

**2017 ANNUAL GROUNDWATER MONITORING
AND
CORRECTIVE ACTION REPORT**

**SLAG SETTLING IMPOUNDMENT
SIBLEY GENERATING STATION
SIBLEY, MISSOURI**

Presented To:

KCP&L Greater Missouri Operations Company

Presented By:

SCS ENGINEERS

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January 30, 2018

Revised January 20, 2022

File Number 27213169.17

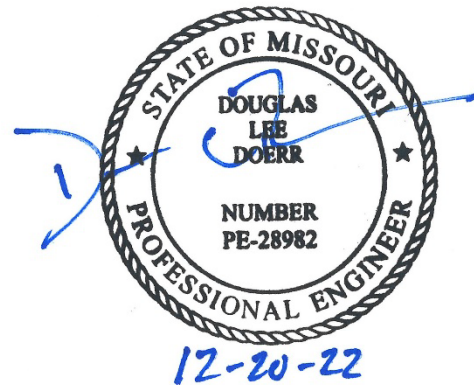
CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Registered Geologist in the State of Missouri, do hereby certify that the 2017 Annual Groundwater Monitoring and Corrective Action Report for the Slag Settling 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 2017 Annual Groundwater Monitoring and Corrective Action Report for the Slag Settling 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 Section	Summary of Revisions
0	January 30, 2018	NA	Original
1	December 20, 2022	Addendum 1	Added Addendum 1

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1 INTRODUCTION

This 2017 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). Specifically, this report was prepared 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 2017 Annual Groundwater Monitoring and Corrective Action Report for the Slag Settling Impoundment at the Sibley Generating Station.

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

The CCR groundwater monitoring system was initially certified on October 13, 2017. No new monitoring wells were installed and no wells were decommissioned as part of the CCR groundwater monitoring program for the Slag Settling Impoundment in 2017.

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 conducted during the reporting period. Sampling for the detection monitoring program began in December 2015. Samples were analyzed as indicated in **Appendix B, Table 1** (Appendix III and Appendix IV Detection Monitoring Results, and **Table 2** (Detection Monitoring Field Measurements). The dates of sample collection and the results of the analyses 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 2017. Only detection monitoring was conducted in 2017. No constituents were detected at a statistically significant increase over background levels.

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)

Status of Groundwater Monitoring and Corrective Action Program.

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

Summary of Key Actions Completed.

Collection of initial background groundwater quality data was completed and the initial detection monitoring sampling and analysis event was completed in October 2017. Verification sampling was also conducted per the certified statistical method.

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 (2018).

Completion of statistical evaluation of detection monitoring data. Groundwater sampling and analysis and alternative source demonstration(s) (if required).

2.5.2 § 257.94(d)(3)

Demonstration providing the basis for an alternative monitoring frequency for detection monitoring and certification that it meets the requirements of this section.

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

2.5.3 § 257.94(e)(2)

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

Not applicable because no such demonstration was conducted.

2.5.4 § 257.95(c)(3)

Demonstration providing the basis for an alternative monitoring frequency for assessment monitoring and certification that it meets the requirements of this section.

Not applicable because no such demonstration was conducted.

2.5.5 § 257.95(d)(3)

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)

Demonstration that an alternative source other than the CCR unit caused the contamination, or that the SSI (during assessment monitoring) resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. In addition, certification of the demonstration is to be included in the annual report.

Not applicable because no such demonstration was conducted.

2.5.7 § 257.96(a)

Demonstration of the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. In addition, certification of the demonstration is to be included in the annual report.

Not applicable because no such demonstration was conducted.

3 GENERAL COMMENTS

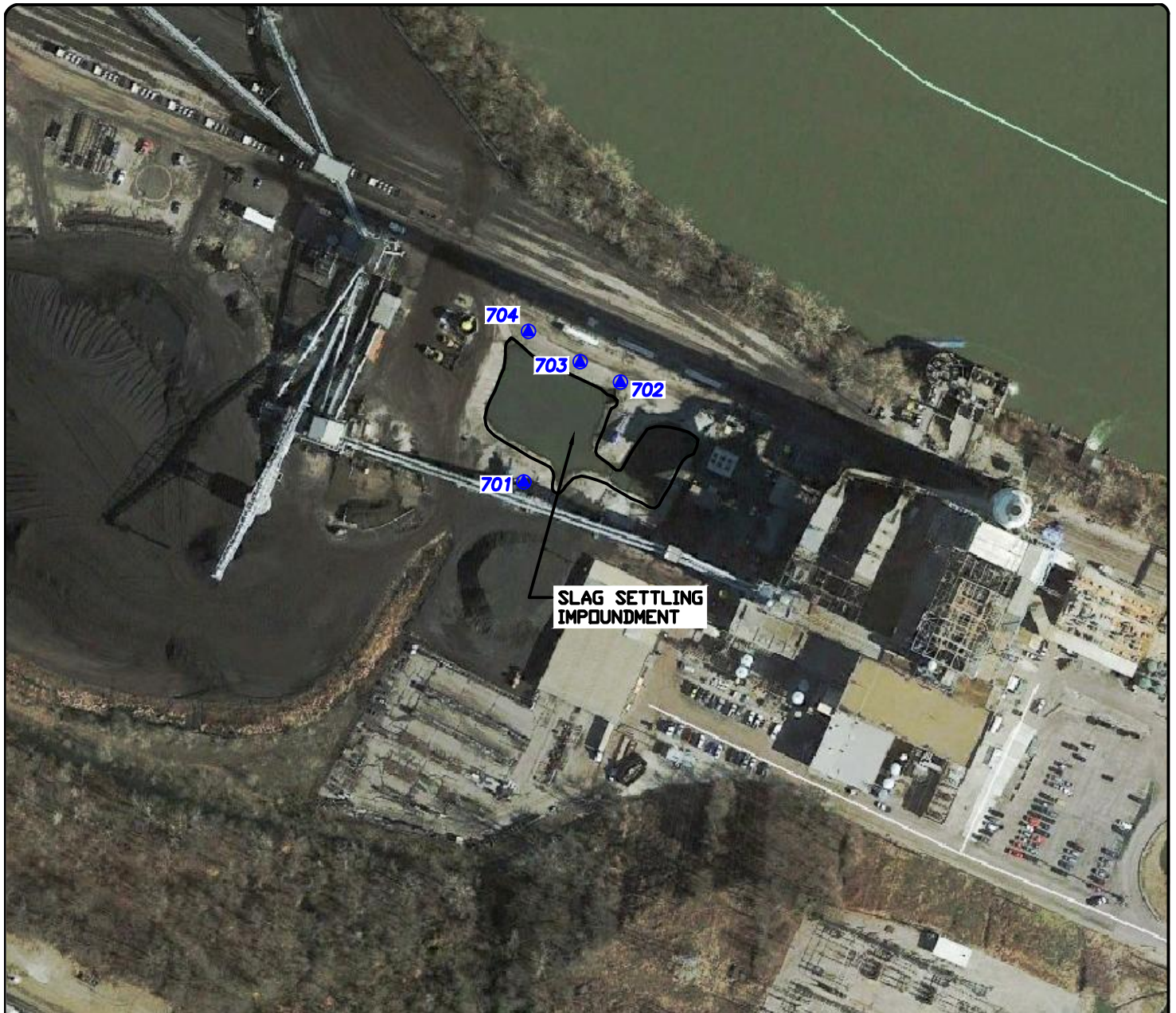
This report has been prepared and reviewed under the direction of a qualified groundwater scientist and qualified professional engineer. The information contained in this report is a reflection of the conditions encountered at the Sibley Generating Station at the time of fieldwork. This report includes 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 KCP&L Greater Missouri Operations Company for specific application to the Sibley Generating Station Slag Settling Impoundment. No warranties, express or implied, are intended or made.

APPENDIX A

FIGURES

Figure 1: Site Map



LEGEND:

- 506 CCR GROUNDWATER MONITORING SYSTEM WELLS
- CCR UNIT BOUNDARY



NOTES:

1. HORIZONTAL & VERTICAL DATUM: URS PLANS FOR CONSTRUCTION, KCP&L SIBLEY GENERATING STATION, DESIGN FILE 16530511.00001, DATED JANUARY 2010
2. GOOGLE EARTH AERIAL IMAGE, MARCH 2015. MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS SHOWN ARE APPROXIMATE.

SCS ENGINEERS

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KCP&L GREATER MISSOURI OPERATIONS COMPANY
 SIBLEY SLAG SETTLING IMPOUNDMENT
 SIBLEY GENERATING STATION
 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CHK. BY: JRR	DWN. BY: RCW	DSN. BY: RCW	PROJ. NO. 27213169.17
PROJ. MGR: JRR	DATE: 1/12/18	CADD FILE: FIG 1 - SIBLEY SLAG IMP.DWG	FIG. NO. 1

APPENDIX B

TABLES

Table 1: Appendix III and Appendix IV Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 2
Slag Settling Impoundment
Detection Monitoring Field Measurements
KCP&L GMO Sibley Generating Station

Well Number	Sample Date	pH (S.U.)	Specific Conductivity (µS)	Temperature (°C)	Turbidity (NTU)	Water Level (ft btoc)	Groundwater Elevation (ft NGVD)
MW-701	12/14/2015	7.58	588	12.17	14.3	18.28	708.98
MW-701	2/17/2016	7.10	521	13.36	14.9	21.70	705.56
MW-701	5/26/2016	7.63	501	17.78	0.2	16.14	711.12
MW-701	8/23/2016	7.38	569	18.65	0.0	20.67	706.59
MW-701	11/10/2016	7.10	524	15.78	2.6	20.86	706.40
MW-701	2/8/2017	7.23	525	7.82	0.2	21.59	705.67
MW-701	5/3/2017	6.82	492	14.20	5.6	16.86	710.40
MW-701	8/1/2017	8.21	437	17.44	1.7	20.09	707.17
MW-701	10/3/2017	6.89	501	16.99	0.0	20.59	706.67
MW-701	11/17/2017	**6.92	593	14.51	0.0	20.48	706.78
MW-702	12/14/2015	7.96	634	13.99	6.4	22.08	705.21
MW-702	2/17/2016	7.51	530	13.99	23.1	26.88	700.41
MW-702	5/26/2016	10.79	509	15.59	40.8	19.71	707.58
MW-702	8/23/2016	7.63	578	19.17	6.4	26.00	701.29
MW-702	11/10/2016	7.17	548	19.67	19.5	26.25	701.04
MW-702	2/8/2017	7.06	580	10.50	6.0	27.10	700.19
MW-702	5/3/2017	7.12	521	13.16	23.0	20.39	706.90
MW-702	8/1/2017	8.85	461	18.19	21.6	25.28	702.01
MW-702	10/3/2017	7.10	521	17.01	3.0	25.87	701.42
MW-702	11/17/2017	**7.35	575	14.69	1.3	25.87	701.42
MW-703	12/14/2015	7.16	842	14.32	25.9	22.02	705.29
MW-703	2/17/2016	7.24	1080	14.94	41.5	26.65	700.66
MW-703	5/26/2016	10.87	957	16.91	20.2	19.51	707.80
MW-703	8/23/2016	7.39	1070	18.23	1.1	25.73	701.58
MW-703	11/10/2016	6.90	1070	17.92	0.0	26.04	701.27
MW-703	2/8/2017	7.10	956	10.62	12.7	26.69	700.62
MW-703	5/3/2017	6.97	920	14.34	17.9	20.41	706.90
MW-703	8/1/2017	8.17	964	18.21	0.0	24.93	702.38
MW-703	10/3/2017	6.86	1000	16.45	4.0	25.47	701.84
MW-703	11/17/2017	*7.46	1060	14.67	3.0	25.50	701.81
MW-704	12/14/2015	7.32	596	12.38	28.5	21.95	705.70
MW-704	2/17/2016	7.08	601	14.25	28.3	26.85	700.80
MW-704	5/26/2016	7.58	565	19.79	0.0	19.57	708.08
MW-704	8/23/2016	7.75	606	18.21	0.0	25.93	701.72
MW-704	11/10/2016	7.04	613	17.35	0.0	26.22	701.43
MW-704	2/8/2017	7.20	626	7.88	1.7	26.65	701.00
MW-704	5/3/2017	6.90	571	14.41	0.6	20.23	707.42
MW-704	8/1/2017	7.88	512	23.70	0.2	24.87	702.78
MW-704	10/3/2017	6.91	567	17.73	0.0	25.45	702.20
MW-704	11/17/2017	**7.69	606	14.83	0.0	25.45	702.20

* Verification Sample

** Extra Sample Collected per Standard Sampling Procedure

S.U. - Standard Units

µS - microsiemens

°C - Degrees Celsius

ft btoc - Feet Below Top of Casing

ft NGVD - National Geodetic Vertical Datum (NAVD 88)

NTU - Nephelometric Turbidity Unit

ADDENDUM 1

2017 Groundwater Monitoring and Corrective Action Report Addendum 1

December 20, 2022
File No. 27213167.17

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: 2017 Annual Groundwater Monitoring and Corrective Action Report Addendum 1
Evergy Missouri West, Inc.
Slag Settling Impoundment
Sibley Generating Station – Sibley, Missouri



The Slag Settling 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 2017 for the Slag Settling Impoundment was completed and placed in the facility’s operating record on January 30, 2018, 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. Because a GWMCA Report was not required for 2015 or 2016, the Appendix III and Appendix IV background data collected in 2015 and 2016 is included herewith. The laboratory data packages for the following sampling events are provided:



- December 2015 – First background sampling event for Appendix III and Appendix IV.
 - February 2016 – Second background sampling event for Appendix III and Appendix IV.
 - May 2016 - Third background sampling event for Appendix III and Appendix IV.
 - August 2016 - Fourth background sampling event for Appendix III and Appendix IV.
 - November 2016 - Fifth background sampling event for Appendix III and Appendix IV.
 - February 2017 - Sixth background sampling event for Appendix III and Appendix IV.
 - May 2017 - Seventh background sampling event for Appendix III and Appendix IV.
 - August 2017 - Eighth background sampling event for Appendix III and Appendix IV.
 - October 2017 - Ninth background sampling event for Appendix IV.
 - October 2017 – Fall semiannual detection monitoring sampling event.
 - November 2017 – First verification sampling for the Fall 2017 detection monitoring sampling event.
- Attachment 2 - Statistical Analyses:

Statistical analyses were not completed in 2017. Statistical analyses of the background sampling events were completed following data verification in 2018.
 - 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:

 - December 2015 – First background sampling event.
 - February 2016 – Second background sampling event.
 - May 2016 - Third background sampling event.
 - August 2016 - Fourth background sampling event.
 - November 2016 - Fifth background sampling event.
 - February 2017 - Sixth background sampling event.
 - May 2017 - Seventh background sampling event.
 - August 2017 - Eighth background sampling event.
 - October 2017 – Ninth background sampling event and Fall semiannual detection monitoring sampling event.
 - November 2017 – First verification sampling event for the Fall 2017 detection monitoring sampling event.

