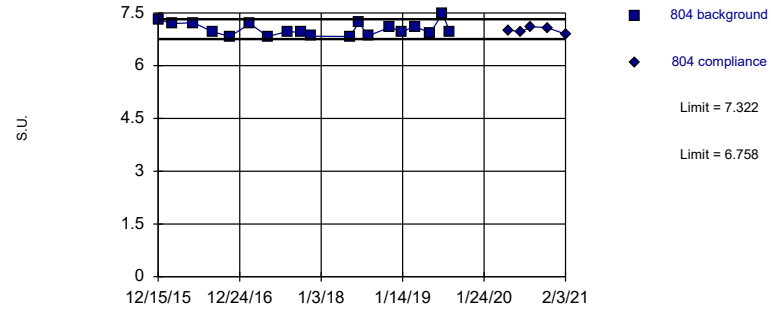
Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.04, Std. Dev.=0.1903, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9025, critical = 0.863. Kappa = 1.48 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

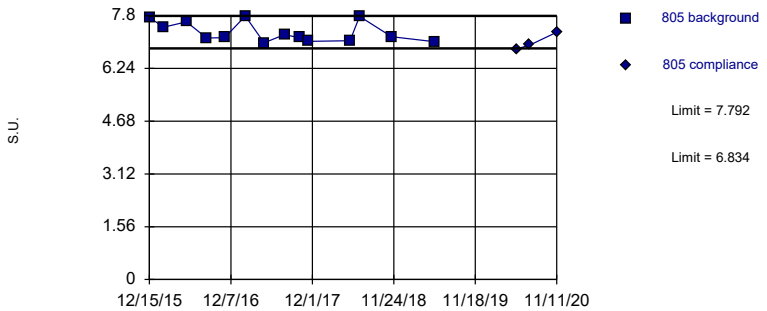
Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.313, Std. Dev.=0.2995, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8296, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

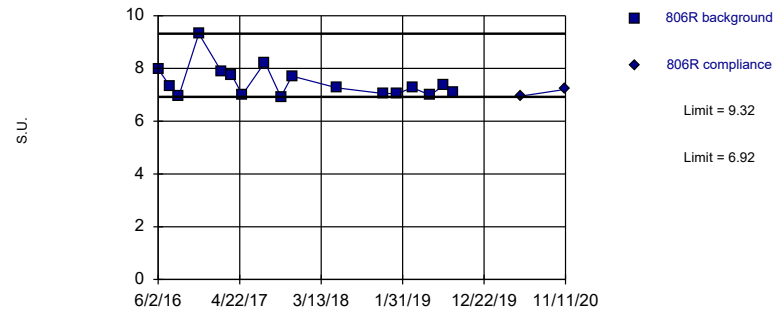
Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 17 background values. Well-constituent pair annual alpha = 0.003639. Individual comparison alpha = 0.00182 (1 of 3).

Constituent: pH Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: pH Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

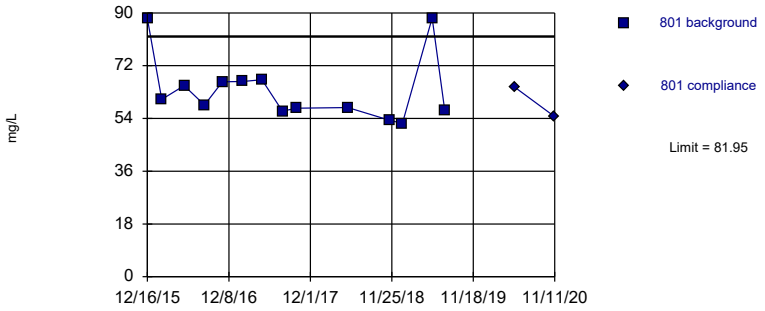
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	7.36		7.32		7.74			
2/17/2016	7.03		7.2		7.46			
5/26/2016	7.51		7.22		7.62			
6/2/2016							7.98	
7/19/2016							7.33	
8/23/2016	7.2		6.96		7.14		6.95	
11/10/2016	6.96		6.83		7.15			
11/11/2016							9.32	
2/9/2017	7.23		7.2		7.79		7.88	
3/22/2017							7.75	
5/3/2017	7		6.83		7		7	
8/1/2017	7.15		6.97		7.24		8.23	
10/4/2017	7.02		6.95		7.15		6.92	
11/16/2017	7.27		6.84		7.04			
11/17/2017							7.71	
5/16/2018	7.04		6.83		7.06		7.26	
6/27/2018			7.23		7.78			
8/8/2018			6.85					
11/15/2018	7.26		7.09		7.18		7.05	
1/11/2019	7.14		6.97				7.05	
3/12/2019			7.11				7.27	
5/22/2019	7.01		6.93		7.03		6.99	
7/16/2019			7.48				7.37	
8/21/2019			6.95				7.08	
5/18/2020		7.09		7.01		6.82		6.95
7/14/2020				6.96 Extra Sample		6.93 Extra Sample		
8/26/2020				7.11 Extra Sample				
11/11/2020		7.43		7.08		7.31		7.21
2/3/2021		6.99 Extra Sample		6.9 Extra Sample				
3/1/2021		7.2 Extra Sample						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.987, Std. Dev.=0.2231, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8293, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

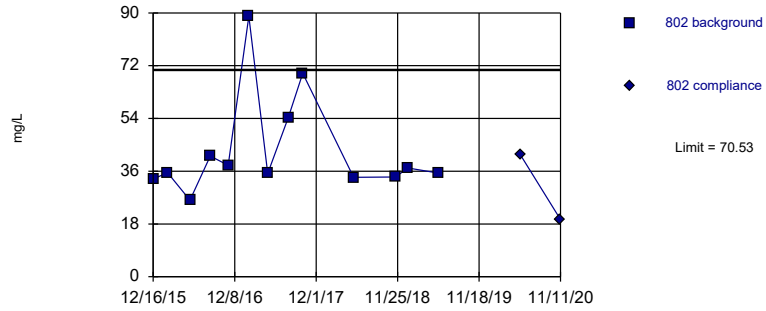
Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=3.708, Std. Dev.=0.3358, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8269, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

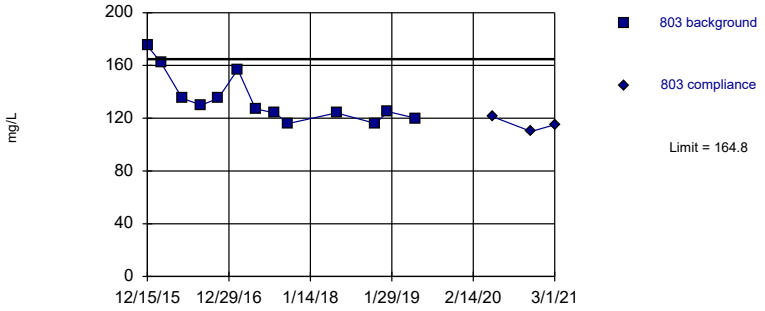
Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.3, Std. Dev.=18.67, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8373, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

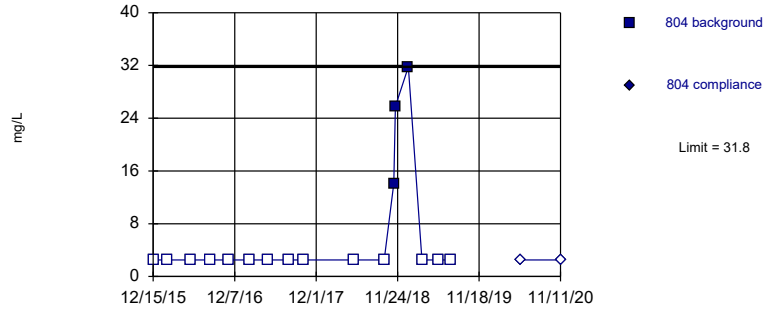
Sibley Client: SCS Engineers Data: Sibley

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 17 background values. 82.35% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Sulfate Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

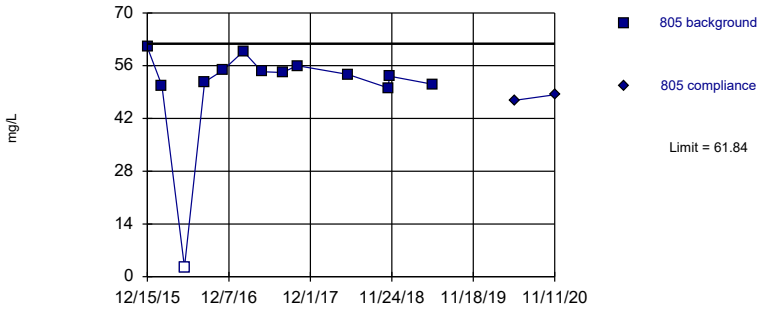
	801	801	802	802	803	803	804	804
12/15/2015					175		<5	
12/16/2015	88.1		33.3					
2/17/2016	60.5		35.5		162		<5	
5/26/2016	65.2		26.1		135		<5	
8/23/2016	58.6		41.2		130		<5	
11/10/2016	66.5		38		135		<5	
2/9/2017	66.6		88.9		157		<5	
5/3/2017	67.2		35.2		127		<5	
8/1/2017	56.5		54.2		124		<5	
10/4/2017	57.5		69.4		116		<5	
5/16/2018	57.7		33.9		124		<5	
9/27/2018							<5	
11/8/2018							14.1	
11/15/2018	53.4		34		116		25.8	
1/11/2019	52.3		37.1		125		31.8	
3/12/2019							<5	
5/22/2019	88.3		35.4		120		<5	
7/16/2019	56.6						<5	
5/18/2020		64.7		41.6		121		<5
11/11/2020		54.6		19.5		110		<5
3/1/2021						115	Extra Sample	

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=148642, Std. Dev.=53825, n=13, 7.692% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8253, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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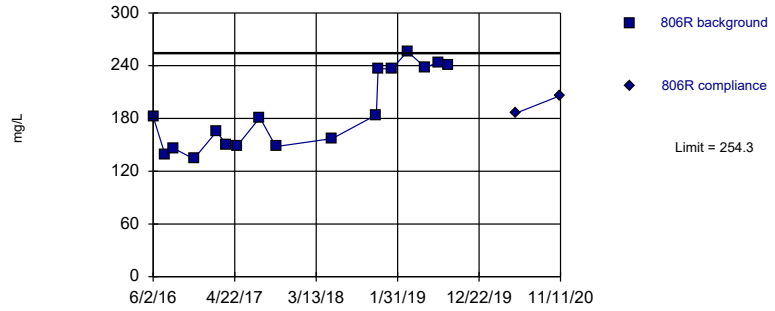
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=187.5, Std. Dev.=44.02, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8518, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 3/10/2021 11:55 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Sulfate Analysis Run 3/10/2021 11:57 AM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R
12/15/2015	60.9			
2/17/2016	50.7			
5/26/2016	<5			
6/2/2016			182	
7/19/2016			139	
8/23/2016	51.7		146	
11/10/2016	54.7			
11/11/2016			134	
2/9/2017	59.8		165	
3/22/2017			150	
5/3/2017	54.4		149	
8/1/2017	54.2		181	
10/4/2017	56		148	
5/16/2018	53.7		157	
11/8/2018	50.1		184	
11/15/2018	53.2		236	
1/11/2019			237	
3/12/2019			256	
5/22/2019	51.1		238	
7/16/2019			244	
8/21/2019			241	
5/18/2020		46.8		186
11/11/2020		48.3		206