Jared Morrison
December 20, 2022

ATTACHMENT 1
Laboratory Analytical Reports

Jared Morrison
December 20, 2022

ATTACHMENT 1-1
December 2015 Sampling Event Laboratory Report

SCS Engineers

Sample Delivery Group: L807906
Samples Received: 12/18/2015
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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

SAMPLE SUMMARY



504 L807906-01 GW

Collected by Jason R Franks
Collected date/time 12/16/15 10:00
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837790	1	12/23/15 11:18	12/23/15 12:01	MF
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:07	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 11:01	WBD
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 12:56	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 02:48	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/22/15 20:55	12/22/15 20:55	DJD

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn

505 L807906-02 GW

Collected by Jason R Franks
Collected date/time 12/16/15 11:00
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837790	1	12/23/15 11:18	12/23/15 12:01	MF
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:09	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 11:04	WBD
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 12:59	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 02:51	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/22/15 21:10	12/22/15 21:10	DJD

- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al
- 9
Sc

506 L807906-03 GW

Collected by Jason R Franks
Collected date/time 12/15/15 14:10
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837235	1	12/21/15 12:31	12/21/15 12:54	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:17	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 11:07	WBD
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 13:03	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 02:53	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/22/15 21:26	12/22/15 21:26	DJD

510 L807906-05 GW

Collected by Jason R Franks
Collected date/time 12/15/15 16:45
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837235	1	12/21/15 12:31	12/21/15 12:54	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:22	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 13:09	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 03:02	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/22/15 21:56	12/22/15 21:56	DJD

512 L807906-06 GW

Collected by Jason R Franks
Collected date/time 12/15/15 16:35
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837235	1	12/21/15 12:31	12/21/15 12:54	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 17:59	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 10:49	WBD
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 12:44	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 02:39	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/22/15 22:12	12/22/15 22:12	DJD

SAMPLE SUMMARY



DUPLICATE L807906-12 GW

Collected by Jason R Franks
Collected date/time 12/15/15 00:00
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837235	1	12/21/15 12:31	12/21/15 12:54	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:36	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 15:11	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 03:16	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/23/15 00:46	12/23/15 00:46	DJD



601 L807906-13 GW

Collected by Jason R Franks
Collected date/time 12/15/15 12:15
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837236	1	12/21/15 09:45	12/21/15 10:34	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:39	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 15:14	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 03:18	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/23/15 01:02	12/23/15 01:02	DJD



701 L807906-14 GW

Collected by Jason R Franks
Collected date/time 12/14/15 16:55
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837217	1	12/21/15 01:13	12/21/15 02:44	JM
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:46	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/26/15 15:17	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/23/15 03:20	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/23/15 01:17	12/23/15 01:17	DJD



702 L807906-15 GW

Collected by Jason R Franks
Collected date/time 12/14/15 15:50
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837217	1	12/21/15 01:13	12/21/15 02:44	JM
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:49	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 13:59	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:22	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/23/15 01:32	12/23/15 01:32	DJD

703 L807906-16 GW

Collected by Jason R Franks
Collected date/time 12/14/15 15:40
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837217	1	12/21/15 01:13	12/21/15 02:44	JM
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:51	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 14:02	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:24	JDG
Wet Chemistry by Method 9056A	WG837450	1	12/23/15 01:48	12/23/15 01:48	DJD

SAMPLE SUMMARY



704 L807906-17 GW

Collected by Jason R Franks
Collected date/time 12/14/15 16:40
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837217	1	12/21/15 01:13	12/21/15 02:44	JM
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:54	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 14:05	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:26	JDG
Wet Chemistry by Method 9056A	WG837387	1	12/22/15 13:06	12/22/15 13:06	CM

1
Cp

2
Tc

3
Ss

4
Cn

803 L807906-18 GW

Collected by Jason R Franks
Collected date/time 12/15/15 10:50
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837236	1	12/21/15 09:45	12/21/15 10:34	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:56	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 14:08	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:29	JDG
Wet Chemistry by Method 9056A	WG837387	1	12/22/15 13:19	12/22/15 13:19	CM
Wet Chemistry by Method 9056A	WG837387	5	12/22/15 17:55	12/22/15 17:55	CM

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

804 L807906-19 GW

Collected by Jason R Franks
Collected date/time 12/15/15 11:40
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837236	1	12/21/15 09:45	12/21/15 10:34	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 18:59	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 14:11	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:31	JDG
Wet Chemistry by Method 9056A	WG837387	1	12/22/15 13:32	12/22/15 13:32	CM

805 L807906-20 GW

Collected by Jason R Franks
Collected date/time 12/15/15 12:25
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837236	1	12/21/15 09:45	12/21/15 10:34	JER
Mercury by Method 7470A	WG837780	1	12/23/15 08:45	12/23/15 19:01	TRB
Metals (ICP) by Method 6010B	WG837594	1	12/22/15 00:28	12/24/15 14:14	WBD
Metals (ICPMS) by Method 6020	WG837587	1	12/22/15 15:00	12/28/15 09:33	JDG
Wet Chemistry by Method 9056A	WG837387	1	12/22/15 13:45	12/22/15 13:45	CM

806 L807906-21 GW

Collected by Jason R Franks
Collected date/time 12/16/15 13:35
Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837236	1	12/21/15 09:45	12/21/15 10:34	JER
Mercury by Method 7470A	WG837884	1	12/23/15 08:40	12/23/15 15:31	TRB
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:16	WBD
Metals (ICPMS) by Method 6020	WG837891	1	12/23/15 12:33	12/29/15 19:50	ST
Wet Chemistry by Method 9056A	WG837447	1	12/23/15 01:27	12/23/15 01:27	CM
Wet Chemistry by Method 9056A	WG837447	10	12/23/15 09:22	12/23/15 09:22	CM

SAMPLE SUMMARY



801 L807906-22 GW

Collected by Jason R Franks
 Collected date/time 12/16/15 11:55
 Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837790	1	12/23/15 11:18	12/23/15 12:01	MF
Mercury by Method 7470A	WG837884	1	12/23/15 08:40	12/23/15 15:59	TRB
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:19	WBD
Metals (ICPMS) by Method 6020	WG837891	1	12/23/15 12:33	12/29/15 19:52	ST
Wet Chemistry by Method 9056A	WG837447	1	12/23/15 01:40	12/23/15 01:40	CM

1
Cp

2
Tc

3
Ss

4
Cn

802 L807906-23 GW

Collected by Jason R Franks
 Collected date/time 12/16/15 12:45
 Received date/time 12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837790	1	12/23/15 11:18	12/23/15 12:01	MF
Mercury by Method 7470A	WG837884	1	12/23/15 08:40	12/23/15 16:01	TRB
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:22	WBD
Metals (ICPMS) by Method 6020	WG837891	1	12/23/15 12:33	12/29/15 19:55	ST
Wet Chemistry by Method 9056A	WG837784	1	12/23/15 20:01	12/23/15 20:01	DJD

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Jason Romer
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	155000		10000	1	12/23/2015 12:01	WG837790

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	12/22/2015 20:55	WG837450
Fluoride	168		100	1	12/22/2015 20:55	WG837450
Sulfate	14300		5000	1	12/22/2015 20:55	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:07	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	117		5.00	1	12/24/2015 11:01	WG837594
Boron	ND		200	1	12/24/2015 11:01	WG837594
Calcium	31500		1000	1	12/26/2015 12:56	WG837594
Chromium	ND		10.0	1	12/24/2015 11:01	WG837594
Cobalt	ND		10.0	1	12/24/2015 11:01	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/23/2015 02:48	WG837587
Arsenic	ND		2.00	1	12/23/2015 02:48	WG837587
Beryllium	ND		2.00	1	12/23/2015 02:48	WG837587
Cadmium	ND		1.00	1	12/23/2015 02:48	WG837587
Lead	ND		2.00	1	12/23/2015 02:48	WG837587
Selenium	ND		2.00	1	12/23/2015 02:48	WG837587
Thallium	ND		2.00	1	12/23/2015 02:48	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	162000		10000	1	12/23/2015 12:01	WG837790

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	12/22/2015 21:10	WG837450
Fluoride	164		100	1	12/22/2015 21:10	WG837450
Sulfate	29200		5000	1	12/22/2015 21:10	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:09	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	105		5.00	1	12/24/2015 11:04	WG837594
Boron	ND		200	1	12/24/2015 11:04	WG837594
Calcium	28000		1000	1	12/26/2015 12:59	WG837594
Chromium	ND		10.0	1	12/24/2015 11:04	WG837594
Cobalt	ND		10.0	1	12/24/2015 11:04	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/23/2015 02:51	WG837587
Arsenic	ND		2.00	1	12/23/2015 02:51	WG837587
Beryllium	ND		2.00	1	12/23/2015 02:51	WG837587
Cadmium	ND		1.00	1	12/23/2015 02:51	WG837587
Lead	ND		2.00	1	12/23/2015 02:51	WG837587
Selenium	2.99		2.00	1	12/23/2015 02:51	WG837587
Thallium	ND		2.00	1	12/23/2015 02:51	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	475000		10000	1	12/21/2015 12:54	WG837235

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	6450		1000	1	12/22/2015 21:26	WG837450
Fluoride	296		100	1	12/22/2015 21:26	WG837450
Sulfate	64800		5000	1	12/22/2015 21:26	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 18:17	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	252		5.00	1	12/24/2015 11:07	WG837594
Boron	ND		200	1	12/24/2015 11:07	WG837594
Calcium	100000		1000	1	12/26/2015 13:03	WG837594
Chromium	ND		10.0	1	12/24/2015 11:07	WG837594
Cobalt	ND		10.0	1	12/24/2015 11:07	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/23/2015 02:53	WG837587
Arsenic	ND		2.00	1	12/23/2015 02:53	WG837587
Beryllium	ND		2.00	1	12/23/2015 02:53	WG837587
Cadmium	ND		1.00	1	12/23/2015 02:53	WG837587
Lead	ND		2.00	1	12/23/2015 02:53	WG837587
Selenium	7.43		2.00	1	12/23/2015 02:53	WG837587
Thallium	ND		2.00	1	12/23/2015 02:53	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	489000		10000	1	12/21/2015 12:54	WG837235

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3330		1000	1	12/22/2015 21:56	WG837450
Fluoride	296		100	1	12/22/2015 21:56	WG837450
Sulfate	14700		5000	1	12/22/2015 21:56	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 18:22	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	356		5.00	1	12/26/2015 13:09	WG837594
Boron	ND		200	1	12/26/2015 13:09	WG837594
Calcium	122000		1000	1	12/26/2015 13:09	WG837594
Chromium	ND		10.0	1	12/26/2015 13:09	WG837594
Cobalt	ND		10.0	1	12/26/2015 13:09	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/23/2015 03:02	WG837587
Arsenic	ND		2.00	1	12/23/2015 03:02	WG837587
Beryllium	ND		2.00	1	12/23/2015 03:02	WG837587
Cadmium	ND		1.00	1	12/23/2015 03:02	WG837587
Lead	ND		2.00	1	12/23/2015 03:02	WG837587
Selenium	3.38		2.00	1	12/23/2015 03:02	WG837587
Thallium	ND		2.00	1	12/23/2015 03:02	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	425000		10000	1	12/21/2015 12:54	WG837235

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	2720		1000	1	12/22/2015 22:12	WG837450
Fluoride	281		100	1	12/22/2015 22:12	WG837450
Sulfate	23000		5000	1	12/22/2015 22:12	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 17:59	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	371		5.00	1	12/24/2015 10:49	WG837594
Boron	ND		200	1	12/24/2015 10:49	WG837594
Calcium	98100	V	1000	1	12/26/2015 12:44	WG837594
Chromium	12.1		10.0	1	12/24/2015 10:49	WG837594
Cobalt	ND		10.0	1	12/24/2015 10:49	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/23/2015 02:39	WG837587
Arsenic	ND		2.00	1	12/23/2015 02:39	WG837587
Beryllium	ND		2.00	1	12/23/2015 02:39	WG837587
Cadmium	ND		1.00	1	12/23/2015 02:39	WG837587
Lead	ND		2.00	1	12/23/2015 02:39	WG837587
Selenium	4.36		2.00	1	12/23/2015 02:39	WG837587
Thallium	ND		2.00	1	12/23/2015 02:39	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	429000		10000	1	12/21/2015 12:54	WG837235

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	2720		1000	1	12/23/2015 00:46	WG837450
Fluoride	283		100	1	12/23/2015 00:46	WG837450
Sulfate	23100		5000	1	12/23/2015 00:46	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 18:36	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	376		5.00	1	12/26/2015 15:11	WG837594
Boron	ND		200	1	12/26/2015 15:11	WG837594
Calcium	101000		1000	1	12/26/2015 15:11	WG837594
Chromium	ND		10.0	1	12/26/2015 15:11	WG837594
Cobalt	ND		10.0	1	12/26/2015 15:11	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/23/2015 03:16	WG837587
Arsenic	ND		2.00	1	12/23/2015 03:16	WG837587
Beryllium	ND		2.00	1	12/23/2015 03:16	WG837587
Cadmium	ND		1.00	1	12/23/2015 03:16	WG837587
Lead	ND		2.00	1	12/23/2015 03:16	WG837587
Selenium	3.94		2.00	1	12/23/2015 03:16	WG837587
Thallium	ND		2.00	1	12/23/2015 03:16	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	387000		10000	1	12/21/2015 10:34	WG837236

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3300		1000	1	12/23/2015 01:02	WG837450
Fluoride	224		100	1	12/23/2015 01:02	WG837450
Sulfate	15500		5000	1	12/23/2015 01:02	WG837450

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:39	WG837780

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	329		5.00	1	12/26/2015 15:14	WG837594
Boron	ND		200	1	12/26/2015 15:14	WG837594
Calcium	107000		1000	1	12/26/2015 15:14	WG837594
Chromium	ND		10.0	1	12/26/2015 15:14	WG837594
Cobalt	ND		10.0	1	12/26/2015 15:14	WG837594

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/23/2015 03:18	WG837587
Arsenic	ND		2.00	1	12/23/2015 03:18	WG837587
Beryllium	ND		2.00	1	12/23/2015 03:18	WG837587
Cadmium	ND		1.00	1	12/23/2015 03:18	WG837587
Lead	ND		2.00	1	12/23/2015 03:18	WG837587
Selenium	5.79		2.00	1	12/23/2015 03:18	WG837587
Thallium	ND		2.00	1	12/23/2015 03:18	WG837587

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	291000		10000	1	12/21/2015 02:44	WG837217

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8270		1000	1	12/23/2015 01:17	WG837450
Fluoride	106		100	1	12/23/2015 01:17	WG837450
Sulfate	15700		5000	1	12/23/2015 01:17	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:46	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	180		5.00	1	12/26/2015 15:17	WG837594
Boron	ND		200	1	12/26/2015 15:17	WG837594
Calcium	83900		1000	1	12/26/2015 15:17	WG837594
Chromium	ND		10.0	1	12/26/2015 15:17	WG837594
Cobalt	ND		10.0	1	12/26/2015 15:17	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/23/2015 03:20	WG837587
Arsenic	2.86		2.00	1	12/23/2015 03:20	WG837587
Beryllium	ND		2.00	1	12/23/2015 03:20	WG837587
Cadmium	ND		1.00	1	12/23/2015 03:20	WG837587
Lead	ND		2.00	1	12/23/2015 03:20	WG837587
Selenium	ND		2.00	1	12/23/2015 03:20	WG837587
Thallium	ND		2.00	1	12/23/2015 03:20	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	307000		10000	1	12/21/2015 02:44	WG837217

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8880		1000	1	12/23/2015 01:32	WG837450
Fluoride	121		100	1	12/23/2015 01:32	WG837450
Sulfate	21600		5000	1	12/23/2015 01:32	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 18:49	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	254		5.00	1	12/24/2015 13:59	WG837594
Boron	ND		200	1	12/24/2015 13:59	WG837594
Calcium	98000		1000	1	12/24/2015 13:59	WG837594
Chromium	ND		10.0	1	12/24/2015 13:59	WG837594
Cobalt	ND		10.0	1	12/24/2015 13:59	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/28/2015 09:22	WG837587
Arsenic	7.53		2.00	1	12/28/2015 09:22	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:22	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:22	WG837587
Lead	ND		2.00	1	12/28/2015 09:22	WG837587
Selenium	ND		2.00	1	12/28/2015 09:22	WG837587
Thallium	ND		2.00	1	12/28/2015 09:22	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	410000		10000	1	12/21/2015 02:44	WG837217

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18000		1000	1	12/23/2015 01:48	WG837450
Fluoride	231		100	1	12/23/2015 01:48	WG837450
Sulfate	11000		5000	1	12/23/2015 01:48	WG837450

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:51	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	246		5.00	1	12/24/2015 14:02	WG837594
Boron	769		200	1	12/24/2015 14:02	WG837594
Calcium	112000		1000	1	12/24/2015 14:02	WG837594
Chromium	ND		10.0	1	12/24/2015 14:02	WG837594
Cobalt	ND		10.0	1	12/24/2015 14:02	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/28/2015 09:24	WG837587
Arsenic	126		2.00	1	12/28/2015 09:24	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:24	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:24	WG837587
Lead	ND		2.00	1	12/28/2015 09:24	WG837587
Selenium	ND		2.00	1	12/28/2015 09:24	WG837587
Thallium	ND		2.00	1	12/28/2015 09:24	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	342000		10000	1	12/21/2015 02:44	WG837217

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	13700		1000	1	12/22/2015 13:06	WG837387
Fluoride	157		100	1	12/22/2015 13:06	WG837387
Sulfate	45800		5000	1	12/22/2015 13:06	WG837387

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 18:54	WG837780

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	182		5.00	1	12/24/2015 14:05	WG837594
Boron	ND		200	1	12/24/2015 14:05	WG837594
Calcium	99300		1000	1	12/24/2015 14:05	WG837594
Chromium	ND		10.0	1	12/24/2015 14:05	WG837594
Cobalt	ND		10.0	1	12/24/2015 14:05	WG837594

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/28/2015 09:26	WG837587
Arsenic	3.14		2.00	1	12/28/2015 09:26	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:26	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:26	WG837587
Lead	ND		2.00	1	12/28/2015 09:26	WG837587
Selenium	ND		2.00	1	12/28/2015 09:26	WG837587
Thallium	ND		2.00	1	12/28/2015 09:26	WG837587



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	564000		10000	1	12/21/2015 10:34	WG837236

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14900		1000	1	12/22/2015 13:19	WG837387
Fluoride	276		100	1	12/22/2015 13:19	WG837387
Sulfate	175000		25000	5	12/22/2015 17:55	WG837387

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:56	WG837780

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	150		5.00	1	12/24/2015 14:08	WG837594
Boron	3010		200	1	12/24/2015 14:08	WG837594
Calcium	131000		1000	1	12/24/2015 14:08	WG837594
Chromium	ND		10.0	1	12/24/2015 14:08	WG837594
Cobalt	ND		10.0	1	12/24/2015 14:08	WG837594

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/28/2015 09:29	WG837587
Arsenic	4.93		2.00	1	12/28/2015 09:29	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:29	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:29	WG837587
Lead	ND		2.00	1	12/28/2015 09:29	WG837587
Selenium	ND		2.00	1	12/28/2015 09:29	WG837587
Thallium	ND		2.00	1	12/28/2015 09:29	WG837587

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	673000		10000	1	12/21/2015 10:34	WG837236

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	17500		1000	1	12/22/2015 13:32	WG837387
Fluoride	219		100	1	12/22/2015 13:32	WG837387
Sulfate	ND		5000	1	12/22/2015 13:32	WG837387

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 18:59	WG837780

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	531		5.00	1	12/24/2015 14:11	WG837594
Boron	4630		200	1	12/24/2015 14:11	WG837594
Calcium	193000		1000	1	12/24/2015 14:11	WG837594
Chromium	ND		10.0	1	12/24/2015 14:11	WG837594
Cobalt	ND		10.0	1	12/24/2015 14:11	WG837594

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/28/2015 09:31	WG837587
Arsenic	10.8		2.00	1	12/28/2015 09:31	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:31	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:31	WG837587
Lead	8.65		2.00	1	12/28/2015 09:31	WG837587
Selenium	ND		2.00	1	12/28/2015 09:31	WG837587
Thallium	ND		2.00	1	12/28/2015 09:31	WG837587

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	356000		10000	1	12/21/2015 10:34	WG837236

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9510		1000	1	12/22/2015 13:45	WG837387
Fluoride	148		100	1	12/22/2015 13:45	WG837387
Sulfate	60900		5000	1	12/22/2015 13:45	WG837387

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	12/23/2015 19:01	WG837780

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	180		5.00	1	12/24/2015 14:14	WG837594
Boron	ND		200	1	12/24/2015 14:14	WG837594
Calcium	104000		1000	1	12/24/2015 14:14	WG837594
Chromium	ND		10.0	1	12/24/2015 14:14	WG837594
Cobalt	ND		10.0	1	12/24/2015 14:14	WG837594

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/28/2015 09:33	WG837587
Arsenic	ND		2.00	1	12/28/2015 09:33	WG837587
Beryllium	ND		2.00	1	12/28/2015 09:33	WG837587
Cadmium	ND		1.00	1	12/28/2015 09:33	WG837587
Lead	ND		2.00	1	12/28/2015 09:33	WG837587
Selenium	ND		2.00	1	12/28/2015 09:33	WG837587
Thallium	ND		2.00	1	12/28/2015 09:33	WG837587

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	729000		10000	1	12/21/2015 10:34	WG837236

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	28100		1000	1	12/23/2015 01:27	WG837447
Fluoride	398		100	1	12/23/2015 01:27	WG837447
Sulfate	244000		50000	10	12/23/2015 09:22	WG837447

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 15:31	WG837884

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	331		5.00	1	12/27/2015 01:16	WG837597
Boron	5310		200	1	12/27/2015 01:16	WG837597
Calcium	199000		1000	1	12/27/2015 01:16	WG837597
Chromium	15.2		10.0	1	12/27/2015 01:16	WG837597
Cobalt	ND		10.0	1	12/27/2015 01:16	WG837597

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/29/2015 19:50	WG837891
Arsenic	8.58		2.00	1	12/29/2015 19:50	WG837891
Beryllium	ND		2.00	1	12/29/2015 19:50	WG837891
Cadmium	ND		1.00	1	12/29/2015 19:50	WG837891
Lead	17.7		2.00	1	12/29/2015 19:50	WG837891
Selenium	ND		2.00	1	12/29/2015 19:50	WG837891
Thallium	ND		2.00	1	12/29/2015 19:50	WG837891



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	601000		10000	1	12/23/2015 12:01	WG837790

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	73600		1000	1	12/23/2015 01:40	WG837447
Fluoride	182		100	1	12/23/2015 01:40	WG837447
Sulfate	88100		5000	1	12/23/2015 01:40	WG837447

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 15:59	WG837884

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	146		5.00	1	12/27/2015 01:19	WG837597
Boron	438		200	1	12/27/2015 01:19	WG837597
Calcium	159000		1000	1	12/27/2015 01:19	WG837597
Chromium	ND		10.0	1	12/27/2015 01:19	WG837597
Cobalt	ND		10.0	1	12/27/2015 01:19	WG837597

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/29/2015 19:52	WG837891
Arsenic	ND		2.00	1	12/29/2015 19:52	WG837891
Beryllium	ND		2.00	1	12/29/2015 19:52	WG837891
Cadmium	ND		1.00	1	12/29/2015 19:52	WG837891
Lead	ND		2.00	1	12/29/2015 19:52	WG837891
Selenium	ND		2.00	1	12/29/2015 19:52	WG837891
Thallium	ND		2.00	1	12/29/2015 19:52	WG837891



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	385000		10000	1	12/23/2015 12:01	WG837790

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	63500		1000	1	12/23/2015 20:01	WG837784
Fluoride	268		100	1	12/23/2015 20:01	WG837784
Sulfate	33300		5000	1	12/23/2015 20:01	WG837784

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 16:01	WG837884

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	232		5.00	1	12/27/2015 01:22	WG837597
Boron	221		200	1	12/27/2015 01:22	WG837597
Calcium	86600		1000	1	12/27/2015 01:22	WG837597
Chromium	ND		10.0	1	12/27/2015 01:22	WG837597
Cobalt	ND		10.0	1	12/27/2015 01:22	WG837597

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/29/2015 19:55	WG837891
Arsenic	3.04		2.00	1	12/29/2015 19:55	WG837891
Beryllium	ND		2.00	1	12/29/2015 19:55	WG837891
Cadmium	ND		1.00	1	12/29/2015 19:55	WG837891
Lead	2.60		2.00	1	12/29/2015 19:55	WG837891
Selenium	ND		2.00	1	12/29/2015 19:55	WG837891
Thallium	ND		2.00	1	12/29/2015 19:55	WG837891



Method Blank (MB)

(MB) R3101401-1 12/21/15 02:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L807085-01 12/21/15 02:44 • (DUP) R3101401-4 12/21/15 02:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	204	214	1	4.78		5

⁴ Cn

⁵ Sr

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

(LCS) R3101401-2 12/21/15 02:44 • (LCSD) R3101401-3 12/21/15 02:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8160	8340	92.7	94.8	85.0-115			2.18	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3101619-1 12/21/15 12:54

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L807906-03 12/21/15 12:54 • (DUP) R3101619-4 12/21/15 12:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	475	461	1	2.99		5

⁴ Cn

⁵ Sr

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

(LCS) R3101619-2 12/21/15 12:54 • (LCSD) R3101619-3 12/21/15 12:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Dissolved Solids	8800	8850	8610	101	97.8	85.0-115			2.75	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3101400-1 12/21/15 10:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L807906-13 12/21/15 10:34 • (DUP) R3101400-4 12/21/15 10:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	387	406	1	4.79		5

⁴ Cn

⁵ Sr

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

(LCS) R3101400-2 12/21/15 10:34 • (LCSD) R3101400-3 12/21/15 10:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8490	8780	96.5	99.8	85.0-115			3.36	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102426-1 12/23/15 12:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L807906-01 12/23/15 12:01 • (DUP) R3102426-4 12/23/15 12:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	155	148	1	4.62		5

⁴ Cn

⁵ Sr

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

(LCS) R3102426-2 12/23/15 12:01 • (LCSD) R3102426-3 12/23/15 12:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8490	8540	96.5	97.0	85.0-115			0.587	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3101904-1 12/22/15 07:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Original Sample (OS) • Duplicate (DUP)

(OS) L805836-01 12/22/15 11:10 • (DUP) R3101904-4 12/22/15 11:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Fluoride	3.22	3.27	2	2		15
Sulfate	62.7	62.6	2	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) L808002-04 12/22/15 16:24 • (DUP) R3101904-9 12/22/15 16:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	3.19	3.31	1	4		15
Fluoride	0.000200	0.0139	1	194	P1	15
Sulfate	9.69	10.2	1	5		15

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

(LCS) R3101904-2 12/22/15 07:43 • (LCSD) R3101904-3 12/22/15 07:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.5	39.6	99	99	80-120			0	15
Fluoride	8.00	7.87	7.87	98	98	80-120			0	15
Sulfate	40.0	41.5	41.5	104	104	80-120			0	15

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807255-05 12/22/15 12:01 • (MS) R3101904-5 12/22/15 12:14 • (MSD) R3101904-6 12/22/15 12:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%



Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807255-05 12/22/15 12:01 • (MS) R3101904-5 12/22/15 12:14 • (MSD) R3101904-6 12/22/15 12:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	19.0	69.6	62.8	101	88	1	80-120			10	15
Fluoride	5.00	0.268	5.41	5.21	103	99	1	80-120			4	15
Sulfate	50.0	ND	52.3	52.2	105	104	1	80-120			0	15

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807303-03 12/22/15 14:23 • (MS) R3101904-7 12/22/15 14:36 • (MSD) R3101904-8 12/22/15 14:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	4.39	502	502	99	99	10	80-120			0	15
Fluoride	5.00	0.381	49.5	51.2	98	102	10	80-120			3	15
Sulfate	50.0	330	789	786	92	91	10	80-120			0	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3101981-1 12/22/15 18:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

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

(LCS) R3101981-2 12/22/15 19:12 • (LCSD) R3101981-3 12/22/15 19:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.6	39.6	99	99	80-120			0	15
Fluoride	8.00	7.85	7.86	98	98	80-120			0	15
Sulfate	40.0	40.3	40.3	101	101	80-120			0	15

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807799-03 12/23/15 00:35 • (MS) R3101981-4 12/23/15 00:48 • (MSD) R3101981-5 12/23/15 01:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Chloride	50.0	7.23	56.6	56.9	99	99	1	80-120			1	15
Fluoride	5.00	0.0390	4.96	5.19	98	103	1	80-120			4	15
Sulfate	50.0	2.33	54.0	54.2	103	104	1	80-120			0	15

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



Method Blank (MB)

(MB) R3101913-1 12/22/15 19:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Original Sample (OS) • Duplicate (DUP)

(OS) L807863-04 12/22/15 20:24 • (DUP) R3101913-4 12/22/15 20:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	153	153	10	0		15
Fluoride	ND	-0.0608	10	0		15
Sulfate	0.490	-0.00200	10	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) L807863-07 12/23/15 02:49 • (DUP) R3101913-8 12/23/15 03:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	138	138	10	0		15
Fluoride	ND	-0.0843	10	0		15
Sulfate	11.2	11.9	10	6		15

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

(LCS) R3101913-2 12/22/15 19:22 • (LCSD) R3101913-3 12/22/15 19:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.4	39.4	98	98	80-120			0	15
Fluoride	8.00	7.86	7.88	98	98	80-120			0	15
Sulfate	40.0	40.3	40.4	101	101	80-120			0	15



Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/22/15 22:12 • (MS) R3101913-5 12/22/15 22:27 • (MSD) R3101913-6 12/22/15 22:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50.0	2.72	53.4	53.3	101	101	1	80-120			0	15
Fluoride	5.00	0.281	5.40	5.39	102	102	1	80-120			0	15
Sulfate	50.0	23.0	72.7	72.7	99	100	1	80-120			0	15

Original Sample (OS) • Matrix Spike (MS)

(OS) L807863-05 12/23/15 02:03 • (MS) R3101913-7 12/23/15 02:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50.0	102	603	100	10	80-120	
Fluoride	5.00	ND	52.2	104	10	80-120	
Sulfate	50.0	ND	524	105	10	80-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3102588-1 12/23/15 18:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Duplicate (DUP)

(OS) L808026-02 12/23/15 21:18 • (DUP) R3102588-5 12/23/15 21:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3.67	3.72	1	1		15
Fluoride	0.0144	0.0431	1	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) L808026-02 12/24/15 11:00 • (DUP) R3102588-10 12/24/15 11:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	454	449	10	1		15

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

(LCS) R3102588-2 12/23/15 19:09 • (LCSD) R3102588-3 12/23/15 19:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40.0	39.8	39.9	99	100	80-120			0	15
Fluoride	8.00	7.88	7.92	99	99	80-120			1	15
Sulfate	40.0	40.5	40.6	101	101	80-120			0	15

Original Sample (OS) • Matrix Spike (MS)