Prediction Limit

Sibley Client: SCS Engineers Data: Sibley Printed 3/10/2021, 11:57 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	801	0.477	n/a	11/11/2020	0.243	No	13	0	No	0.001254	Param Intra 1 of 3
Boron (mg/L)	802	0.221	n/a	11/11/2020	0.1ND	No	12	91.67	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	803	2.954	n/a	11/11/2020	2.93	No	12	0	No	0.001254	Param Intra 1 of 3
Boron (mg/L)	804	8.71	n/a	2/3/2021	6.79	No	20	0	n/a	0.000...	NP Intra (normality) ...
Boron (mg/L)	805	0.2	n/a	11/11/2020	0.1ND	No	13	100	n/a	0.001886	NP Intra (NDs) 1 of 3
Boron (mg/L)	806R	5.803	n/a	11/11/2020	5.39	No	17	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	801	168	n/a	11/11/2020	127	No	15	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	802	111.6	n/a	11/11/2020	29.5	No	16	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	803	130.2	n/a	3/1/2021	115	No	14	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	804	178.4	n/a	11/11/2020	172	No	17	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	805	106.9	n/a	11/11/2020	95.3	No	14	0	x^2	0.001254	Param Intra 1 of 3
Calcium (mg/L)	806R	177.1	n/a	11/11/2020	156	No	18	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	801	143.9	n/a	11/11/2020	65.4	No	20	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	802	64.66	n/a	11/11/2020	7	No	14	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	**803**	**17.17**	**n/a**	**3/1/2021**	**18.5**	**Yes**	**14**	**0**	**No**	**0.001254**	**Param Intra 1 of 3**
Chloride (mg/L)	804	19.5	n/a	2/3/2021	16.8	No	17	0	x^2	0.001254	Param Intra 1 of 3
Chloride (mg/L)	805	12.2	n/a	11/11/2020	7.58	No	14	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	806R	30.49	n/a	11/11/2020	27.1	No	16	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	801	736.9	n/a	11/11/2020	505	No	13	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	802	455.2	n/a	11/11/2020	190	No	12	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	803	630.3	n/a	11/11/2020	512	No	12	0	x^2	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	804	706.2	n/a	11/11/2020	706	No	13	0	x^2	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	805	491	n/a	11/11/2020	338	No	13	0	n/a	0.001886	NP Intra (normality) ...
Dissolved Solids (mg/l)	806R	749.9	n/a	11/11/2020	673	No	15	0	x^2	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	801	0.2005	n/a	11/11/2020	0.164	No	12	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	802	0.2946	n/a	11/11/2020	0.179	No	12	8.333	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	803	0.3085	n/a	11/11/2020	0.254	No	12	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	804	0.2574	n/a	11/11/2020	0.192	No	14	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	805	0.2136	n/a	11/11/2020	0.191	No	13	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	806R	0.2685	n/a	11/11/2020	0.2	No	13	0	No	0.001254	Param Intra 1 of 3
pH (S.U.)	801	7.46	6.278	11/11/2020	7	No	20	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	802	7.559	6.06	11/11/2020	6.69	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	803	7.411	6.901	3/1/2021	7.2	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	804	7.322	6.758	2/3/2021	6.9	No	19	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	805	7.792	6.834	11/11/2020	7.31	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	806R	9.32	6.92	11/11/2020	7.21	No	17	0	n/a	0.00182	NP Intra (normality) ...
Sulfate (mg/L)	801	81.95	n/a	11/11/2020	54.6	No	14	0	x^(1/3)	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	802	70.53	n/a	11/11/2020	19.5	No	13	0	ln(x)	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	803	164.8	n/a	3/1/2021	115	No	13	0	No	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	804	31.8	n/a	11/11/2020	2.5ND	No	17	82.35	n/a	0.000...	NP Intra (NDs) 1 of 3
Sulfate (mg/L)	805	61.84	n/a	11/11/2020	48.3	No	13	7.692	x^3	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	806R	254.3	n/a	11/11/2020	206	No	17	0	No	0.001254	Param Intra 1 of 3

Sibley Generating Station
Determination of Statistically Significant Increases
Fly Ash Impoundment
March 24, 2021

ATTACHMENT 2

Sanitas™ Configuration Settings

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

Exclude data flags: i

Data Reading Options

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

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

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

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

Setup Symbols and Colors...

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

Zoom Factor: 200%

Output Decimal Precision

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

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

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

☐ Use Modified Alpha... 0.02

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

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

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

☐ Use Best W Statistic

☐ Plot Transformed Values

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

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

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

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

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

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

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

☐ Optional Further Refinement: Use Aitchison's when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

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

☐ Use Best W Statistic

☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)

- ○ If Seasonality Is Detected
- ○ If Seasonality Is Detected Or Insufficient to Test
- ○ Always (When Sufficient Data)
- ◉ Never

☐ Always Use Non-Parametric

Facility α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 6

Sampling Plan

Comparing Individual Observations

○ 1 of 1 ○ 1 of 2 ◉ 1 of 3 ○ 1 of 4

○ 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation:

Override DF: Override Kappa:

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☐ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

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

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

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

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

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat

[x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1

- (•) Stop if Non-Normal
- ( ) Continue with Parametric Test if Non-Normal
- ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat

[x] No Outlier If Less Than 3.0 Times Median

[ ] Apply Rules found in Ohio Guidance Document 0715

[ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit

- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
December 20, 2022

ATTACHMENT 2-2

Spring 2021 Semiannual Detection Monitoring Statistical Analyses

MEMORANDUM

October 5, 2021
January 3, 2022 Revision 1

To: Sibley Generating Station
33200 E Johnson Road
Sibley, Missouri 64088
Evergy Missouri West, Inc.

From: SCS Engineers

RE: Determination of Statistically Significant Increases - Fly Ash Impoundment
Spring 2021 Semiannual Detection Monitoring 40 CFR 257.94

Statistical analysis of monitoring data from the groundwater monitoring system for the Fly Ash Impoundment at the Sibley 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 24 and 25, 2021. Review and validation of the results from the May 2021 Detection Monitoring Event was completed on July 9, 2021, 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 6, 2021 and September 2, 2021.

The completed statistical evaluation identified one Appendix III constituent above its prediction limit established for monitoring well MW-804, and one Appendix III constituent above its prediction limit established for monitoring well MW-805.

Constituent/Monitoring Well	*UPL	Observation May 25, 2021	1st Verification July 6, 2021	2nd Verification September 2, 2021
MW-804				
Chloride	19.5	19.5	20.1	19.8
MW-805				
Fluoride	0.2136	0.238	0.220	0.222

*UPL – Upper Prediction Limit

Determination: A statistical evaluation was completed for all Appendix III detection monitoring constituents in accordance with the certified statistical method. The statistical evaluation identified two SSIs above the background prediction limits. These included chloride at monitoring well MW-804 and fluoride at monitoring well MW-805.

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
1	January 3, 2022	No	1. Samples were collected on May 24 and 25, 2021, not just May 24, 2021. 2. Date of completion for the review and validation of the results from the May 2021 Detection Monitoring Event was corrected to July 9, 2021 from the incorrect date of July 27, 2021. 3. The observation date in the table was change from May 24, 2021 to May 25, 2021.

Sibley Generating Station
Determination of Statistically Significant Increases
Fly Ash Impoundment
October 5, 2021
January 3, 2022 Revision 1

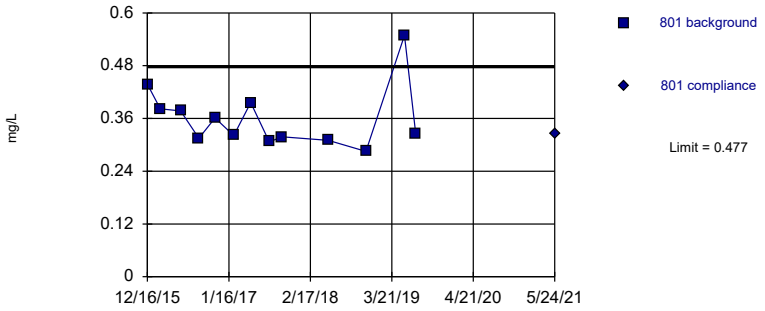
ATTACHMENT 1

Sanitas™ Output

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.3604, Std. Dev.=0.07146, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8325, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

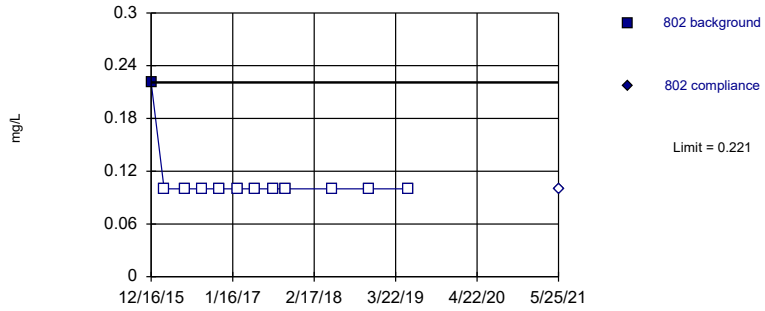
Sibley Client: SCS Engineers Data: Sibley

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. 91.67% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

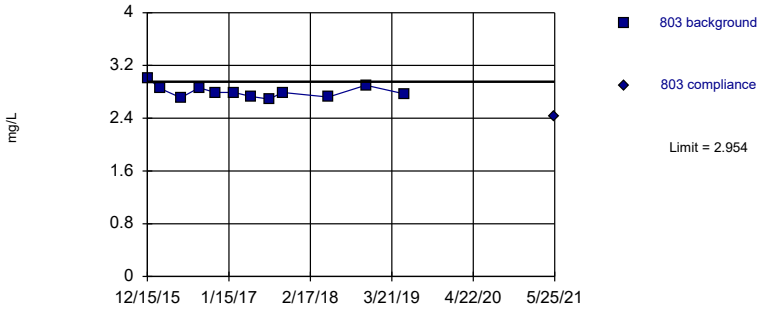
Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.801, Std. Dev.=0.0919, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9186, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

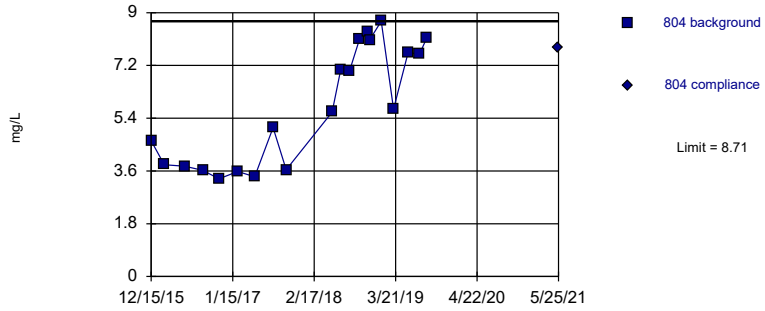
Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.001125. Individual comparison alpha = 0.0005627 (1 of 3).

Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Boron Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

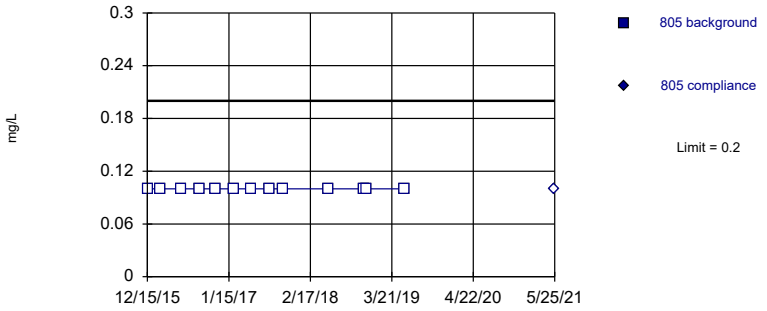
	801	801	802	802	803	803	804	804
12/15/2015					3.01		4.63	
12/16/2015	0.438		0.221					
2/17/2016	0.382		<0.2		2.85		3.81	
5/26/2016	0.377		<0.2		2.71		3.76	
8/23/2016	0.315		<0.2		2.86		3.62	
11/10/2016	0.361		<0.2		2.79		3.33	
2/9/2017	0.321		<0.2		2.79		3.58	
5/3/2017	0.396		<0.2		2.73		3.4	
8/1/2017	0.307		<0.2		2.69		5.08	
10/4/2017	0.318		<0.2		2.79		3.64	
5/16/2018	0.31		<0.2		2.72		5.61	
6/27/2018							7.06	
8/8/2018							7	
9/27/2018							8.11	
11/8/2018							8.37	
11/15/2018	0.285		<0.2		2.9		8.07	
1/11/2019							8.71	
3/12/2019							5.71	
5/22/2019	0.549		<0.2		2.77		7.64	
7/16/2019	0.326						7.59	
8/21/2019							8.14	
5/24/2021		0.326						
5/25/2021				<0.2		2.42		7.82

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 13) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003769. Individual comparison alpha = 0.001886 (1 of 3).

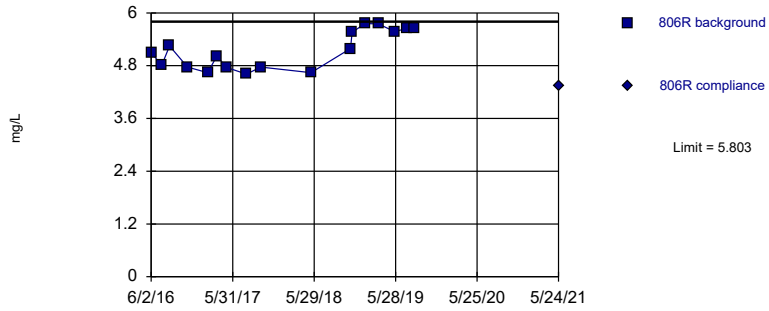
Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.148, Std. Dev.=0.4319, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8769, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

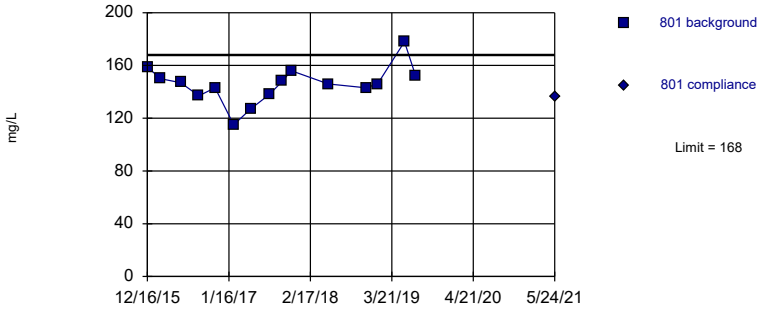
Constituent: Boron Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=145.7, Std. Dev.=14.23, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9479, critical = 0.835. Kappa = 1.568 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

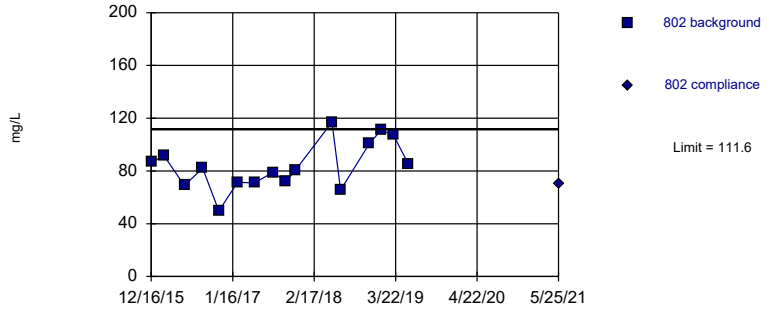
Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=83.71, Std. Dev.=18.2, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9658, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Boron, Calcium Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

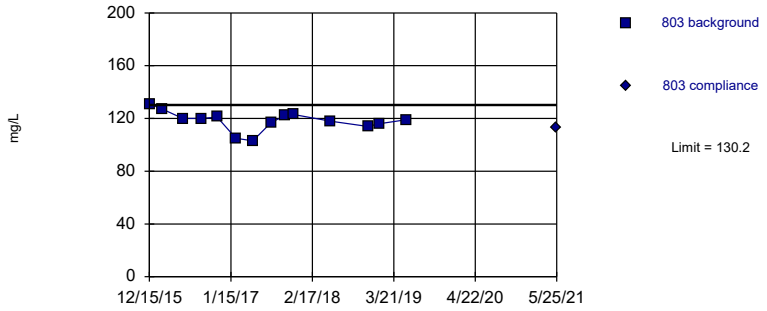
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	<0.2							
12/16/2015					159		86.6	
2/17/2016	<0.2				150		91.4	
5/26/2016	<0.2				147		68.9	
6/2/2016			5.1					
7/19/2016			4.81					
8/23/2016	<0.2		5.25		137		82.2	
11/10/2016	<0.2				143		49.6	
11/11/2016			4.77					
2/9/2017	<0.2		4.64		115		71.4	
3/22/2017			5.02					
5/3/2017	<0.2		4.76		127		71	
8/1/2017	<0.2		4.61		138		78.9	
10/4/2017	<0.2		4.77		148		72	
11/16/2017					156			
11/17/2017							80.3	
5/16/2018	<0.2		4.64		146		117	
6/27/2018							65.5	
11/8/2018	<0.2		5.19					
11/15/2018	<0.2		5.56		143		101	
1/11/2019			5.76		146		111	
3/12/2019			5.75				107	
5/22/2019	<0.2		5.58		178		85.5	
7/16/2019			5.64		152			
8/21/2019			5.66					
5/24/2021				4.35		136		
5/25/2021		<0.2						70.2

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=118.3, Std. Dev.=7.457, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9325, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

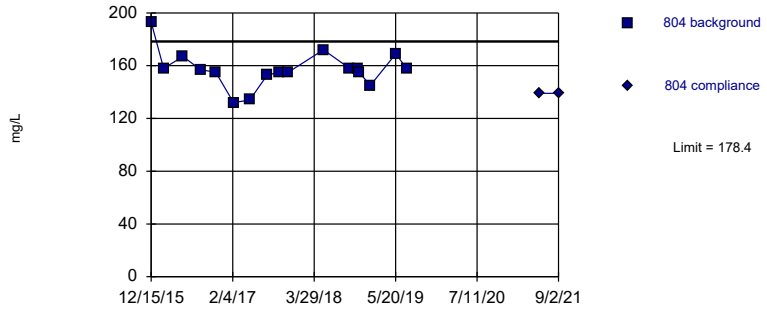
Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=157.3, Std. Dev.=13.91, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8979, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

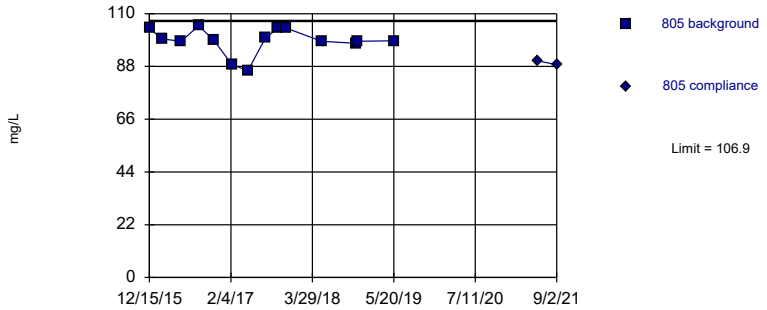
Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=9775, Std. Dev.=1039, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8389, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

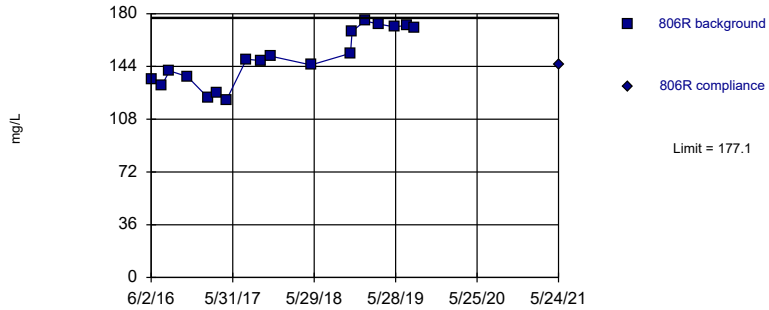
Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=149.4, Std. Dev.=18.5, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.918, critical = 0.858. Kappa = 1.499 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Calcium Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