(OS) L808003-01 12/23/15 20:27 • (MS) R3102588-4 12/23/15 20:40

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50.0	21.7	71.3	99	1	80-120	
Fluoride	5.00	0.0310	4.99	99	1	80-120	



Original Sample (OS) • Matrix Spike (MS)

(OS) L808003-01 12/23/15 20:27 • (MS) R3102588-4 12/23/15 20:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	61.8	100	77	1	80-120	<u>J6</u>

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L808026-01 12/23/15 23:02 • (MS) R3102588-6 12/23/15 23:15 • (MSD) R3102588-7 12/23/15 23:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	4.34	54.1	54.4	100	100	1	80-120			0	15
Fluoride	5.00	0.0199	5.06	5.15	101	103	1	80-120			2	15

⁴ Cn

⁵ Sr

⁶ Qc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L808026-01 12/24/15 10:21 • (MS) R3102588-8 12/24/15 10:34 • (MSD) R3102588-9 12/24/15 10:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	305	727	723	84	83	10	80-120			1	15

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102244-1 12/23/15 17:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

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

(LCS) R3102244-2 12/23/15 17:54 • (LCSD) R3102244-3 12/23/15 17:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00266	0.00295	89	98	80-120			10	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/23/15 17:59 • (MS) R3102244-4 12/23/15 18:02 • (MSD) R3102244-5 12/23/15 18:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00268	0.00235	89	78	1	75-125			13	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3102242-1 12/23/15 15:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

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

(LCS) R3102242-2 12/23/15 15:26 • (LCSD) R3102242-3 12/23/15 15:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00270	0.00251	90	84	80-120			7	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-21 12/23/15 15:31 • (MS) R3102242-4 12/23/15 15:34 • (MSD) R3102242-5 12/23/15 15:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00267	0.00271	89	90	1	75-125			2	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3102577-4 12/24/15 10:27

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Barium	U		0.0017	0.00500
Boron	U		0.0126	0.200
Chromium	U		0.0014	0.0100
Cobalt	U		0.0023	0.0100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3102831-1 12/28/15 10:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Calcium	U		0.0463	1.00

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

(LCS) R3102577-6 12/24/15 10:43 • (LCSD) R3102577-7 12/24/15 10:46

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Barium	1.00	1.08	1.08	108	108	80-120			0	20
Boron	1.00	1.12	1.09	112	109	80-120			2	20
Chromium	1.00	1.12	1.11	112	111	80-120			1	20
Cobalt	1.00	1.11	1.12	111	112	80-120			1	20

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

(LCS) R3102831-2 12/28/15 10:39 • (LCSD) R3102831-3 12/28/15 10:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Calcium	10.0	10.1	10.1	101	101	80-120			0	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/24/15 10:49 • (MS) R3102577-9 12/24/15 10:55 • (MSD) R3102577-10 12/24/15 10:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Barium	1.00	0.371	1.45	1.47	108	109	1	75-125			1	20



Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/24/15 10:49 • (MS) R3102577-9 12/24/15 10:55 • (MSD) R3102577-10 12/24/15 10:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.0756	1.21	1.20	113	112	1	75-125			1	20
Chromium	1.00	0.0121	1.13	1.15	112	114	1	75-125			2	20
Cobalt	1.00	0.00329	1.14	1.15	114	115	1	75-125			1	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/26/15 12:44 • (MS) R3102640-2 12/26/15 12:50 • (MSD) R3102640-3 12/26/15 12:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	98.1	110	115	120	169	1	75-125		V	4	20

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



Method Blank (MB)

(MB) R3102660-7 12/27/15 00:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.0017	0.00500
Boron	U		0.0126	0.200
Calcium	0.133		0.0463	1.00
Chromium	U		0.0014	0.0100
Cobalt	U		0.0023	0.0100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3102660-8 12/27/15 00:58 • (LCSD) R3102660-9 12/27/15 01:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Barium	1.00	1.00	1.03	100	103	80-120			3	20
Boron	1.00	1.01	1.03	101	103	80-120			2	20
Calcium	10.0	9.86	9.89	99	99	80-120			0	20
Chromium	1.00	1.04	1.06	104	106	80-120			2	20
Cobalt	1.00	1.01	1.04	101	104	80-120			3	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L808122-04 12/27/15 01:04 • (MS) R3102660-11 12/27/15 01:10 • (MSD) R3102660-12 12/27/15 01:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.0170	1.02	1.03	100	101	1	75-125			1	20
Boron	1.00	4.78	5.79	5.81	101	103	1	75-125			0	20
Calcium	10.0	476	485	484	95	83	1	75-125			0	20
Chromium	1.00	ND	1.04	1.05	104	105	1	75-125			0	20
Cobalt	1.00	0.00282	1.10	1.11	110	111	1	75-125			0	20



Method Blank (MB)

(MB) R3101870-1 12/23/15 02:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000326		0.00021	0.00200
Arsenic	U		0.00025	0.00200
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3101870-2 12/23/15 02:34 • (LCSD) R3101870-3 12/23/15 02:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0529	0.0524	106	105	80-120			1	20
Arsenic	0.0500	0.0474	0.0497	95	99	80-120			5	20
Beryllium	0.0500	0.0474	0.0478	95	96	80-120			1	20
Cadmium	0.0500	0.0480	0.0496	96	99	80-120			3	20
Lead	0.0500	0.0470	0.0486	94	97	80-120			4	20
Selenium	0.0500	0.0460	0.0480	92	96	80-120			4	20
Thallium	0.0500	0.0476	0.0480	95	96	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L807906-06 12/23/15 02:39 • (MS) R3101870-5 12/23/15 02:44 • (MSD) R3101870-6 12/23/15 02:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.000376	0.0530	0.0526	105	104	1	75-125			1	20
Arsenic	0.0500	0.00107	0.0503	0.0483	99	94	1	75-125			4	20
Beryllium	0.0500	0.0000663	0.0481	0.0475	96	95	1	75-125			1	20
Cadmium	0.0500	0.0000319	0.0502	0.0483	100	97	1	75-125			4	20
Lead	0.0500	0.000325	0.0484	0.0462	96	92	1	75-125			5	20
Selenium	0.0500	0.00436	0.0525	0.0494	96	90	1	75-125			6	20
Thallium	0.0500	0.0000560	0.0478	0.0470	95	94	1	75-125			2	20



Method Blank (MB)

(MB) R3102962-1 12/28/15 15:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000238		0.00021	0.00200
Arsenic	U		0.00025	0.00200
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3102962-2 12/28/15 15:49 • (LCSD) R3102962-3 12/28/15 15:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0471	0.0480	94	96	80-120			2	20
Arsenic	0.0500	0.0512	0.0522	102	104	80-120			2	20
Beryllium	0.0500	0.0485	0.0513	97	103	80-120			6	20
Cadmium	0.0500	0.0489	0.0490	98	98	80-120			0	20
Lead	0.0500	0.0507	0.0536	101	107	80-120			6	20
Selenium	0.0500	0.0518	0.0520	104	104	80-120			0	20
Thallium	0.0500	0.0493	0.0528	99	106	80-120			7	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L808486-01 12/28/15 15:59 • (MS) R3102962-5 12/28/15 16:08 • (MSD) R3102962-6 12/28/15 16:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.000242	0.0470	0.0471	93	94	1	75-125			0	20
Arsenic	0.0500	0.000204	0.0514	0.0513	102	102	1	75-125			0	20
Beryllium	0.0500	0.000258	0.0476	0.0466	95	93	1	75-125			2	20
Cadmium	0.0500	0.000108	0.0486	0.0482	97	96	1	75-125			1	20
Lead	0.0500	0.000557	0.0501	0.0501	99	99	1	75-125			0	20
Selenium	0.0500	0.000559	0.0535	0.0518	106	103	1	75-125			3	20
Thallium	0.0500	0.000425	0.0486	0.0480	96	95	1	75-125			1	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

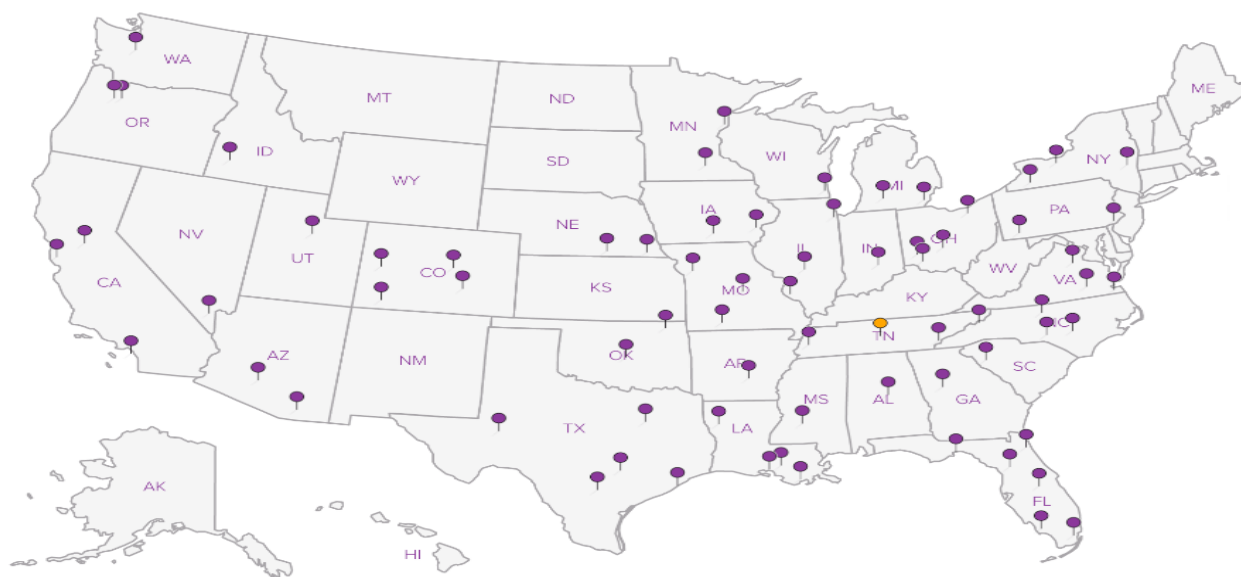
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SCS Aquaterra

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Mr. Jason R. Franks

Email To: jfranks@scsengineers.com

Project
Description: **Sibley Generating Station**

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

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks
Immediately
Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
STO

Email? No Yes
FAX? No Yes

No. of
Cntrs

Analysis / Container / Preservative

Analysis / Container / Preservative	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Anions 125mlHDPE-NoPres	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
COD 250mlHDPE-H2SO4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Metals 500mlHDPE-HNO3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TDS 250mlHDPE-NoPres	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TOC 250mlAmb-Septa-HCl	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TOX 1L-Amb-Add H2SO4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Chain of Custody Page 1 of 2



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



L# **L807906**
C004

Acctnum: **AQUAOPKS**
Template: **T59883**
Prelogin: **P529029**
TSR: **206 - Jeff Carr**
PB:

Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions 125mlHDPE-NoPres	COD 250mlHDPE-H2SO4	Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCl	TOX 1L-Amb-Add H2SO4	Rem./Contaminant	Sample # (lab only)
504	GRAB	GW	-	12/10/15	1000	6	X	X	X	X	X	X		- 01
505		GW	-	12/10/15	1100	6	X	X	X	X	X	X		02
506		GW	-	12/15/15	1410	6	X	X	X	X	X	X		03
507		GW	-	12/15/15	1535	6	X	X	X	X	X	X		04
508		GW	-	NO SAMPLE		6	X	X	X	X	X	X		
510		GW	-	12/15/15	1645	6	X	X	X	X	X	X		05
511		GW	-	NO SAMPLE		6	X	X	X	X	X	X		
512		GW	-	12/15/15	1635	6	X	X	X	X	X	X		06
513		GW	-	12/15/15	1600	6	X	X	X	X	X	X		07
514		GW	-	12/15/15	1410	6	X	X	X	X	X	X		08

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 12/17/15	Time: 1400	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 12/17/15	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: 7.2 °C Bottles Received: 138	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 12/18/15 Time: 900	pH Checked: L2 NCF: Y/S

SCS Aquaterra

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Mr. Jason R. Franks

Email To: jfranks@scsengineers.com

Project Description: **Sibley Generating Station**

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

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks
Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
STO

Email? No Yes

FAX? No Yes

No. of Cntrs

Analysis / Container / Preservative

Chain of Custody Page **2** of **2**



YOUR LAB OF CHOICE

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



L# **1807906**

Table #

Acctnum: **AQUAOPKS**

Template: **T59883**

Prelogin: **P529029**

TSR: **206 - Jeff Carr**

PB:

Shipped Via: **FedEX Ground**

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions 125mlHDPE-NoPres	COD 250mlHDPE-H2SO4	Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCl	TOX 1L-Amb-Add H2SO4							
515	GRAB	GW	-	12/15/15	1315	6	X	X	X	X	X	X							09
516		GW	-	12/15/15	1225	6	X	X	X	X	X	X							10
PZ-03		GW	-	12/15/15	1445	6	X	X	X	X	X	X							11
DUPLICATE		GW	-	12/15/15		6	X	X	X	X	X	X							12
512 MS		GW	-	12/15/15	1645	6	X	X	X	X	X	X							06
512 MSD		GW	-	12/15/15	1645	6	X	X	X	X	X	X							06

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature) *Jason R. Franks*

Date: **12/17/15**

Time: **1400**

Received by: (Signature) *[Signature]*

Samples returned via: UPS

FedEx Courier _____

Condition: (lab use only) *[Signature]*

Relinquished by: (Signature) *[Signature]*

Date: **12/17/15**

Time: **1700**

Received by: (Signature) *[Signature]*

Temp: **3.2** °C Bottles Received: **138**

COC Seal Intact: Y N NA

Relinquished by: (Signature) *[Signature]*

Date: **12/18/15**

Time: **9:00**

Received for lab by: (Signature) *[Signature]*

Date: **12/18/15** Time: **9:00**

pH Checked: **L2**

NCF: **YES**

Company Name/Address:

SCS AQUATERRA
7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 1 of 5



YOUR LAB OF CHOICE

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
SIBLEY, MO

Phone: **913-681-0030**

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Fax: **913-681-0012**

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)

Date Results Needed
STD

Same Day200%
Next Day100%
Two Day50%
Three Day25%

Email? No Yes
FAX? No Yes

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	ntrs	Analysis / Container / Preservative						Rem./Contaminant	Sample # (lab only)
							Anions 125ml HDPE-NoPres	COD 250mlHDPE-H2S04	Metals 500mlHDPE-HN03	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCL	TOX 1L-Amb-Add H2S04		
601	GRAB	GW	-	12/15/15	1215	6	X	X	X	X	X	X		13
602		GW	-	NO SAMPLE		6	X	X	X	X	X	X		
701		GW	-	12/14/15	1655	6	X	X	X	X	X	X		N
702		GW	-	12/14/15	1550	6	X	X	X	X	X	X		15
703		GW	-	12/14/15	1590	6	X	X	X	X	X	X		16
704		GW	-	12/14/15	1640	6	X	X	X	X	X	X		17
801		GW	-	12/16/15	1155	6	X	X	X	X	X	X		18
802		GW	-	12/16/15	1245	6	X	X	X	X	X	X		18
803		GW	-	12/15/15	1050	6	X	X	X	X	X	X		18
804		GW	-	12/15/15	1140	6	X	X	X	X	X	X		19

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date: 12/17/15 Time: 1100

Received by: (Signature)

Samples returned via: UPS FedEx Courier _____

Condition: (lab use only)

Relinquished by: (Signature)

Date: 12/17/15 Time: 1700

Received by: (Signature)

Temp: °C 3.2 Bottles Received: 138

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date: _____ Time: _____

Received for lab by: (Signature)

Date: 12/18/15 Time: 900

pH Checked: 2.2

NCF: YES

Company Name/Address:

SCS AQUATERRA

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 2 of 95



YOUR LAB OF CHOICE

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)

Date Results Needed

Same Day200%
Next Day100%
Two Day50%
Three Day25%

STD

Email? No Yes

FAX? No Yes

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date		No. of Cntrs	Analysis / Container / Preservative							
				Date	Time		Anions 125ml HDPE-NoPres	COD 250ml HDPE-H2S04	Metals 500ml HDPE-HN03	TDS 250ml HDPE-NoPres	TOC 250ml Amb-Septia-HCL	TOX 1L-Amb-Add H2S04		
805	GRAB	GW	-	12/15/15	1225	6	X	X	X	X	X	X		
806	↓	GW	-	12/16/15	1335	6	X	X	X	X	X	X		

L # **1807906**

Table #

Acctnum: **AQUAOPKS**

Template: **T59883**

Prelogin: **P529029**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

21
22

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:
Jason R. Franks

Relinquished by: (Signature)
Jason R. Franks

Date: **12/17/15** Time: **1400**

Received by: (Signature)
[Signature]

Relinquished by: (Signature)
[Signature]

Date: **12/17/15** Time: **1700**

Received by: (Signature)
[Signature]

Relinquished by: (Signature)
[Signature]

Date: Time:

Received for lab by: (Signature)
[Signature]

pH _____ Temp _____

Flow _____ Other _____

Hold #

Samples returned via: UPS

FedEx Courier _____

Condition: (lab use only)

Temp: **3.2** °C Bottles Received: **138**

W
DL

Date: **12/16/15** Time: **900**

COC Seal Intact: Y N NA

pH Checked: **LL** NCF: **YES**

SCS Aquaterra

Sample Delivery Group: L807986
Samples Received: 12/18/2015
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

- ¹ Cp
- ² Tc
- ³ Cn
- ⁴ Gl
- ⁵ Al
- ⁶ Sc

Jeff Carr
Technical Service Representative

Project Narrative

L807986 -01, -02, -03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17 contains subout data that is included after the chain of custody.



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

¹ Cp

² Tc

³ Cn

⁴ Gl

⁵ Al

⁶ Sc

Qualifier	Description
-----------	-------------

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



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

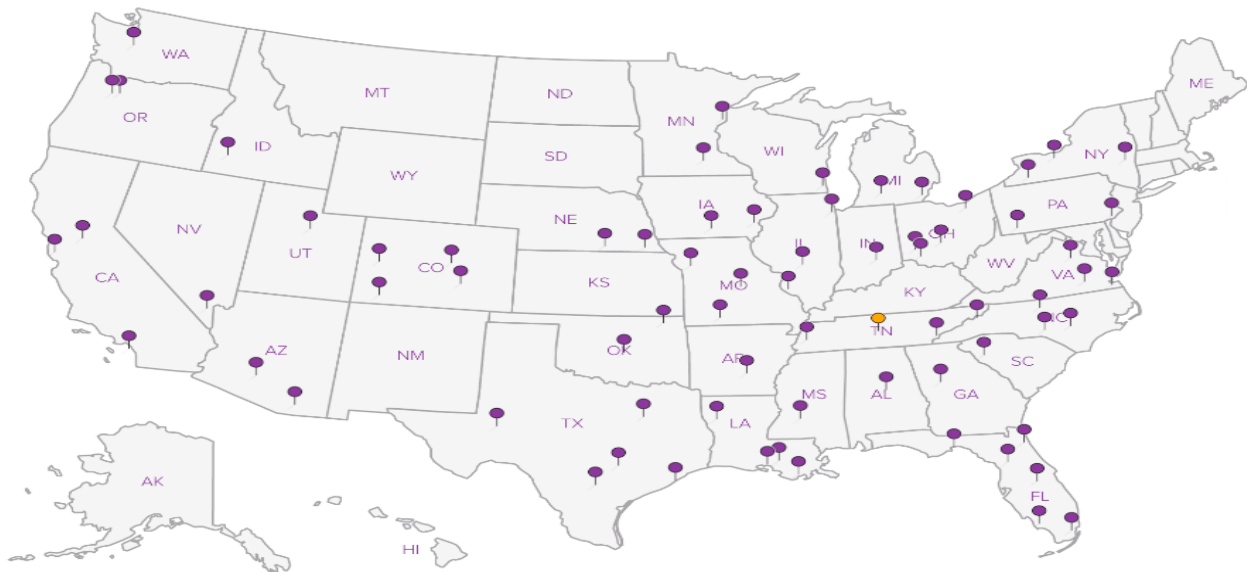
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



1 Cp

2 Tc

3 Cn

4 Gl

5 Al

6 Sc

Company Name/Address:
SCS AQUATERRA
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

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

City/State Collected:
Sibley, MO

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Jason R. Franks

Collected by (signature):
Jason R. Franks

Immediately Packed on Ice N Y

Client Project #
27213169.15

Site/Facility ID #

P.O. #

Rush? (Lab MUST Be Notified)

Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
STD

Email? No Yes
 FAX? No Yes

Analysis / Container / Preservative

Lithium, Molybdenom 500mlHDPE-HN03 ← 2

RA-226, RA-228 1LHDPE-HN03 ← 2

Chain of Custody Page **5** of **5**



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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



L# **L807986**

B069

Acctnum: **AQUAOPKS**
 Template: **T59883**
 Prelogin: **P529029**
 TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs													
504	GRAB	GW	-	12/10/15	1000	3	X	X											-01
505				12/10/15	1100	3	X	X											02
506				12/15/15	1410	3	X	X											03
510				12/15/15	1645	3	X	X											04
512				12/15/15	1635	3	X	X											05
Duplicate				12/15/15		3	X	X											0Y
512' MS				12/15/15	1645	3	X	X											0Y
512 MSO				12/15/15	1645	3	X	X											0Y

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks:

Relinquished by (Signature):
Jason R. Franks

Relinquished by (Signature):
[Signature]

Relinquished by (Signature):
[Signature]

Date: **12/17/15** Time: **1400**

Date: **12/17/15** Time: **1700**

Date: _____ Time: _____

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Received for lab by: (Signature) *[Signature]*

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS
 FedEx Courier _____

Temp: **3.2** °C Bottles Received: **32=ER**

Date: **12/18/15** Time: **900**

Hold #

Condition: (lab use only)
02

COC Seal Intact: Y N NA

pH Checked: NCF:

Company Name/Address:
SCS AQUATERRA
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sisley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
STD

Email? No Yes
 FAX? No Yes

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative		Rem./Contaminant	Sample # (lab only)
601	GRAB	GW	-	12/15/15	1215	3	X	X		06
602		GW	-	NO SAMPLE		3	X	X		07
701		GW	-	12/14/15	1655	3	X	X		08
702		GW	-	12/14/15	1550	3	X	X		09
703		GW	-	12/14/15	1540	3	X	X		10
704		GW	-	12/14/15	1640	3	X	X		.
801		GW	-	12/16/15	1155	3	X	X		
802		GW	-	12/16/15	1245	3	X	X		11
803		GW	-	12/15/15	1050	3	X	X		12
804		GW	-	12/15/15	1140	3	X	X		

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Flow _____ Other _____

Remarks:

Relinquished by: (Signature)
Jason R. Franks
 Relinquished by: (Signature)
[Signature]
 Relinquished by: (Signature)
[Signature]

Date: 12/17/15 Time: 1400
 Date: 12/17/15 Time: 1700

Received by: (Signature)
[Signature]
 Received by: (Signature)
[Signature]
 Received for lab by: (Signature)
[Signature]

Samples returned via: UPS
 FedEx Courier _____
 Temp: 3.2 °C Bottles Received: 32
 Date: 12/18/15 Time: 900

Hold # _____
 Condition: (lab use only)
 COC Seal Intact: Y N NA
 pH Checked: _____ NCF: _____

Lithium, Molybdenom 500ml HDPE-HNO3

RA-226, RA-228 1LHDPE-HNO3 - 2

Chain of Custody Page 3 of 5

YOUR LAB OF CHOICE

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

L # **1307986**
 Table # _____
 Acctnum: **AQUAOPKS**
 Template: **T59883**
 Prelogin: **P529029**
 TSR: **206-jeff Carr**
 Cooler: _____
 Shipped Via: _____

Company Name/Address:
SCS AQUATERRA
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
 Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

Phone: **913-681-0030** Client Project # **27213169.15** Lab Project # **AQUAOPKS-SIBLEY**
 Fax: **913-681-0012**

Collected by (print):
Jason R. Franks

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

Collected by (signature):
Jason R. Franks

Immediately Packed on Ice **N** Y

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
STD

Email? ___ No Yes
 FAX? ___ No ___ Yes

Analysis / Container / Preservative

Lithium, Molybdenom 500mlHDPE-HN03

RA-226, RA-228 1LHDPE-HN03



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



L# **L907986**

Table # _____
 Acctnum: **AQUAOPKS**
 Template: **T59883**
 Prelogin: **P529029**
 TSR: **206-jeff Carr**
 Cooler: _____

Shipped Via: _____

Sample ID	Comp/Grab	Matrix *	Depth	Date		Time	No. of Cntrs	Analysis / Container / Preservative										Rem./Contaminant	Sample # (lab only)		
805	GRAB	GW	-	12/15/15	12/15/15	1225	3	X	X												
806	GRAB	GW	-	12/16/15	12/16/15	1335	3	X	X												13 14

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____
 Flow _____ Other _____

Remarks:
 Relinquished by: (Signature) **Jason R. Franks**
 Relinquished by: (Signature) **Jason R. Franks**
 Relinquished by: (Signature) **Jason R. Franks**

Date: **12/17/15** Time: **1400**
 Date: **12/17/15** Time: **1700**
 Date: _____ Time: _____

Received by: (Signature) **[Signature]**
 Received by: (Signature) **[Signature]**
 Received for lab by: (Signature) **[Signature]**

Samples returned via: UPS
 FedEx Courier _____
 Temp: _____ °C Bottles Received: _____
3.2 **32**
 Date: **12/18/15** Time: **900**

Hold # _____
 Condition: (lab use only) **OK**
 COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: _____ NCF: _____

SCS Aquaterra

Sample Delivery Group: L807978
Samples Received: 12/18/2015
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213










Entire Report Reviewed By:



John Hawkins
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



504 L807978-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:13	ST

Collected by Jason R Franks
 Collected date/time 12/16/15 10:00
 Received date/time 12/18/15 09:00



506 L807978-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:22	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 14:10
 Received date/time 12/18/15 09:00



510 L807978-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:25	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 16:45
 Received date/time 12/18/15 09:00



512 L807978-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:01	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 16:35
 Received date/time 12/18/15 09:00



DUPLICATE L807978-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:28	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 00:00
 Received date/time 12/18/15 09:00

601 L807978-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:31	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 12:15
 Received date/time 12/18/15 09:00

701 L807978-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:34	ST

Collected by Jason R Franks
 Collected date/time 12/14/15 16:55
 Received date/time 12/18/15 09:00

702 L807978-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:37	ST

Collected by Jason R Franks
 Collected date/time 12/14/15 15:50
 Received date/time 12/18/15 09:00

SAMPLE SUMMARY



703 L807978-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:40	ST

Collected by Jason R Franks
 Collected date/time 12/14/15 15:40
 Received date/time 12/18/15 09:00



704 L807978-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:44	ST

Collected by Jason R Franks
 Collected date/time 12/14/15 16:40
 Received date/time 12/18/15 09:00



803 L807978-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:47	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 10:50
 Received date/time 12/18/15 09:00



804 L807978-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:50	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 11:40
 Received date/time 12/18/15 09:00



805 L807978-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 18:59	ST

Collected by Jason R Franks
 Collected date/time 12/15/15 12:25
 Received date/time 12/18/15 09:00

806 L807978-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 19:02	ST

Collected by Jason R Franks
 Collected date/time 12/16/15 13:35
 Received date/time 12/18/15 09:00

505 L807978-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 19:05	ST

Collected by Jason R Franks
 Collected date/time 12/16/15 11:00
 Received date/time 12/18/15 09:00

801 L807978-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 19:08	ST

Collected by Jason R Franks
 Collected date/time 12/16/15 11:55
 Received date/time 12/18/15 09:00

SAMPLE SUMMARY



802 L807978-17 GW

Collected by
Jason R Franks

Collected date/time
12/16/15 12:45

Received date/time
12/18/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837607	1	12/23/15 16:33	12/23/15 19:11	ST

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

John Hawkins
Technical Service Representative

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



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:13	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:13	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:22	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:22	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:25	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:25	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:01	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:01	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Lithium	ND		15.0	1	12/23/2015 18:28	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:28	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:31	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:31	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:34	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:34	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:37	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:37	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:40	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:40	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:44	WG837607
Molybdenum	9.14		5.00	1	12/23/2015 18:44	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:47	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:47	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Lithium	21.8		15.0	1	12/23/2015 18:50	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:50	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 18:59	WG837607
Molybdenum	ND		5.00	1	12/23/2015 18:59	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	20.4		15.0	1	12/23/2015 19:02	WG837607
Molybdenum	982		5.00	1	12/23/2015 19:02	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 19:05	WG837607
Molybdenum	ND		5.00	1	12/23/2015 19:05	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 19:08	WG837607
Molybdenum	ND		5.00	1	12/23/2015 19:08	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lithium	ND		15.0	1	12/23/2015 19:11	WG837607
Molybdenum	ND		5.00	1	12/23/2015 19:11	WG837607

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) 12/23/15 17:52

Analyte	MB Result	MB Qualifier	MB RDL
	mg/l		mg/l
Lithium	ND		0.0150
Molybdenum	ND		0.00500

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) 12/23/15 17:55 • (LCSD) 12/23/15 17:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Lithium	1.00	1.07	1.06	107	106	80-120			1	20
Molybdenum	1.00	1.02	1.01	102	101	80-120			1	20

L807978-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/23/15 18:01 • (MS) 12/23/15 18:07 • (MSD) 12/23/15 18:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Lithium	1.00	0.00387	1.06	1.05	105	105	1	75-125			0	20
Molybdenum	1.00	0.00111	0.987	0.986	99	99	1	75-125			0	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