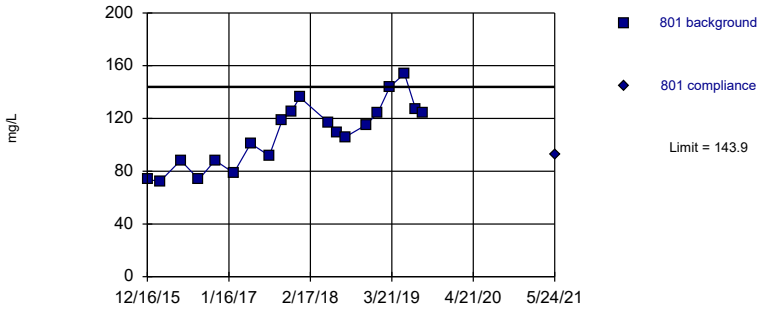
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	131		193		104			
2/17/2016	127		158		99.5			
5/26/2016	120		167		98.5			
6/2/2016							135	
7/19/2016							131	
8/23/2016	120		157		105		141	
11/10/2016	121		155		98.9			
11/11/2016							137	
2/9/2017	105		132		88.8		123	
3/22/2017							126	
5/3/2017	103		134		86.2		121	
8/1/2017	117		153		100		149	
10/4/2017	122		155		104		148	
11/16/2017	123		155		104			
11/17/2017							151	
5/16/2018	118		172		98.5		145	
9/27/2018			158					
11/8/2018			158		97.6		153	
11/15/2018	114		155		98.5		168	
1/11/2019	116		145				175	
3/12/2019							173	
5/22/2019	119		169		98.7		171	
7/16/2019			158				172	
8/21/2019							170	
5/24/2021								145
5/25/2021		113		139		90.4		
9/2/2021				139		88.7		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=108.4, Std. Dev.=24.27, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9544, critical = 0.868. Kappa = 1.462 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

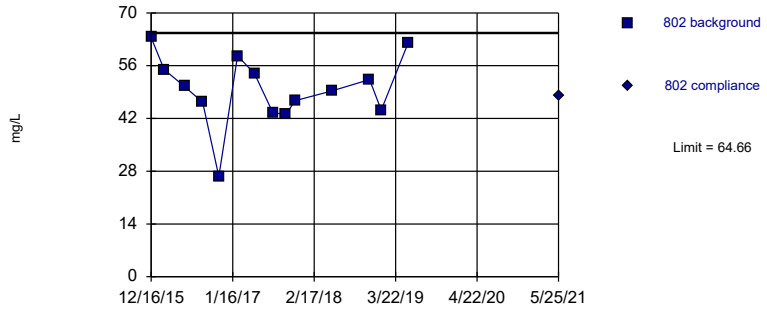
Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=49.68, Std. Dev.=9.367, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9367, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

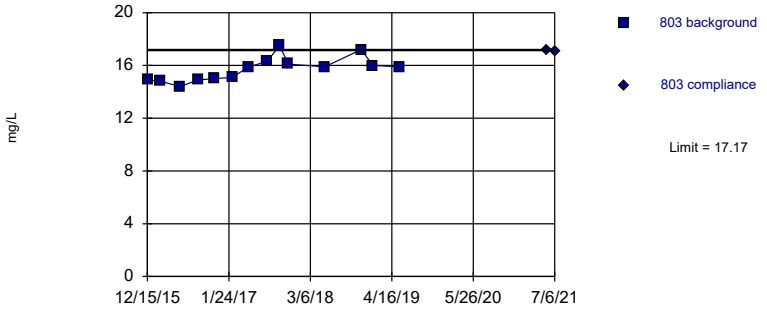
Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=15.71, Std. Dev.=0.9135, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9244, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

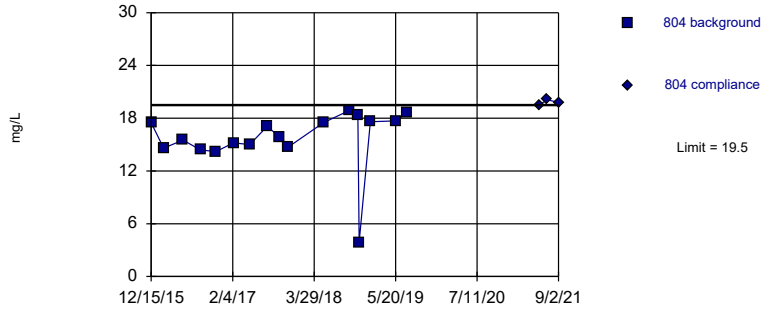
Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=256.8, Std. Dev.=81.28, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8518, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Chloride Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

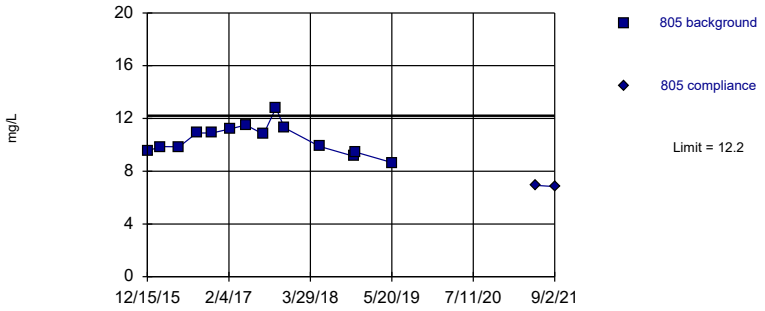
Sibley Client: SCS Engineers Data: Sibley

	801	801	802	802	803	803	804	804
12/15/2015					14.9		17.5	
12/16/2015	73.6		63.5					
2/17/2016	72.4		55		14.8		14.6	
5/26/2016	88.2		50.5		14.4		15.5	
8/23/2016	73.8		46.3		14.9		14.4	
11/10/2016	88.2		26.6		15		14.2	
2/9/2017	78.6		58.6		15.1		15.2	
5/3/2017	101		53.9		15.9		15	
8/1/2017	91.8		43.5		16.3		17.1	
10/4/2017	119		43.1		17.5		15.8	
11/16/2017	125				16.1		14.7	
11/17/2017			46.7					
12/28/2017	136							
5/16/2018	117		49.3		15.9		17.5	
6/27/2018	109							
8/8/2018	106							
9/27/2018							18.9	
11/8/2018							18.3	
11/15/2018	115		52.3		17.2		3.9	
1/11/2019	124		44.2		16		17.6	
3/12/2019	144							
5/22/2019	154		62		15.9		17.7	
7/16/2019	127						18.6	
8/21/2019	124							
5/24/2021		92.9						
5/25/2021				48		17.2		19.5
7/6/2021						17.1		20.1
9/2/2021								19.8

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=10.41, Std. Dev.=1.121, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.958, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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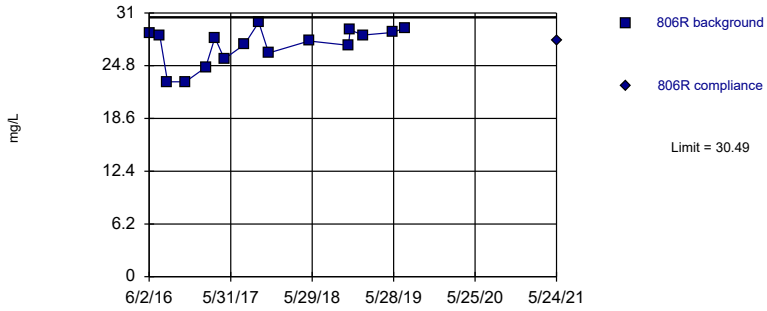
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=27.18, Std. Dev.=2.157, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8827, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Chloride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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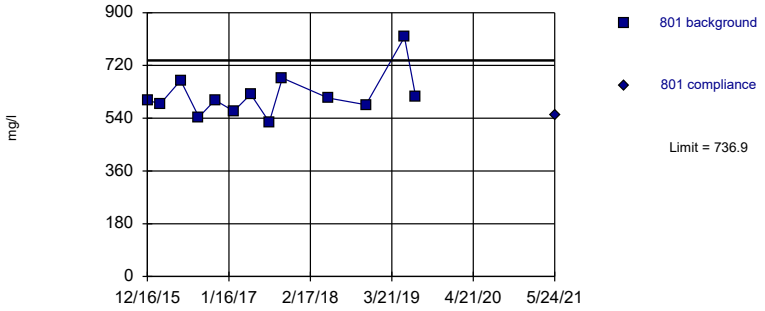
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=616.9, Std. Dev.=73.53, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8453, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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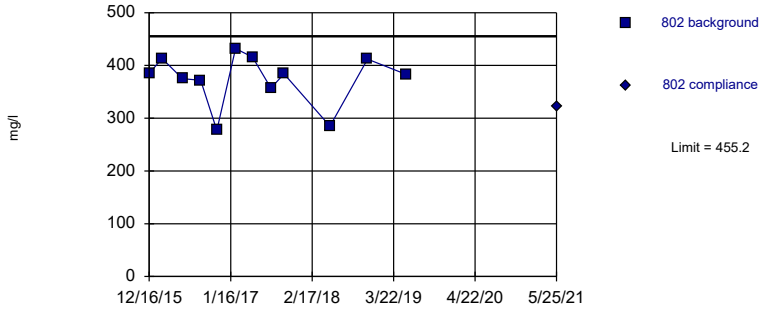
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=374.3, Std. Dev.=48.63, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8517, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Chloride, Dissolved Solids Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

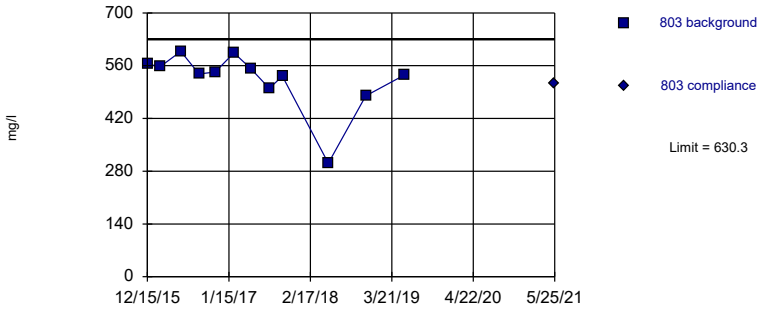
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	9.51							
12/16/2015					601		385	
2/17/2016	9.86				589		413	
5/26/2016	9.85				669		375	
6/2/2016			28.6					
7/19/2016			28.4					
8/23/2016	10.9		22.9		544		372	
11/10/2016	10.9				602		277	
11/11/2016			22.9					
2/9/2017	11.2		24.6		564		432	
3/22/2017			28.1					
5/3/2017	11.5		25.6		622		416	
8/1/2017	10.8		27.3		527		357	
10/4/2017	12.8		29.9		677		384	
11/16/2017	11.3							
11/17/2017			26.3					
5/16/2018	9.88		27.7		609		285	
11/8/2018	9.12		27.2					
11/15/2018	9.45		29		586		412	
1/11/2019			28.4					
5/22/2019	8.65		28.7		817		383	
7/16/2019			29.2		613			
5/24/2021				27.7		550		
5/25/2021		6.93						321
9/2/2021		6.83						