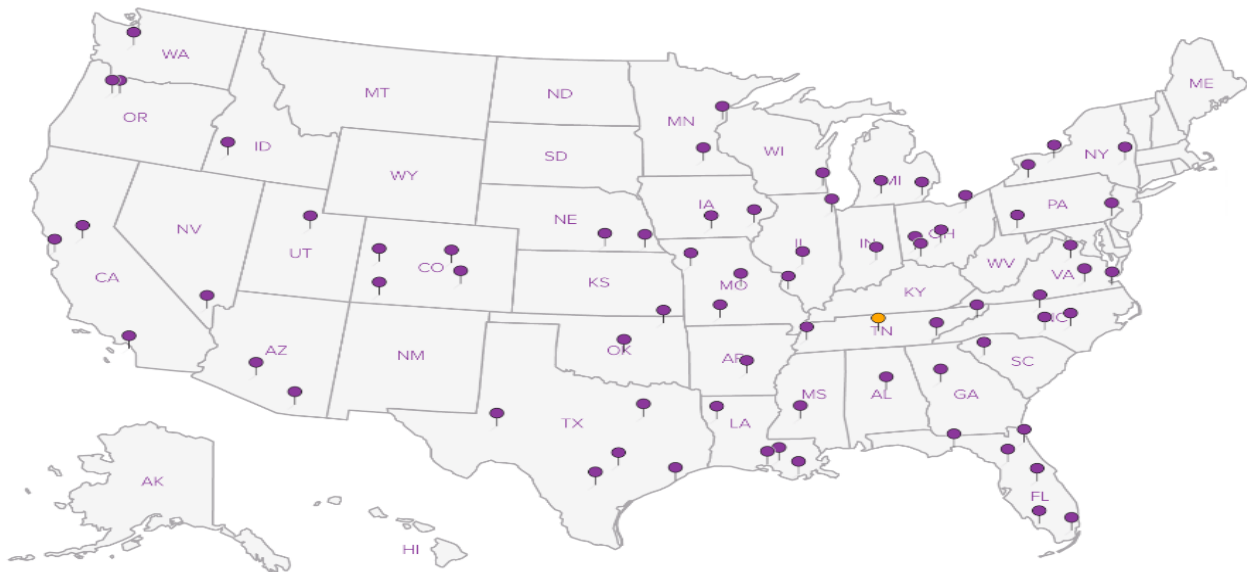
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:

SCS AQUATERRA

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:

Jason Franks

Email To:

jfranks@scsengineers.com

Project

Sibley Generating Station

Description:

City/State

Collected: *Sibley, MO*

Phone: 913-681-0030

Client Project #

27213169.15

Fax: 913-681-0012

Lab Project #

AQUAOPKS-SIBLEY

Collected by (print):

Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):

Jason R. Franks

Rush? (Lab MUST Be Notified)

Same Day200%
Next Day100%
Two Day50%
Three Day25%

Date Results Needed

STD

Email? No Yes

FAX? No Yes

No. of Cntrs

Immediately

Packed on Ice N Y

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

Lithium, Molybdenom 500mlHDPE-HN03

RA-226, RA-228 1LHDPE-HN03

Analysis / Container / Preservative

Chain of Custody Page 5 of 5



YOUR LAB OF CHOICE

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



L#

1807978

B068

Acctnum: AQUAOPKS

Template: T59883

Prelogin: P529029

TSR: 206-jeff Carr

Cooler:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

-01

FEA

02 03

03 04

04 05

05 06

06 07

07 08

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature)

Jason R. Franks

Date:

12/17/15

Time:

1400

Received by: (Signature)

[Signature]

Relinquished by: (Signature)

[Signature]

Date:

12/17/15

Time:

1700

Received by: (Signature)

[Signature]

Relinquished by: (Signature)

[Signature]

Date:

12/18/15

Time:

900

Received for lab by: (Signature)

[Signature]

pH

Temp

Flow

Other

Hold #

Samples returned via: UPS

FedEx Courier

Condition: (lab use only)

HV
OR

Temp: °C Bottles Received:

3.2 *16=DR*

COC Seal Intact: Y N NA

Date:

12/18/15

Time:

900

pH Checked:

NCF:

YES

Company Name/Address:
SCS AQUATERRA
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 3 of 5



YOUR LAB OF CHOICE

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected: **Sibley, MO**
 Lab Project #
AQUAOPKS-SIBLEY

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

Client Project #
27213169.15

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed
STD

Email? ___ No Yes
 FAX? ___ No ___ Yes

No. of Cntrs

Lithium, Molybdenom 500ml HDPE-HN03
 RA-226, RA-228 1LHDPE-HN03

L# **L807978**

Table #

Acctnum: **AQUAOPKS**

Template: **T59883**

Prelogin: **P529029**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs												
601	GRAB	GW	-	12/15/15	1215	3	X	X										
602		GW	-	NO SAMPLE		3	X	X										06
701		GW	-	12/14/15	1655	3	X	X										07
702		GW	-	12/14/15	1550	3	X	X										08
703		GW	-	12/14/15	1540	3	X	X										09
704		GW	-	12/14/15	1640	3	X	X										10
801		GW	-	12/16/15	1155	3	X	X										11
802		GW	-	12/16/15	1245	3	X	X										12
803		GW	-	12/15/15	1050	3	X	X										
804		GW	-	12/15/15	1140	3	X	X										

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) *Jason R. Franks* Date: **12/17/15** Time: **1400**
 Relinquished by: (Signature) *[Signature]* Date: **12/17/15** Time: **1700**
 Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____

Received by: (Signature) *[Signature]*
 Received by: (Signature) *[Signature]*
 Received for lab by: (Signature) *[Signature]*

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS
 FedEx Courier _____
 Temp: **3.2** °C Bottles Received: **16**
 Date: **12/18/15** Time: **9:00**

Hold # _____
 Condition: *[Signature]* (lab use only)
 COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: _____ NCF: **YES**

Company Name/Address:

SCS AQUATERRA
7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 4 of 5



YOUR LAB OF CHOICE

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description: **Sibley Generating Station**

City/State Collected: *Sibley, MO*

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)

Date Results Needed

Same Day200%
Next Day100%
Two Day50%
Three Day25%

Email? No Yes
FAX? No Yes

No. of
Cntrs

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative															
805	<i>Grabs</i>	GW	-	12/15/15	1225	3	X	X														
806	<i>↓</i>	GW	-	12/16/15	1335	3	X	X														

Lithium, Molybdenom 500mlHDPE-HN03

RA-226, RA-228 1LHDPE-HN03

L # _____
Table # _____
Acctnum: **AQUAOPKS**
Template: **T59883**
Prelogin: **P529029**
TSR: **206-jeff Carr**
Cooler: _____
Shipped Via: _____
Rem./Contaminant: _____ Sample # (lab only): _____

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____
Flow _____ Other _____

Remarks:
Relinquished by: (Signature) *Jason R. Franks*
Relinquished by: (Signature) *[Signature]*
Relinquished by: (Signature) *[Signature]*

Date: 12/17/15 Time: 1400
Date: 12/17/15 Time: 1700

Received by: (Signature) *[Signature]*
Received by: (Signature) *[Signature]*
Received for lab by: (Signature) *[Signature]*

Samples returned via: UPS
 FedEx Courier _____
Temp: 3.2 °C Bottles Received: 16
Date: 12/18/15 Time: 9:00

Hold # _____
Condition: (lab use only) 1
COC Seal Intact: Y N NA
pH Checked: _____ NCF: *YES*



Case Narrative

Lab No: 20151328

This report contains the analytical results for the 19 sample(s) received under chain of custody by Outreach Laboratory on 12/23/15 15:47:39. These samples are associated with your WG837380 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of Outreach Laboratory.

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.

Results have been reviewed by the Laboratory Manager and QA Manager or their designees and is approved for release.

Observations / Nonconformances



Client : ESC Lab Sciences
 Client Project : WG837380
 Lab Number : 20151328
 Date Reported : 02/03/16
 Date Received : 12/23/15
 Page Number : 2 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20151328-01
Client ID : 504
Date Sampled : 12/16/15 10:00:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.204 +/- 0.514	0.800	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.036 +/- 0.401	0.429	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-02
Client ID : 506
Date Sampled : 12/15/15 14:10:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.231 +/- 0.867	1.33	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.686 +/- 0.389	0.427	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-03
Client ID : 510
Date Sampled : 12/15/15 16:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.107 +/- 0.130	0.193	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.471 +/- 0.511	0.528	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-04
Client ID : 512
Date Sampled : 12/15/15 16:35:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.324 +/- 0.162	0.166	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	1.91 +/- 0.805	0.811	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-05
Client ID : 512 MS
Date Sampled : 12/15/15 16:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	12.4 +/- 0.656	0.137	pCi/l		01/20/16	01/21/16	RE
------------	-----------------	----------------	-------	-------	--	----------	----------	----

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : ESC Lab Sciences
 Client Project : WG837380
 Lab Number : 20151328
 Date Reported : 02/03/16
 Date Received : 12/23/15
 Page Number : 3 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	7.62 +/- 0.609	0.753	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-06
Client ID : 512 MSD
Date Sampled : 12/15/15 16:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	12.1 +/- 0.673	0.111	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	8.40 +/- 0.616	0.537	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-07
Client ID : Duplicate
Date Sampled : 12/15/15
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.382 +/- 0.121	0.084	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	1.78 +/- 0.506	0.559	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-08
Client ID : 601
Date Sampled : 12/15/15 12:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.236 +/- 0.095	0.076	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.638 +/- 0.501	0.547	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-09
Client ID : 701
Date Sampled : 12/14/15 16:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.136 +/- 0.072	0.066	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.169 +/- 0.415	0.470	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-10
Client ID : 702
Date Sampled : 12/14/15 15:50:00
Matrix : NPW

*NELAC Certified Parameter BDL = Below Detection Limit



Client : ESC Lab Sciences
 Client Project : WG837380
 Lab Number : 20151328
 Date Reported : 02/03/16
 Date Received : 12/23/15
 Page Number : 4 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.100 +/- 0.098	0.138	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.263 +/- 0.507	0.567	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-11
Client ID : 703
Date Sampled : 12/14/15 15:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.261 +/- 0.126	0.119	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.605 +/- 0.437	0.496	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-12
Client ID : 704
Date Sampled : 12/14/15 16:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.301 +/- 0.110	0.060	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	1.10 +/- 0.379	0.499	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-13
Client ID : 803
Date Sampled : 12/15/15 10:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.313 +/- 0.105	0.072	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.797 +/- 0.502	0.871	pCi/l		01/20/16	01/26/16	AE

Lab ID : 20151328-14
Client ID : 804
Date Sampled : 12/15/15 11:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.667 +/- 0.169	0.114	pCi/l		01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.590 +/- 0.491	0.686	pCi/l		01/20/16	01/26/16	AE



Client : ESC Lab Sciences
 Client Project : WG837380
 Lab Number : 20151328
 Date Reported : 02/03/16
 Date Received : 12/23/15
 Page Number : 5 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20151328-15
Client ID : 805
Date Sampled : 12/15/15 12:25:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.793 +/- 0.177	0.085	pCi/l	01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	1.05 +/- 0.520	0.683	pCi/l	01/20/16	01/26/16	AE

Lab ID : 20151328-16
Client ID : 806
Date Sampled : 12/16/15 13:35:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.499 +/- 0.168	0.167	pCi/l	01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.349 +/- 0.425	0.609	pCi/l	01/20/16	01/26/16	AE

Lab ID : 20151328-17
Client ID : 505
Date Sampled : 12/16/15 11:00:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.000 +/- 0.149	0.248	pCi/l	01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.153 +/- 0.553	0.629	pCi/l	01/20/16	01/26/16	AE

Lab ID : 20151328-18
Client ID : 801
Date Sampled : 12/16/15 11:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.197 +/- 0.109	0.085	pCi/l	01/20/16	01/21/16	RE
Radium-228	EPA 904*/9320*	0.651 +/- 0.633	0.775	pCi/l	01/20/16	01/26/16	AE

Lab ID : 20151328-19
Client ID : 802
Date Sampled : 12/16/15 12:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.234 +/- 0.135	0.154	pCi/l	01/20/16	01/21/16	RE
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*NELAC Certified Parameter BDL = Below Detection Limit



Client : ESC Lab Sciences
 Client Project : WG837380
 Lab Number : 20151328
 Date Reported : 02/03/16
 Date Received : 12/23/15
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	2.10 +/- 0.678	0.820	pCi/l	01/20/16	01/26/16	AE

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
Radium-226	0.014	108.0			NC	0.261	120.0	120.0	0.5	01/26/16
Radium-226	-0.017	110.0			NC	0.525	122.0	119.0	2.6	01/21/16
Radium-228	0.979	99.1			NC	0.377	114.0	130.0	9.7	01/26/16

Lab Approval: _____



Company Name/Address:
SCS AQUATERRA
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks
 Project: **Sibley Generating Station**
 Description:
 Client Project #: **27213169.15**
 Site/Facility ID #

City/State Collected: **Staley, MO**
 Lab Project #: **AQUAOPKS-SIBLEY**
 P.O. #

Phone: **913-681-0030**
 Fax: **913-681-0012**
 Collected by (print): **Jason R. Franks**
 Collected by (signature): *Jason R. Franks*
 Immediately Packed on Ice: **N** **Y**

Sample ID	Comp/Grab	Matrix	Depth	Date	Time	No. of Containers	RA-226, RA-228 1LHDPF-HN03	Lithium, Molybdenum 500mLHDPF-HN03
504	GRAB	GW	-	12/10/15	1000	3	X	X
505				12/10/15	1100	3	X	X
506				12/15/15	1410	3	X	X
510				12/15/15	1645	3	X	X
512				12/15/15	1635	3	X	X
Duplicate				12/15/15	1645	3	X	X
512' MS				12/15/15	1645	3	X	X
512' MSO				12/15/15	1645	3	X	X

Acctnum: **AQUAOPKS**
 Template: **T59883**
 Prelogin: **F529029**
 TSR: **206-Jeff Carr**
 Cooler:
 Shipped Via:
 Item/Container: Sample # (lab use only)

Date Results Needed: **STD**
 Email? No Yes
 FAX? No Yes

Matrix: **SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other**

Remarks:

Relinquished by (Signature): *Jason R. Franks* Date: **12/17/15**

Relinquished by (Signature): *Jason R. Franks* Date: **12/17/15**

Relinquished by (Signature): *Jason R. Franks* Date: **12/17/15**

Temp: **3.2** °C
 Flow: **3.2** L/min
 pH: **7.1**
 Date: **12/17/15** Time: **9:00**

Condition: (lab use only)
 Seal Intact:
 pH Checked:
 N: NA:

20151328



Analysis / Container / Preservative

Hold #

Condition: (lab use only)

CDC Seal Intact: Y N NA

PH: _____ Temp: _____

Flow: _____ Other: _____

Samples returned via: UPS FedEx Courier Bottles Received: _____

Temp: 9.2 °C

Date: 12/18/15

Time: 7:00

Sample ID	Comp/Grab	Matrix	Depth	Date	Time	No. of Entries	RA-226, RA-228 1LHDFE-HN03 - N	Lithium, Molybdenom 500ml HDPE-HN03 A
601	Gras	GW	-	12/15/15	1215	3	X	X
602		GW	-	NO SAMPLE		3	X	X
701		GW	-	12/14/15	1655	3	X	X
702		GW	-	12/14/15	1550	3	X	X
703		GW	-	12/14/15	1540	3	X	X
704		GW	-	12/14/15	1640	3	X	X
801		GW	-	12/16/15	1155	3	X	X
802		GW	-	12/16/15	1245	3	X	X
803		GW	-	12/15/15	1000	3	X	X
804		GW	-	12/15/15	1140	3	X	X

Company Name/Address:
SCS AQUATERRA
7311 W. 130th St., Suite 100
Overland Park, KS 66213

Report to:
Jason Franks

Project: **Sibley Generating Station**

Description:
Client Project # 27213169.15
Site/Facility ID #

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

Collected by (print): *Jason R. Franks*
Collected by (signature): *Jason R. Franks*
Immediately Packed on ice: N Y

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed: **STD**

Email To: **jfranks@scsengineers.com**

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

Lab Project # **AQUAOPKS-SIBLEY**

P.O. #

Accrnum: AQUAOPKS
Template: T59883
Preloght: P529029
TSR: 206-jeff Carr
Codierr:
Shipped Via:
Rem./Contaminatn:
Sample # (lab only)

Table # **150799L**

Flow: _____ Temp: _____
Other: _____

Received by (Signature): *Jason R. Franks*
Date: 12/17/15
Time: 1700

Received by (Signature): *Jeff Carr*
Date: 12/18/15
Time: 7:00

Received by (Signature): *Jeff Carr*
Date: 12/18/15
Time: 7:00

20151328



10065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 603-767-8889
Fax: 615-758-3889

L# L907986

Table #

Account: **AQUAOPKS**

Template: **T59883**

Project: **P529029**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Form / Contaminant

Sample # (lab only)

13

14

Analysis / Container / Preservative

Billing Information:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
805	Grabs	GW	-	12/15/15	1225	3	Lithium, Molybdenom 500mIHDPF-HN03
806	✓	GW	-	12/16/15	1335	3	RA-226, RA-228 1LHDPF-HN03

Company Name/Address:
SCS AQUATERRA
7311 W. 130th St., Suite 100
Overland Park, KS 66213

Report to:
Jason Franks
Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station
Client Project #
27213169.15
Site/Facility ID #

Phone: **913-681-0030**
Fax: **913-681-0012**
Collected by (print):
Jason R. Franks
Collected by (signature):
Jason R. Franks
Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed
STD
Email? No Yes
FAX? No Yes

City/State Collected: **Sibley MO**
Lab Project # **AQUAOPKS-SIBLEY**
P.O. #

PH _____ Temp _____
Flow _____ Other _____
Samples returned via: UPS Courier
Temp: **3.2** °C Bottles Received:
Date: **12/15/15** Time: **9:00**
Condition: (lab use only)
COC/Seal Intact: Y N NA
PH Checked: INCF: _____

Remarks:
Relinquished by (Signature) *Jason R. Franks* Date: **12/15/15**
Relinquished by (Signature) *Jason R. Franks* Date: **12/17/15**
Relinquished by (Signature) *Jason R. Franks* Date: _____

20151328

Jared Morrison
December 20, 2022

ATTACHMENT 1-2
February 2016 Sampling Event Laboratory Report

SCS Engineers

Sample Delivery Group: L818727
Samples Received: 02/19/2016
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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

SAMPLE SUMMARY



504 L818727-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:36	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:00	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:01	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 21:07	02/22/16 21:07	CM

Collected by Whit Martin Collected date/time 02/18/16 10:20 Received date/time 02/19/16 09:00

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn

505 L818727-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:39	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:03	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:04	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 21:38	02/22/16 21:38	CM

Collected by Whit Martin Collected date/time 02/18/16 10:55 Received date/time 02/19/16 09:00

- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al

506 L818727-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:42	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:06	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:07	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 22:24	02/22/16 22:24	CM

Collected by Whit Martin Collected date/time 02/18/16 11:40 Received date/time 02/19/16 09:00

- 9
Sc

510 L818727-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:45	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:15	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:15	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 22:40	02/22/16 22:40	CM

Collected by Whit Martin Collected date/time 02/18/16 14:50 Received date/time 02/19/16 09:00

512 L818727-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:16	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 13:48	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 11:51	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 22:55	02/22/16 22:55	CM

Collected by Whit Martin Collected date/time 02/18/16 13:30 Received date/time 02/19/16 09:00

SAMPLE SUMMARY



601 L818727-06 GW

Collected by
Whit Martin Collected date/time
02/18/16 12:55 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:48	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:19	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:17	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 23:11	02/22/16 23:11	CM

1
Cp

2
Tc

3
Ss

4
Cn

701 L818727-07 GW

Collected by
Whit Martin Collected date/time
02/17/16 12:50 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 10:51	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:22	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:20	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 23:26	02/22/16 23:26	CM

5
Sr

6
Qc

7
Gl

8
Al

702 L818727-08 GW

Collected by
Whit Martin Collected date/time
02/17/16 11:55 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:00	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:25	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:23	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 23:41	02/22/16 23:41	CM

9
Sc

703 L818727-09 GW

Collected by
Whit Martin Collected date/time
02/17/16 12:30 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:03	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:28	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:25	JDG
Wet Chemistry by Method 9056A	WG850758	1	02/22/16 23:57	02/22/16 23:57	CM

704 L818727-10 GW

Collected by
Whit Martin Collected date/time
02/17/16 13:45 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:06	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:31	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:28	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 19:12	02/22/16 19:12	DJD

SAMPLE SUMMARY



801 L818727-11 GW

Collected by
Whit Martin Collected date/time
02/17/16 14:20 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:09	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:34	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:31	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 19:43	02/22/16 19:43	DJD



802 L818727-12 GW

Collected by
Whit Martin Collected date/time
02/17/16 13:40 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:12	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:37	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:34	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 19:58	02/22/16 19:58	DJD

803 L818727-13 GW

Collected by
Whit Martin Collected date/time
02/17/16 15:05 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:15	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:40	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:36	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 20:13	02/22/16 20:13	DJD
Wet Chemistry by Method 9056A	WG850900	10	02/23/16 03:35	02/23/16 03:35	DJD

804 L818727-14 GW

Collected by
Whit Martin Collected date/time
02/17/16 15:05 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:17	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 14:43	CCE
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:39	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 20:29	02/22/16 20:29	DJD

805 L818727-15 GW

Collected by
Whit Martin Collected date/time
02/17/16 14:00 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:20	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 16:00	LTB
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:47	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 20:44	02/22/16 20:44	DJD

SAMPLE SUMMARY



806 L818727-16 GW

Collected by
Whit Martin Collected date/time
02/17/16 13:15 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851107	1	02/22/16 14:11	02/22/16 14:50	MF
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:23	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 16:03	LTB
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:50	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 21:15	02/22/16 21:15	DJD
Wet Chemistry by Method 9056A	WG850900	10	02/23/16 03:51	02/23/16 03:51	DJD

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

DUPLICATE L818727-17 GW

Collected by
Whit Martin Collected date/time
02/18/16 13:30 Received date/time
02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG851528	1	02/24/16 05:55	02/24/16 06:44	JM
Mercury by Method 7470A	WG850752	1	02/22/16 13:48	02/23/16 11:26	BRJ
Metals (ICP) by Method 6010B	WG851074	1	02/22/16 11:12	02/22/16 16:06	LTB
Metals (ICPMS) by Method 6020	WG850793	1	02/23/16 09:16	02/25/16 12:52	JDG
Wet Chemistry by Method 9056A	WG850900	1	02/22/16 21:30	02/22/16 21:30	DJD

6
Qc

7
Gl

8
Al

9
Sc



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

Jason Romer
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	236000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	02/22/2016 21:07	WG850758
Fluoride	170		100	1	02/22/2016 21:07	WG850758
Sulfate	14700		5000	1	02/22/2016 21:07	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 10:36	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	113		5.00	1	02/22/2016 14:00	WG851074
Boron	ND		200	1	02/22/2016 14:00	WG851074
Calcium	34300		1000	1	02/22/2016 14:00	WG851074
Chromium	ND		10.0	1	02/22/2016 14:00	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:00	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 12:01	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:01	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:01	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:01	WG850793
Lead	ND		2.00	1	02/25/2016 12:01	WG850793
Selenium	2.28		2.00	1	02/25/2016 12:01	WG850793
Thallium	ND		2.00	1	02/25/2016 12:01	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	148000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	1050		1000	1	02/22/2016 21:38	WG850758
Fluoride	174		100	1	02/22/2016 21:38	WG850758
Sulfate	16000		5000	1	02/22/2016 21:38	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 10:39	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	87.6		5.00	1	02/22/2016 14:03	WG851074
Boron	ND		200	1	02/22/2016 14:03	WG851074
Calcium	25400		1000	1	02/22/2016 14:03	WG851074
Chromium	ND		10.0	1	02/22/2016 14:03	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:03	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:04	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:04	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:04	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:04	WG850793
Lead	ND		2.00	1	02/25/2016 12:04	WG850793
Selenium	2.49		2.00	1	02/25/2016 12:04	WG850793
Thallium	ND		2.00	1	02/25/2016 12:04	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	423000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6150		1000	1	02/22/2016 22:24	WG850758
Fluoride	290		100	1	02/22/2016 22:24	WG850758
Sulfate	65600		5000	1	02/22/2016 22:24	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 10:42	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	232		5.00	1	02/22/2016 14:06	WG851074
Boron	ND		200	1	02/22/2016 14:06	WG851074
Calcium	99300		1000	1	02/22/2016 14:06	WG851074
Chromium	ND		10.0	1	02/22/2016 14:06	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:06	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 12:07	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:07	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:07	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:07	WG850793
Lead	ND		2.00	1	02/25/2016 12:07	WG850793
Selenium	8.92		2.00	1	02/25/2016 12:07	WG850793
Thallium	ND		2.00	1	02/25/2016 12:07	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	446000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3480		1000	1	02/22/2016 22:40	WG850758
Fluoride	282		100	1	02/22/2016 22:40	WG850758
Sulfate	12000		5000	1	02/22/2016 22:40	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 10:45	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	361		5.00	1	02/22/2016 14:15	WG851074
Boron	ND		200	1	02/22/2016 14:15	WG851074
Calcium	121000		1000	1	02/22/2016 14:15	WG851074
Chromium	ND		10.0	1	02/22/2016 14:15	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:15	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:15	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:15	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:15	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:15	WG850793
Lead	ND		2.00	1	02/25/2016 12:15	WG850793
Selenium	3.49		2.00	1	02/25/2016 12:15	WG850793
Thallium	ND		2.00	1	02/25/2016 12:15	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	366000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	2780		1000	1	02/22/2016 22:55	WG850758
Fluoride	270		100	1	02/22/2016 22:55	WG850758
Sulfate	21000		5000	1	02/22/2016 22:55	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 10:16	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	358		5.00	1	02/22/2016 13:48	WG851074
Boron	ND		200	1	02/22/2016 13:48	WG851074
Calcium	100000		1000	1	02/22/2016 13:48	WG851074
Chromium	ND		10.0	1	02/22/2016 13:48	WG851074
Cobalt	ND		10.0	1	02/22/2016 13:48	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 11:51	WG850793
Arsenic	ND		2.00	1	02/25/2016 11:51	WG850793
Beryllium	ND		2.00	1	02/25/2016 11:51	WG850793
Cadmium	ND		1.00	1	02/25/2016 11:51	WG850793
Lead	ND		2.00	1	02/25/2016 11:51	WG850793
Selenium	4.59		2.00	1	02/25/2016 11:51	WG850793
Thallium	ND		2.00	1	02/25/2016 11:51	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	380000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3220		1000	1	02/22/2016 23:11	WG850758
Fluoride	214		100	1	02/22/2016 23:11	WG850758
Sulfate	8870		5000	1	02/22/2016 23:11	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 10:48	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	326		5.00	1	02/22/2016 14:19	WG851074
Boron	ND		200	1	02/22/2016 14:19	WG851074
Calcium	105000		1000	1	02/22/2016 14:19	WG851074
Chromium	ND		10.0	1	02/22/2016 14:19	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:19	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:17	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:17	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:17	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:17	WG850793
Lead	ND		2.00	1	02/25/2016 12:17	WG850793
Selenium	6.77		2.00	1	02/25/2016 12:17	WG850793
Thallium	ND		2.00	1	02/25/2016 12:17	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	305000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8300		1000	1	02/22/2016 23:26	WG850758
Fluoride	ND		100	1	02/22/2016 23:26	WG850758
Sulfate	16000		5000	1	02/22/2016 23:26	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 10:51	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	177		5.00	1	02/22/2016 14:22	WG851074
Boron	ND		200	1	02/22/2016 14:22	WG851074
Calcium	88500		1000	1	02/22/2016 14:22	WG851074
Chromium	ND		10.0	1	02/22/2016 14:22	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:22	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:20	WG850793
Arsenic	2.80		2.00	1	02/25/2016 12:20	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:20	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:20	WG850793
Lead	ND		2.00	1	02/25/2016 12:20	WG850793
Selenium	ND		2.00	1	02/25/2016 12:20	WG850793
Thallium	ND		2.00	1	02/25/2016 12:20	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	302000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8560		1000	1	02/22/2016 23:41	WG850758
Fluoride	101		100	1	02/22/2016 23:41	WG850758
Sulfate	19000		5000	1	02/22/2016 23:41	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 11:00	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	225		5.00	1	02/22/2016 14:25	WG851074
Boron	ND		200	1	02/22/2016 14:25	WG851074
Calcium	89500		1000	1	02/22/2016 14:25	WG851074
Chromium	ND		10.0	1	02/22/2016 14:25	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:25	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 12:23	WG850793
Arsenic	5.99		2.00	1	02/25/2016 12:23	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:23	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:23	WG850793
Lead	ND		2.00	1	02/25/2016 12:23	WG850793
Selenium	ND		2.00	1	02/25/2016 12:23	WG850793
Thallium	ND		2.00	1	02/25/2016 12:23	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	553000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	22500		1000	1	02/22/2016 23:57	WG850758
Fluoride	424		100	1	02/22/2016 23:57	WG850758
Sulfate	6970		5000	1	02/22/2016 23:57	WG850758

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 11:03	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	275		5.00	1	02/22/2016 14:28	WG851074
Boron	743		200	1	02/22/2016 14:28	WG851074
Calcium	132000		1000	1	02/22/2016 14:28	WG851074
Chromium	ND		10.0	1	02/22/2016 14:28	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:28	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 12:25	WG850793
Arsenic	259		2.00	1	02/25/2016 12:25	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:25	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:25	WG850793
Lead	ND		2.00	1	02/25/2016 12:25	WG850793
Selenium	ND		2.00	1	02/25/2016 12:25	WG850793
Thallium	ND		2.00	1	02/25/2016 12:25	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	348000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	13200		1000	1	02/22/2016 19:12	WG850900
Fluoride	155		100	1	02/22/2016 19:12	WG850900
Sulfate	32500		5000	1	02/22/2016 19:12	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:06	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	155		5.00	1	02/22/2016 14:31	WG851074
Boron	ND		200	1	02/22/2016 14:31	WG851074
Calcium	93800		1000	1	02/22/2016 14:31	WG851074
Chromium	ND		10.0	1	02/22/2016 14:31	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:31	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:28	WG850793
Arsenic	2.89		2.00	1	02/25/2016 12:28	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:28	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:28	WG850793
Lead	ND		2.00	1	02/25/2016 12:28	WG850793
Selenium	ND		2.00	1	02/25/2016 12:28	WG850793
Thallium	ND		2.00	1	02/25/2016 12:28	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	589000		10000	1	02/22/2016 14:50	WG851107

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	72400		1000	1	02/22/2016 19:43	WG850900
Fluoride	165		100	1	02/22/2016 19:43	WG850900
Sulfate	60500		5000	1	02/22/2016 19:43	WG850900

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/23/2016 11:09	WG850752

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	112		5.00	1	02/22/2016 14:34	WG851074
Boron	382		200	1	02/22/2016 14:34	WG851074
Calcium	150000		1000	1	02/22/2016 14:34	WG851074
Chromium	ND		10.0	1	02/22/2016 14:34	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:34	WG851074

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/25/2016 12:31	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:31	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:31	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:31	WG850793
Lead	ND		2.00	1	02/25/2016 12:31	WG850793
Selenium	ND		2.00	1	02/25/2016 12:31	WG850793
Thallium	ND		2.00	1	02/25/2016 12:31	WG850793