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=280762, Std. Dev.=70036, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8114, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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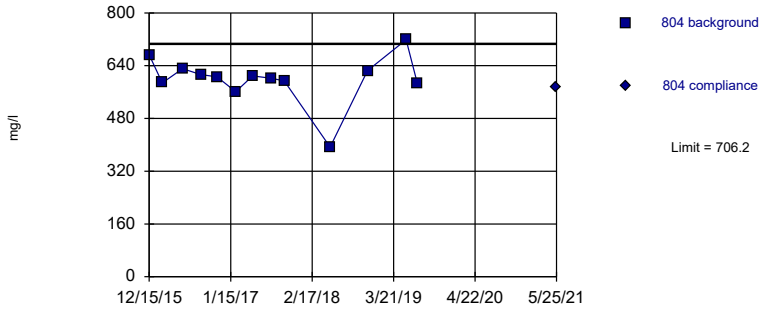
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=364995, Std. Dev.=81975, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8666, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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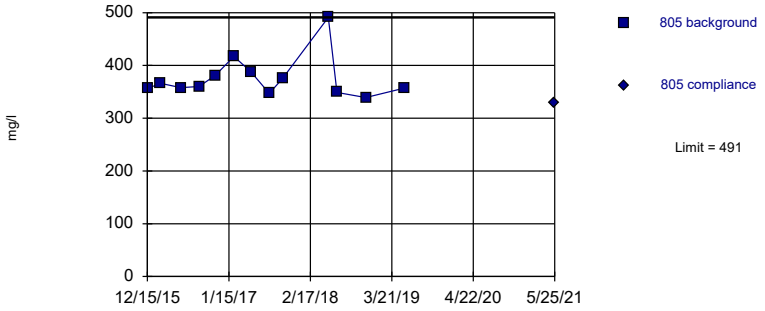
Within Limit

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: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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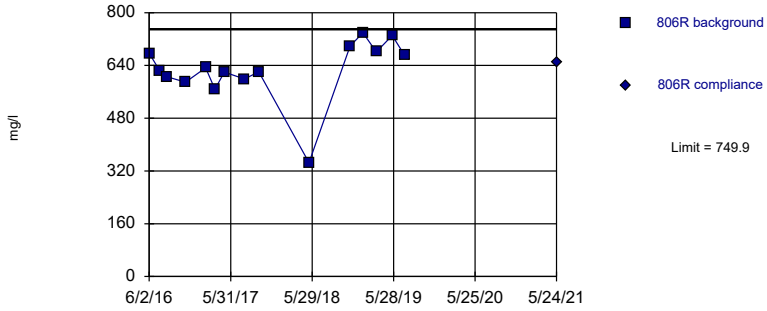
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=400994, Std. Dev.=102955, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8926, critical = 0.835. Kappa = 1.568 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Dissolved Solids Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

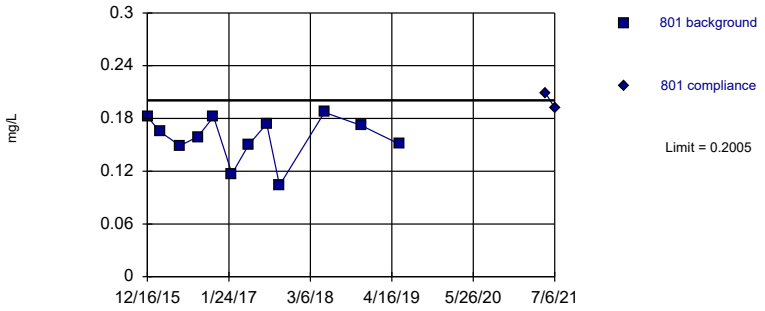
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	564		673		356			
2/17/2016	558		588		366			
5/26/2016	598		631		358			
6/2/2016							677	
7/19/2016							624	
8/23/2016	538		613		360		605	
11/10/2016	543		606		381			
11/11/2016							589	
2/9/2017	594		561		417		633	
3/22/2017							568	
5/3/2017	552		609		388		620	
8/1/2017	500		602		347		599	
10/4/2017	532		594		375		621	
5/16/2018	301		393		491		345	
6/27/2018					349			
11/15/2018	480		625		339		699	
1/11/2019							739	
3/12/2019							681	
5/22/2019	535		719		357		731	
7/16/2019			585				671	
5/24/2021								651
5/25/2021		512		575		329		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1577, Std. Dev.=0.02573, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8945, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

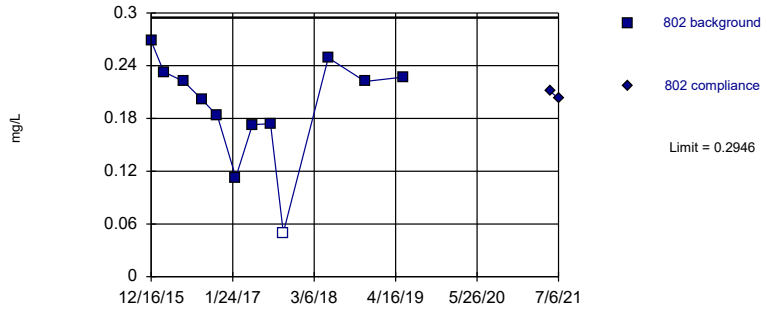
Sibley Client: SCS Engineers Data: Sibley

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.193, Std. Dev.=0.06104, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8925, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

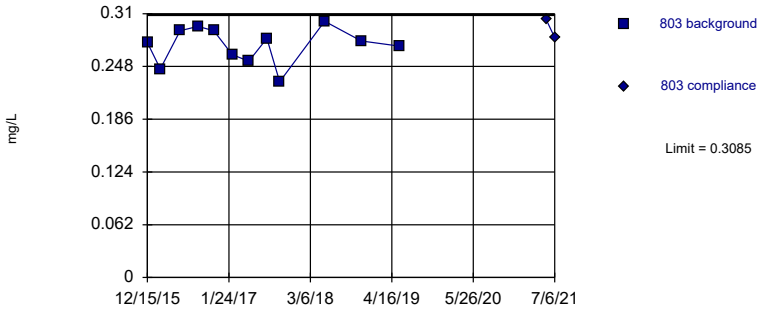
Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2728, Std. Dev.=0.02145, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9486, critical = 0.805. Kappa = 1.664 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

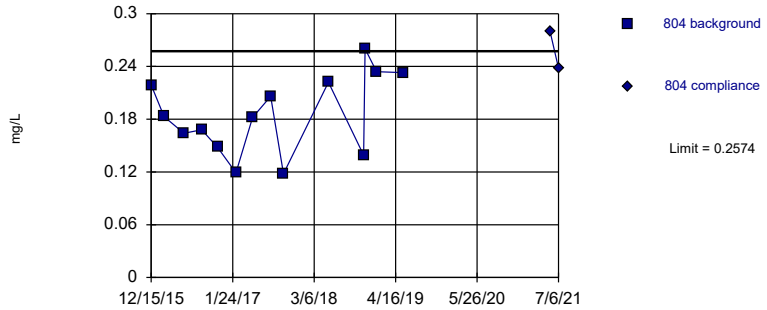
Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1854, Std. Dev.=0.04504, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9562, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Fluoride Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

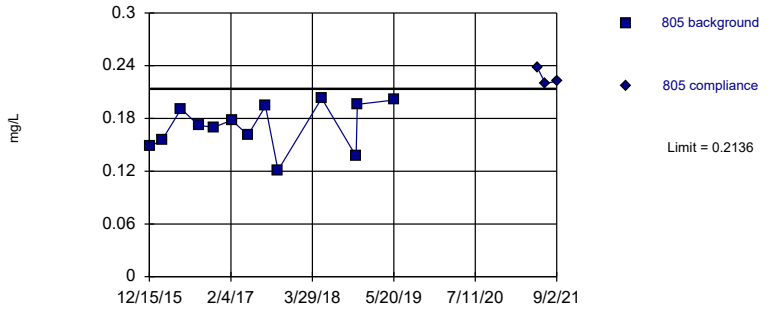
Sibley Client: SCS Engineers Data: Sibley

	801	801	802	802	803	803	804	804
12/15/2015					0.276		0.219	
12/16/2015	0.182		0.268					
2/17/2016	0.165		0.233		0.245		0.183	
5/26/2016	0.149		0.222		0.29		0.164	
8/23/2016	0.159		0.202		0.295		0.168	
11/10/2016	0.182		0.183		0.29		0.148	
2/9/2017	0.117		0.113		0.262		0.119	
5/3/2017	0.15		0.173		0.254		0.182	
8/1/2017	0.174		0.174		0.281		0.206	
10/4/2017	0.104		<0.1		0.23		0.118	
5/16/2018	0.187		0.249		0.301		0.222	
11/8/2018							0.139	
11/15/2018	0.172		0.222		0.278		0.26	
1/11/2019							0.234	
5/22/2019	0.151		0.227		0.272		0.233	
5/24/2021		0.208						
5/25/2021				0.211		0.303		0.28
7/6/2021		0.192		0.203		0.282		0.238

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1713, Std. Dev.=0.02593, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9421, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

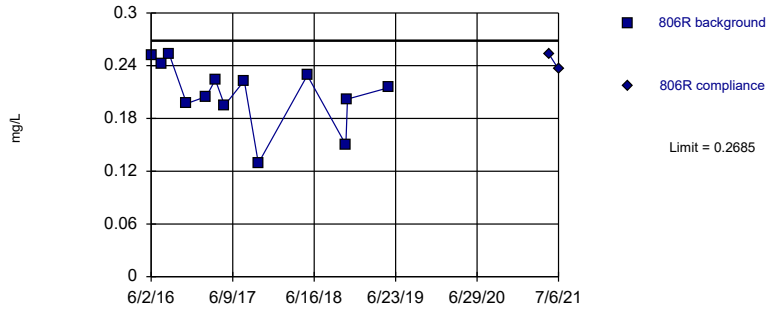
Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2089, Std. Dev.=0.03653, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9074, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

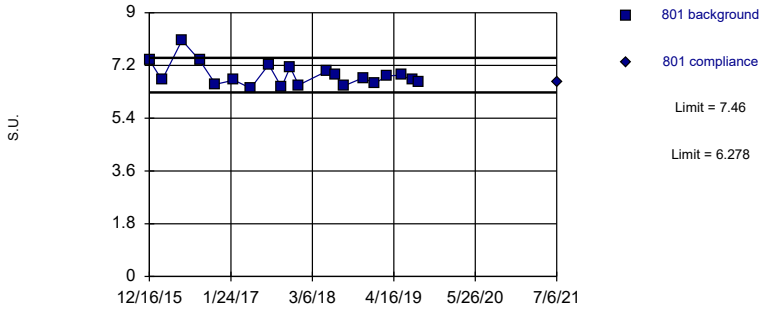
Constituent: Fluoride Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.869, Std. Dev.=0.4045, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8703, critical = 0.868. Kappa = 1.462 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

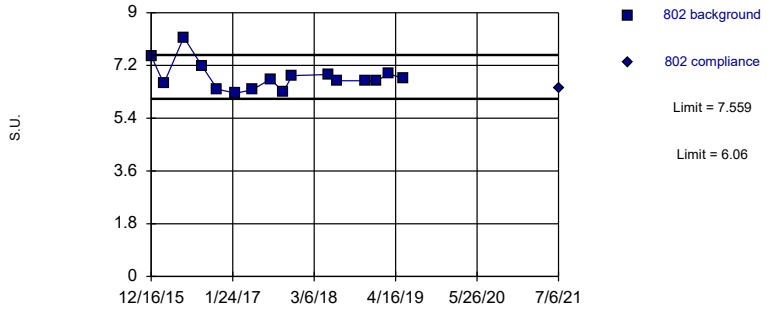
Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.809, Std. Dev.=0.488, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8581, critical = 0.844. Kappa = 1.535 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Fluoride, pH Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

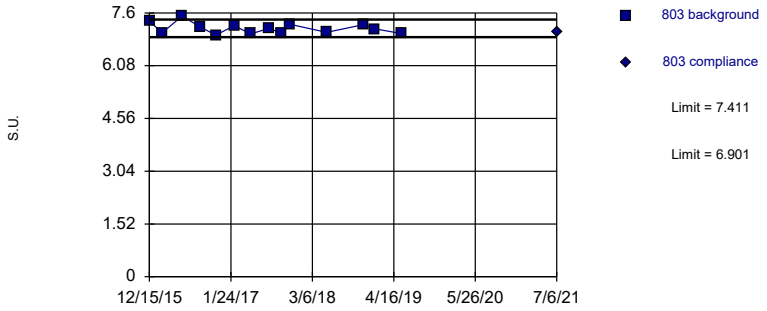
Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R	801	801	802	802
12/15/2015	0.148							
12/16/2015					7.39		7.53	
2/17/2016	0.155				6.7		6.58	
5/26/2016	0.191				8.06		8.16	
6/2/2016			0.252					
7/19/2016			0.242					
8/23/2016	0.172		0.253		7.37		7.2	
11/10/2016	0.17				6.56		6.39	
11/11/2016			0.197					
2/9/2017	0.178		0.205		6.7		6.25	
3/22/2017			0.224					
5/3/2017	0.161		0.195		6.42		6.37	
8/1/2017	0.194		0.223		7.23		6.73	
10/4/2017	0.121		0.129		6.46		6.3	
11/16/2017					7.14			
11/17/2017							6.85	
12/28/2017					6.53			
5/16/2018	0.203		0.229		7		6.89	
6/27/2018					6.9		6.68	
8/8/2018					6.49			
11/8/2018	0.137		0.15					
11/15/2018	0.196		0.202		6.78		6.68	
1/11/2019					6.58		6.66	
3/12/2019					6.84		6.91	
5/22/2019	0.201		0.215		6.87		6.77	
7/16/2019					6.71			
8/21/2019					6.65			
5/24/2021				0.253				
5/25/2021		0.238						
7/6/2021		0.22		0.236		6.63		6.43
9/2/2021		0.222						

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.156, Std. Dev.=0.1594, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9228, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

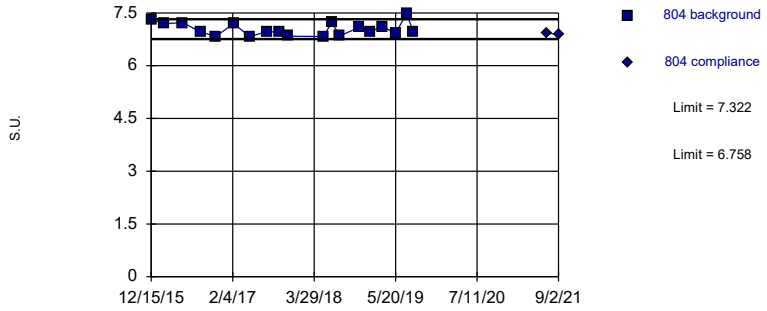
Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.04, Std. Dev.=0.1903, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9025, critical = 0.863. Kappa = 1.48 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

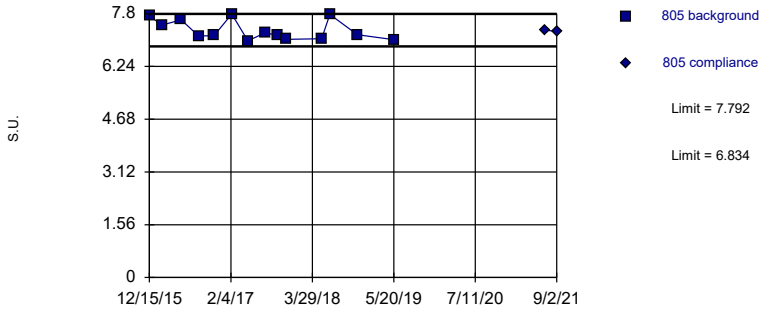
Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.313, Std. Dev.=0.2995, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8296, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

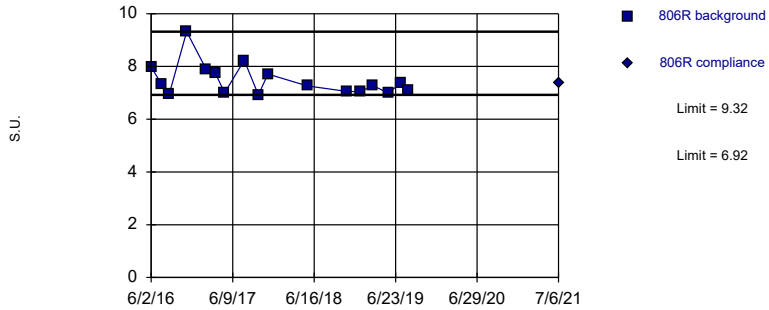
Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limits

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 17 background values. Well-constituent pair annual alpha = 0.003639. Individual comparison alpha = 0.00182 (1 of 3).

Constituent: pH Analysis Run 9/20/2021 4:13 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: pH Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

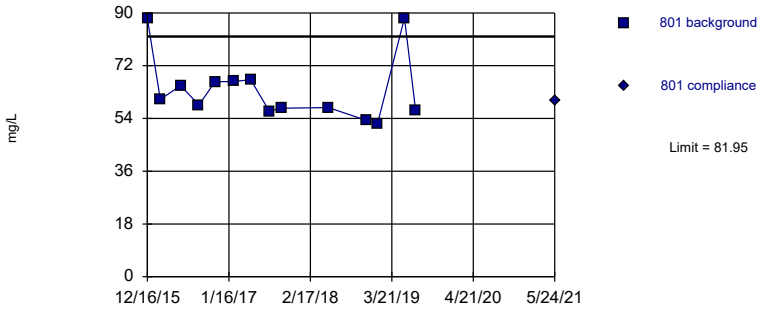
Sibley Client: SCS Engineers Data: Sibley

	803	803	804	804	805	805	806R	806R
12/15/2015	7.36		7.32		7.74			
2/17/2016	7.03		7.2		7.46			
5/26/2016	7.51		7.22		7.62			
6/2/2016							7.98	
7/19/2016							7.33	
8/23/2016	7.2		6.96		7.14		6.95	
11/10/2016	6.96		6.83		7.15			
11/11/2016							9.32	
2/9/2017	7.23		7.2		7.79		7.88	
3/22/2017							7.75	
5/3/2017	7		6.83		7		7	
8/1/2017	7.15		6.97		7.24		8.23	
10/4/2017	7.02		6.95		7.15		6.92	
11/16/2017	7.27		6.84		7.04			
11/17/2017							7.71	
5/16/2018	7.04		6.83		7.06		7.26	
6/27/2018			7.23		7.78			
8/8/2018			6.85					
11/15/2018	7.26		7.09		7.18		7.05	
1/11/2019	7.14		6.97				7.05	
3/12/2019			7.11				7.27	
5/22/2019	7.01		6.93		7.03		6.99	
7/16/2019			7.48				7.37	
8/21/2019			6.95				7.08	
7/6/2021		7.06		6.92		7.31		7.35
9/2/2021				6.9		7.28		

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.987, Std. Dev.=0.2231, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8293, critical = 0.825. Kappa = 1.6 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

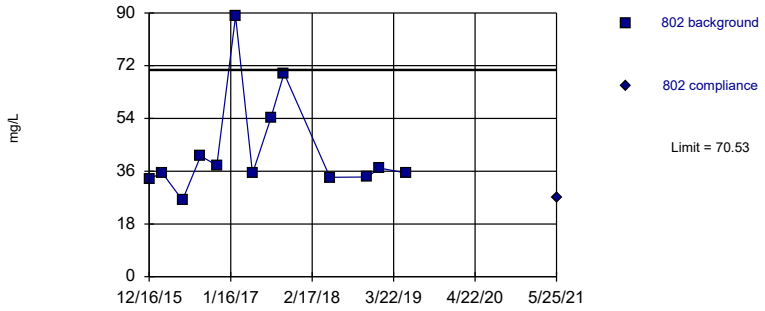
Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=3.708, Std. Dev.=0.3358, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8269, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

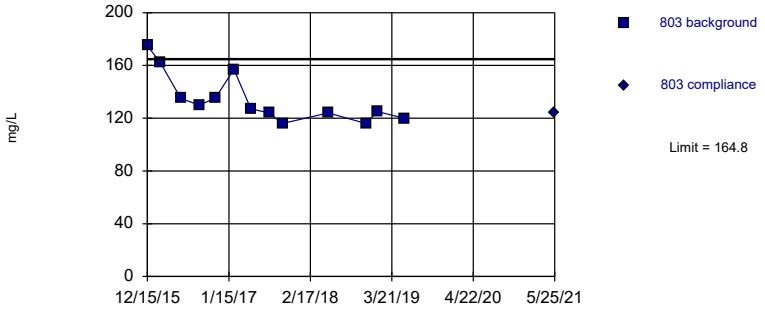
Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=134.3, Std. Dev.=18.67, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8373, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

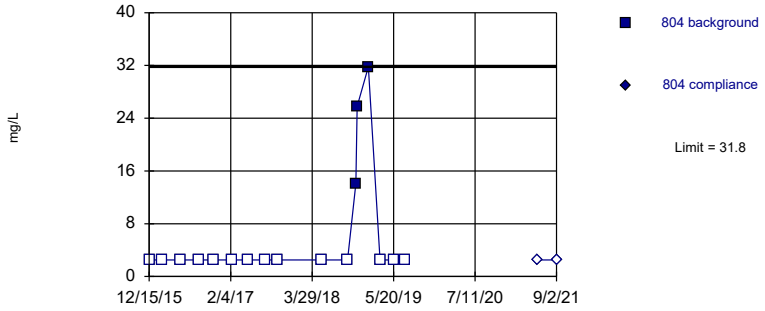
Sibley Client: SCS Engineers Data: Sibley

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 17 background values. 82.35% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Sulfate Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

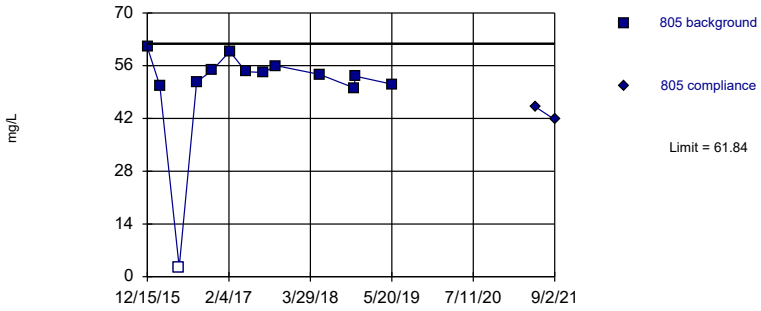
	801	801	802	802	803	803	804	804
12/15/2015					175		<5	
12/16/2015	88.1		33.3					
2/17/2016	60.5		35.5		162		<5	
5/26/2016	65.2		26.1		135		<5	
8/23/2016	58.6		41.2		130		<5	
11/10/2016	66.5		38		135		<5	
2/9/2017	66.6		88.9		157		<5	
5/3/2017	67.2		35.2		127		<5	
8/1/2017	56.5		54.2		124		<5	
10/4/2017	57.5		69.4		116		<5	
5/16/2018	57.7		33.9		124		<5	
9/27/2018							<5	
11/8/2018							14.1	
11/15/2018	53.4		34		116		25.8	
1/11/2019	52.3		37.1		125		31.8	
3/12/2019							<5	
5/22/2019	88.3		35.4		120		<5	
7/16/2019	56.6						<5	
5/24/2021		60						
5/25/2021				27.1		124		<5
9/2/2021								<5

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=148642, Std. Dev.=53825, n=13, 7.692% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8253, critical = 0.814. Kappa = 1.632 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

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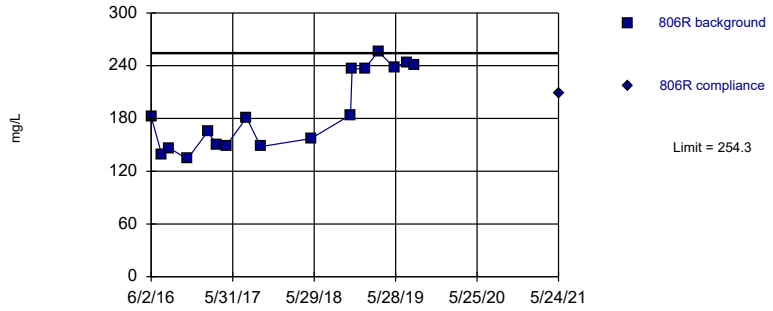
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=187.5, Std. Dev.=44.02, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8518, critical = 0.851. Kappa = 1.517 (c=7, w=6, 1 of 3, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Sulfate Analysis Run 9/20/2021 4:14 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

Prediction Limit

Constituent: Sulfate Analysis Run 9/20/2021 4:18 PM View: Ash Pond III

Sibley Client: SCS Engineers Data: Sibley

	805	805	806R	806R
12/15/2015	60.9			
2/17/2016	50.7			
5/26/2016	<5			
6/2/2016			182	
7/19/2016			139	
8/23/2016	51.7		146	
11/10/2016	54.7			
11/11/2016			134	
2/9/2017	59.8		165	
3/22/2017			150	
5/3/2017	54.4		149	
8/1/2017	54.2		181	
10/4/2017	56		148	
5/16/2018	53.7		157	
11/8/2018	50.1		184	
11/15/2018	53.2		236	
1/11/2019			237	
3/12/2019			256	
5/22/2019	51.1		238	
7/16/2019			244	
8/21/2019			241	
5/24/2021				209
5/25/2021		45.1		
9/2/2021		41.7		

Prediction Limit

Sibley Client: SCS Engineers Data: Sibley Printed 9/20/2021, 4:18 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	801	0.477	n/a	5/24/2021	0.326	No	13	0	No	0.001254	Param Intra 1 of 3
Boron (mg/L)	802	0.221	n/a	5/25/2021	0.1ND	No	12	91.67	n/a	0.002173	NP Intra (NDs) 1 of 3
Boron (mg/L)	803	2.954	n/a	5/25/2021	2.42	No	12	0	No	0.001254	Param Intra 1 of 3
Boron (mg/L)	804	8.71	n/a	5/25/2021	7.82	No	20	0	n/a	0.000...	NP Intra (normality) ...
Boron (mg/L)	805	0.2	n/a	5/25/2021	0.1ND	No	13	100	n/a	0.001886	NP Intra (NDs) 1 of 3
Boron (mg/L)	806R	5.803	n/a	5/24/2021	4.35	No	17	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	801	168	n/a	5/24/2021	136	No	15	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	802	111.6	n/a	5/25/2021	70.2	No	16	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	803	130.2	n/a	5/25/2021	113	No	14	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	804	178.4	n/a	9/2/2021	139	No	17	0	No	0.001254	Param Intra 1 of 3
Calcium (mg/L)	805	106.9	n/a	9/2/2021	88.7	No	14	0	x^2	0.001254	Param Intra 1 of 3
Calcium (mg/L)	806R	177.1	n/a	5/24/2021	145	No	18	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	801	143.9	n/a	5/24/2021	92.9	No	20	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	802	64.66	n/a	5/25/2021	48	No	14	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	803	17.17	n/a	7/6/2021	17.1	No	14	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	**804**	**19.5**	**n/a**	**9/2/2021**	**19.8**	**Yes**	**17**	**0**	**x^2**	**0.001254**	**Param Intra 1 of 3**
Chloride (mg/L)	805	12.2	n/a	9/2/2021	6.83	No	14	0	No	0.001254	Param Intra 1 of 3
Chloride (mg/L)	806R	30.49	n/a	5/24/2021	27.7	No	16	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	801	736.9	n/a	5/24/2021	550	No	13	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	802	455.2	n/a	5/25/2021	321	No	12	0	No	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	803	630.3	n/a	5/25/2021	512	No	12	0	x^2	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	804	706.2	n/a	5/25/2021	575	No	13	0	x^2	0.001254	Param Intra 1 of 3
Dissolved Solids (mg/l)	805	491	n/a	5/25/2021	329	No	13	0	n/a	0.001886	NP Intra (normality) ...
Dissolved Solids (mg/l)	806R	749.9	n/a	5/24/2021	651	No	15	0	x^2	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	801	0.2005	n/a	7/6/2021	0.192	No	12	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	802	0.2946	n/a	7/6/2021	0.203	No	12	8.333	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	803	0.3085	n/a	7/6/2021	0.282	No	12	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	804	0.2574	n/a	7/6/2021	0.238	No	14	0	No	0.001254	Param Intra 1 of 3
Fluoride (mg/L)	**805**	**0.2136**	**n/a**	**9/2/2021**	**0.222**	**Yes**	**13**	**0**	**No**	**0.001254**	**Param Intra 1 of 3**
Fluoride (mg/L)	806R	0.2685	n/a	7/6/2021	0.236	No	13	0	No	0.001254	Param Intra 1 of 3
pH (S.U.)	801	7.46	6.278	7/6/2021	6.63	No	20	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	802	7.559	6.06	7/6/2021	6.43	No	16	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	803	7.411	6.901	7/6/2021	7.06	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	804	7.322	6.758	9/2/2021	6.9	No	19	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	805	7.792	6.834	9/2/2021	7.28	No	14	0	No	0.000...	Param Intra 1 of 3
pH (S.U.)	806R	9.32	6.92	7/6/2021	7.35	No	17	0	n/a	0.00182	NP Intra (normality) ...
Sulfate (mg/L)	801	81.95	n/a	5/24/2021	60	No	14	0	x^(1/3)	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	802	70.53	n/a	5/25/2021	27.1	No	13	0	ln(x)	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	803	164.8	n/a	5/25/2021	124	No	13	0	No	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	804	31.8	n/a	9/2/2021	2.5ND	No	17	82.35	n/a	0.000...	NP Intra (NDs) 1 of 3
Sulfate (mg/L)	805	61.84	n/a	9/2/2021	41.7	No	13	7.692	x^3	0.001254	Param Intra 1 of 3
Sulfate (mg/L)	806R	254.3	n/a	5/24/2021	209	No	17	0	No	0.001254	Param Intra 1 of 3

ATTACHMENT 2

Sanitas™ Configuration Settings

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

Exclude data flags: i

Data Reading Options

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

Non-Detect / Trace Handling...

Setup Seasons...

[ ] Automatically Process Resamples...

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

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

Setup Symbols and Colors...

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

Zoom Factor: 200%

Output Decimal Precision

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

- [x] Store Print Jobs in Multiple Constituent Mode

Store All Print Jobs...

Printer: Adobe PDF

Printers...

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

☐ Use Modified Alpha... 0.02

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

☐ Continue Parametric if Unable to Normalize

Transformation (Parametric test only)

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

☐ Use Best W Statistic

☐ Plot Transformed Values

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

☐ Include 95. % Confidence Interval around Trend Line

☐ Automatically Remove Outliers (Parametric test only)

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

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

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

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

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

☐ Optional Further Refinement: Use Aitchison's when NDs % > 50

☐ Use Poisson Prediction Limit when Non-Detects Percent > 90

Transformation

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

☐ Use Best W Statistic

☐ Plot Transformed Values

Deseasonalize (Intra- and InterWell)

- ○ If Seasonality Is Detected
- ○ If Seasonality Is Detected Or Insufficient to Test
- ○ Always (When Sufficient Data)
- ◉ Never

☐ Always Use Non-Parametric

Facility α

Statistical Evaluations per Year: 2

Constituents Analyzed: 7

Downgradient (Compliance) Wells: 6

Sampling Plan

Comparing Individual Observations

○ 1 of 1 ○ 1 of 2 ◉ 1 of 3 ○ 1 of 4

○ 2 of 4 ("Modified California")

IntraWell Other

☐ Stop if Background Trend Detected at Alpha = 0.05

☑ Plot Background Data

Override Standard Deviation:

Override DF: Override Kappa:

☐ Automatically Remove Background Outliers

☐ 2-Tailed Test Mode...

☐ Show Deselected Data Lighter

Non-Parametric Limit = Highest Background Value

Non-Parametric Limit when 100% Non-Detects:

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

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

Rank Von Neumann, Wilcoxon Rank Sum / Mann-Whitney

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

Outlier Tests

- ( ) EPA 1989 Outlier Screening (fixed alpha of 0.05)
- (•) Dixon's at α= 0.05 or if n > 22 Rosner's at α= 0.01 [x] Use EPA Screening to establish Suspected Outliers
- ( ) Tukey's Outlier Screening, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat

[x] Test For Normality using Shapiro-Wilk/Francia at Alpha = 0.1

- (•) Stop if Non-Normal
- ( ) Continue with Parametric Test if Non-Normal
- ( ) Tukey's if Non-Normal, with IQR Multiplier = 3.0 [ ] Use Ladder of Powers to achieve Best W Stat

[x] No Outlier If Less Than 3.0 Times Median

[ ] Apply Rules found in Ohio Guidance Document 0715

[ ] Combine Background Wells on the Outlier Report...

Piper, Stiff Diagram

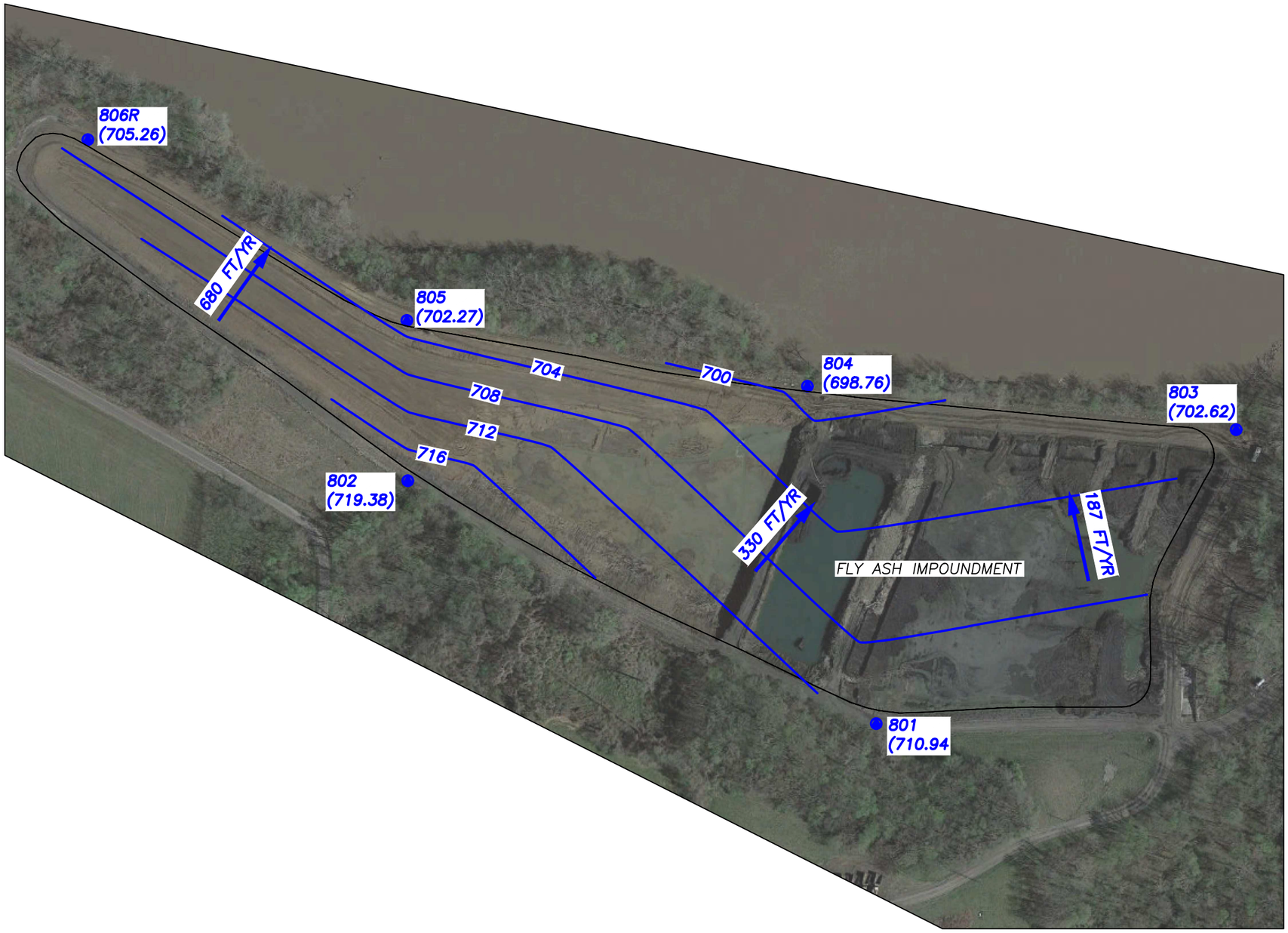
- [ ] Combine Wells
- [ ] Combine Dates
- (•) Use Default Constituent Names
- ( ) Use Constituent Definition File Edit

- [x] Label Constituents
- [x] Label Axes
- [x] Note Cation-Anion Balance (Piper only)

Jared Morrison
December 20, 2022

ATTACHMENT 3

Groundwater Potentiometric Surface Maps



LEGEND:

- *760* — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 803 (699.19) — GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
- CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY
- 680 FT/YR — GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. *HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 165305111.00001, DATED JANUARY 2010*
2. *AERIAL IMAGE FROM GOOGLE EARTH PRO ON SEPTEMBER 14, 2021.*
3. *BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.*
4. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 24, 2021.

200 0 200 400
SCALE FEET

REV.	DATE
-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
(MAY 2021)
CCR FLY ASH IMPOUNDEMENT

PROJECT TITLE
2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

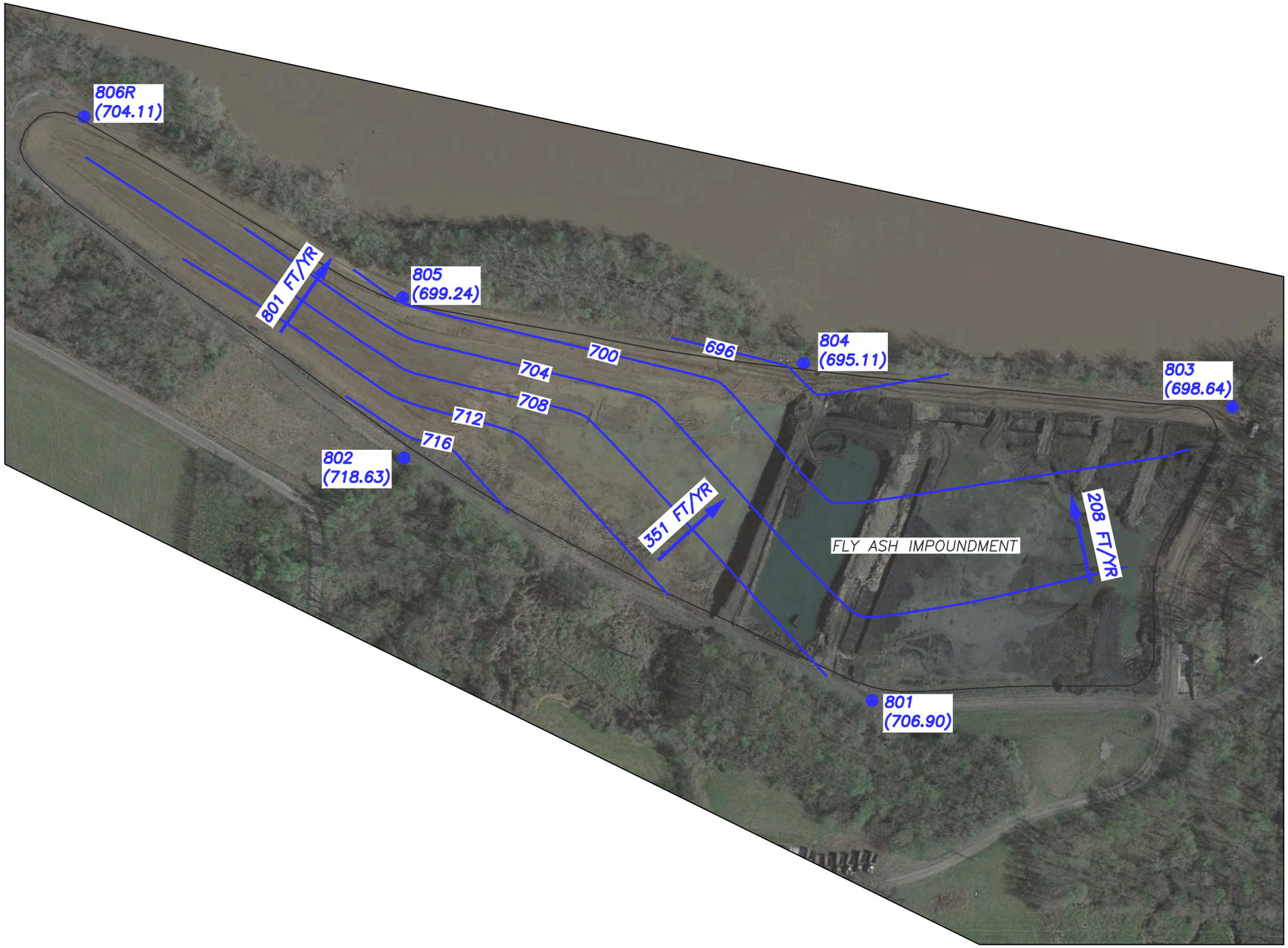
PROJ. NO. 27231369.20
DSN. BY: ALR
CHK. BY: JRF
O/A RVW BY: JRF
PROJ. MGR: JRF

CADD FILE:
FIG 2 - MAY 2021 V1.DWG

DATE:
12/15/22

FIGURE NO.
2

N:\KCPL\Projects\Groundwater\DWG\Sibley\2021\GW\Fig 2 - May 2021 v1.dwg Dec 15, 2022 - 4:19pm Layout Name: Fig 2C By: swyly



LEGEND:

- 760 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 803 (699.19) GROUNDWATER MONITORING SYSTEM WELL (GROUNDWATER ELEVATION)
- CCR FLY ASH IMPOUNDMENT UNIT BOUNDARY
- 351 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE

NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 16530511.00001, DATED JANUARY 2010
2. AERIAL IMAGE FROM GOOGLE EARTH PRO ON SEPTEMBER 14, 2021.
3. BOUNDARY AND MONITORING WELL WELL LOCATIONS SHOWN ARE APPROXIMATE.
4. WATER LEVEL MEASUREMENTS COLLECTED ON NOVEMBER 15, 2021.

200 0 200 400
SCALE FEET

REV.	DATE
-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP
(NOVEMBER 2021)
CCR FLY ASH IMPOUNDEMENT

PROJECT TITLE
2021 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
EVERGY MISSOURI WEST, INC.
SIBLEY GENERATING STATION
SIBLEY, MISSOURI

SCS ENGINEERS
8575 W. 110th St, Ste. 100
Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

PROJ. NO. 27213169.20
DSN. BY: ALR
DWN. BY: ALR
CHK. BY: JRF
QA RVW BY: JRF
PROJ. MGR: JRF

CADD FILE:
FIG 2 - NOVEMBER 2021 V1.DWG

DATE:
12/15/22

FIGURE NO.
3

N:\KCPL\Projects\Groundwater\DWG\Sibley\2021\GW\November 2021\Fig 2 - November 2021 v1.dwg Dec 15, 2022 - 4:19pm Layout Name: Fig 2C By: swyly