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	413000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	55000		1000	1	02/22/2016 19:58	WG850900
Fluoride	233		100	1	02/22/2016 19:58	WG850900
Sulfate	35500		5000	1	02/22/2016 19:58	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:12	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	170		5.00	1	02/22/2016 14:37	WG851074
Boron	ND		200	1	02/22/2016 14:37	WG851074
Calcium	91400		1000	1	02/22/2016 14:37	WG851074
Chromium	ND		10.0	1	02/22/2016 14:37	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:37	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:34	WG850793
Arsenic	2.23		2.00	1	02/25/2016 12:34	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:34	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:34	WG850793
Lead	ND		2.00	1	02/25/2016 12:34	WG850793
Selenium	ND		2.00	1	02/25/2016 12:34	WG850793
Thallium	ND		2.00	1	02/25/2016 12:34	WG850793



Collected date/time: 02/17/16 15:05

L818727

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	558000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14800		1000	1	02/22/2016 20:13	WG850900
Fluoride	245		100	1	02/22/2016 20:13	WG850900
Sulfate	162000		50000	10	02/23/2016 03:35	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:15	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	141		5.00	1	02/22/2016 14:40	WG851074
Boron	2850		200	1	02/22/2016 14:40	WG851074
Calcium	127000		1000	1	02/22/2016 14:40	WG851074
Chromium	ND		10.0	1	02/22/2016 14:40	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:40	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:36	WG850793
Arsenic	4.01		2.00	1	02/25/2016 12:36	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:36	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:36	WG850793
Lead	ND		2.00	1	02/25/2016 12:36	WG850793
Selenium	ND		2.00	1	02/25/2016 12:36	WG850793
Thallium	ND		2.00	1	02/25/2016 12:36	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	588000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14600		1000	1	02/22/2016 20:29	WG850900
Fluoride	183		100	1	02/22/2016 20:29	WG850900
Sulfate	ND		5000	1	02/22/2016 20:29	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:17	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	370		5.00	1	02/22/2016 14:43	WG851074
Boron	3810		200	1	02/22/2016 14:43	WG851074
Calcium	158000		1000	1	02/22/2016 14:43	WG851074
Chromium	ND		10.0	1	02/22/2016 14:43	WG851074
Cobalt	ND		10.0	1	02/22/2016 14:43	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:39	WG850793
Arsenic	7.19		2.00	1	02/25/2016 12:39	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:39	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:39	WG850793
Lead	ND		2.00	1	02/25/2016 12:39	WG850793
Selenium	ND		2.00	1	02/25/2016 12:39	WG850793
Thallium	ND		2.00	1	02/25/2016 12:39	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	366000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	9860		1000	1	02/22/2016 20:44	WG850900
Fluoride	155		100	1	02/22/2016 20:44	WG850900
Sulfate	50700		5000	1	02/22/2016 20:44	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:20	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	172		5.00	1	02/22/2016 16:00	WG851074
Boron	ND		200	1	02/22/2016 16:00	WG851074
Calcium	99500		1000	1	02/22/2016 16:00	WG851074
Chromium	ND		10.0	1	02/22/2016 16:00	WG851074
Cobalt	ND		10.0	1	02/22/2016 16:00	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:47	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:47	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:47	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:47	WG850793
Lead	ND		2.00	1	02/25/2016 12:47	WG850793
Selenium	ND		2.00	1	02/25/2016 12:47	WG850793
Thallium	ND		2.00	1	02/25/2016 12:47	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	699000		10000	1	02/22/2016 14:50	WG851107

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	20700		1000	1	02/22/2016 21:15	WG850900
Fluoride	325		100	1	02/22/2016 21:15	WG850900
Sulfate	208000		50000	10	02/23/2016 03:51	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:23	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	192		5.00	1	02/22/2016 16:03	WG851074
Boron	5310		200	1	02/22/2016 16:03	WG851074
Calcium	172000		1000	1	02/22/2016 16:03	WG851074
Chromium	ND		10.0	1	02/22/2016 16:03	WG851074
Cobalt	ND		10.0	1	02/22/2016 16:03	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:50	WG850793
Arsenic	4.86		2.00	1	02/25/2016 12:50	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:50	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:50	WG850793
Lead	7.74		2.00	1	02/25/2016 12:50	WG850793
Selenium	ND		2.00	1	02/25/2016 12:50	WG850793
Thallium	ND		2.00	1	02/25/2016 12:50	WG850793



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	394000		10000	1	02/24/2016 06:44	WG851528

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	2890		1000	1	02/22/2016 21:30	WG850900
Fluoride	274		100	1	02/22/2016 21:30	WG850900
Sulfate	21000		5000	1	02/22/2016 21:30	WG850900

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/23/2016 11:26	WG850752

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	361		5.00	1	02/22/2016 16:06	WG851074
Boron	ND		200	1	02/22/2016 16:06	WG851074
Calcium	100000		1000	1	02/22/2016 16:06	WG851074
Chromium	ND		10.0	1	02/22/2016 16:06	WG851074
Cobalt	ND		10.0	1	02/22/2016 16:06	WG851074

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/25/2016 12:52	WG850793
Arsenic	ND		2.00	1	02/25/2016 12:52	WG850793
Beryllium	ND		2.00	1	02/25/2016 12:52	WG850793
Cadmium	ND		1.00	1	02/25/2016 12:52	WG850793
Lead	ND		2.00	1	02/25/2016 12:52	WG850793
Selenium	4.66		2.00	1	02/25/2016 12:52	WG850793
Thallium	ND		2.00	1	02/25/2016 12:52	WG850793



Method Blank (MB)

(MB) R3115655-1 02/22/16 14:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L818727-16 02/22/16 14:50 • (DUP) R3115655-4 02/22/16 14:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	699	696	1	0.430		5

⁴ Cn

⁵ Sr

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

(LCS) R3115655-2 02/22/16 14:50 • (LCSD) R3115655-3 02/22/16 14:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8700	8670	98.9	98.5	85.0-115			0.345	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3116147-1 02/24/16 06:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

1 Cp

2 Tc

3 Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L818770-02 02/24/16 06:44 • (DUP) R3116147-4 02/24/16 06:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	846	822	1	2.88		5

4 Cn

5 Sr

6 Qc

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

(LCS) R3116147-2 02/24/16 06:44 • (LCSD) R3116147-3 02/24/16 06:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8670	8840	98.5	100	85.0-115			1.94	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3115435-1 02/22/16 16:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Duplicate (DUP)

(OS) L818619-10 02/22/16 18:33 • (DUP) R3115435-4 02/22/16 18:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	9.39	9.32	1	1		15
Fluoride	ND	0.000	1	0		15
Sulfate	1.10	0.912	1	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) L818727-01 02/22/16 21:07 • (DUP) R3115435-6 02/22/16 21:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	0.736	0.532	1	0		15
Fluoride	0.170	0.197	1	14		15
Sulfate	14.7	14.8	1	0		15

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

(LCS) R3115435-2 02/22/16 16:29 • (LCSD) R3115435-3 02/22/16 16:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40.0	38.6	38.6	96	97	80-120			0	15
Fluoride	8.00	7.82	7.77	98	97	80-120			1	15
Sulfate	40.0	39.9	39.6	100	99	80-120			1	15



Original Sample (OS) • Matrix Spike (MS)

(OS) L818619-14 02/22/16 19:50 • (MS) R3115435-5 02/22/16 20:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	0.111	49.0	98	1	80-120	
Fluoride	5.00	ND	4.96	99	1	80-120	
Sulfate	50.0	0.347	49.8	99	1	80-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L818727-02 02/22/16 21:38 • (MS) R3115435-7 02/22/16 21:53 • (MSD) R3115435-8 02/22/16 22:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	1.05	50.2	50.0	98	98	1	80-120			0	15
Fluoride	5.00	0.174	5.20	5.22	101	101	1	80-120			0	15
Sulfate	50.0	16.0	65.3	65.4	99	99	1	80-120			0	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3115523-1 02/22/16 17:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Original Sample (OS) • Duplicate (DUP)

(OS) L818727-10 02/22/16 19:12 • (DUP) R3115523-4 02/22/16 19:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	13.2	12.9	1	2		15
Fluoride	0.155	0.172	1	10		15
Sulfate	32.5	32.2	1	1		15

Original Sample (OS) • Duplicate (DUP)

(OS) L818927-01 02/23/16 00:10 • (DUP) R3115523-6 02/23/16 01:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	88.6	88.9	1	0		15
Fluoride	0.299	0.350	1	16	P1	15
Sulfate	20.4	20.3	1	1		15

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

(LCS) R3115523-2 02/22/16 18:10 • (LCSD) R3115523-3 02/22/16 18:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	7.75	7.75	97	97	80-120			0	15
Sulfate	40.0	38.5	38.6	96	96	80-120			0	15



[L818727-10,11,12,13,14,15,16,17](#)

Original Sample (OS) • Matrix Spike (MS)

(OS) L818727-15 02/22/16 20:44 • (MS) R3115523-5 02/22/16 21:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	9.86	59.9	100	1	80-120	
Fluoride	5.00	0.155	5.19	101	1	80-120	
Sulfate	50.0	50.7	96.0	91	1	80-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L818927-03 02/23/16 01:47 • (MS) R3115523-7 02/23/16 02:03 • (MSD) R3115523-8 02/23/16 02:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	5.95	55.9	55.8	100	100	1	80-120			0	15
Fluoride	5.00	0.0359	5.07	5.11	101	102	1	80-120			1	15
Sulfate	50.0	10.3	59.4	59.5	98	98	1	80-120			0	15

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



Method Blank (MB)

(MB) R3115562-1 02/23/16 10:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

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

(LCS) R3115562-2 02/23/16 10:10 • (LCSD) R3115562-3 02/23/16 10:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00287	0.00278	96	93	80-120			3	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L818727-05 02/23/16 10:16 • (MS) R3115562-4 02/23/16 10:24 • (MSD) R3115562-5 02/23/16 10:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00290	0.00290	97	97	1	75-125			0	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3115307-1 02/22/16 13:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.0017	0.00500
Boron	U		0.0126	0.200
Calcium	U		0.0463	1.00
Chromium	U		0.0014	0.0100
Cobalt	U		0.0023	0.0100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3115307-2 02/22/16 13:42 • (LCSD) R3115307-3 02/22/16 13:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Barium	1.00	1.05	1.05	105	105	80-120			1	20
Boron	1.00	1.07	1.07	107	107	80-120			1	20
Calcium	10.0	10.3	10.4	103	104	80-120			1	20
Chromium	1.00	1.04	1.04	104	104	80-120			1	20
Cobalt	1.00	1.07	1.07	107	107	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L818727-05 02/22/16 13:48 • (MS) R3115307-5 02/22/16 13:54 • (MSD) R3115307-6 02/22/16 13:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.358	1.39	1.39	104	103	1	75-125			0	20
Boron	1.00	0.0799	1.15	1.14	107	106	1	75-125			0	20
Calcium	10.0	100	110	111	100	101	1	75-125			0	20
Chromium	1.00	0.00985	1.05	1.05	104	104	1	75-125			1	20
Cobalt	1.00	0.000314	1.08	1.07	108	107	1	75-125			0	20



Method Blank (MB)

(MB) R3116291-1 02/25/16 11:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000397		0.00021	0.00200
Arsenic	U		0.00025	0.00200
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3116291-2 02/25/16 11:45 • (LCSD) R3116291-3 02/25/16 11:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0555	0.0559	111	112	80-120			1	20
Arsenic	0.0500	0.0486	0.0473	97	95	80-120			3	20
Beryllium	0.0500	0.0513	0.0531	103	106	80-120			3	20
Cadmium	0.0500	0.0521	0.0507	104	101	80-120			3	20
Lead	0.0500	0.0511	0.0511	102	102	80-120			0	20
Selenium	0.0500	0.0514	0.0526	103	105	80-120			2	20
Thallium	0.0500	0.0504	0.0513	101	103	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L818727-05 02/25/16 11:51 • (MS) R3116291-5 02/25/16 11:56 • (MSD) R3116291-6 02/25/16 11:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.000445	0.0574	0.0576	114	114	1	75-125			0	20
Arsenic	0.0500	0.000981	0.0502	0.0499	98	98	1	75-125			1	20
Beryllium	0.0500	0.0000631	0.0519	0.0529	104	106	1	75-125			2	20
Cadmium	0.0500	0.0000502	0.0532	0.0526	106	105	1	75-125			1	20
Lead	0.0500	0.000161	0.0521	0.0518	104	103	1	75-125			1	20
Selenium	0.0500	0.00459	0.0576	0.0568	106	104	1	75-125			1	20
Thallium	0.0500	0.0000513	0.0505	0.0523	101	104	1	75-125			3	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

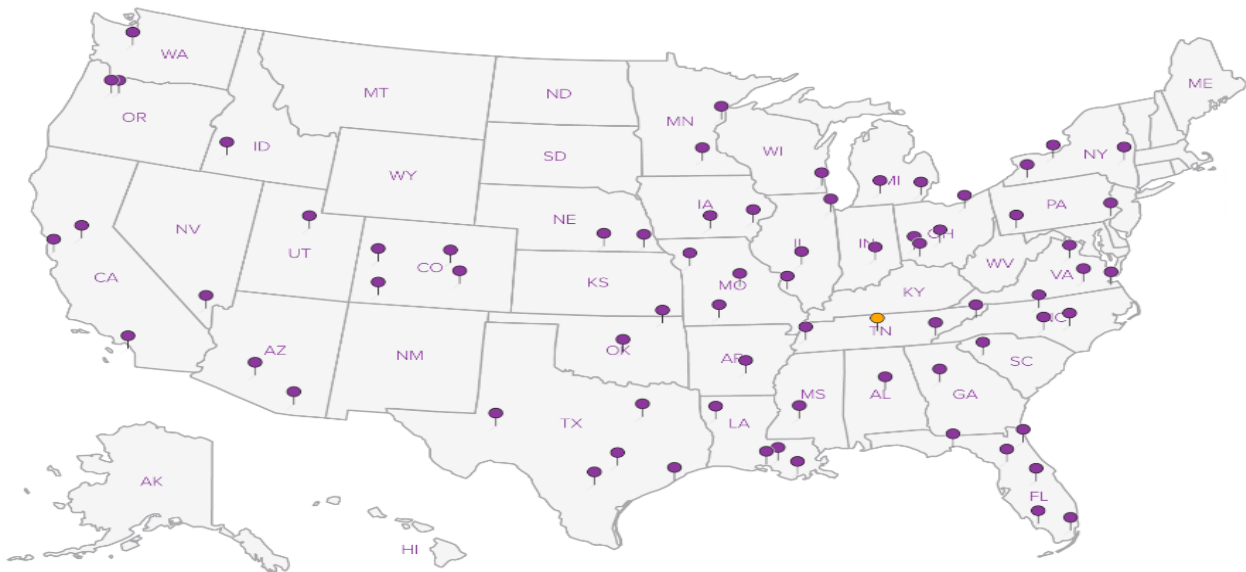
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
SCS Engineers
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin
 Collected by (signature):
Whit Martin
 Immediately Packed on Ice N ___ Y

Site/Facility ID #
Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

P.O. #
 Date Results Needed
 Email? No Yes
 FAX? No Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 4



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

L# **L818727**
H156

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR:
 Cooler:

Shipped Via:
 Rem./Co-contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions 125ml HDPE-NoPres	COD 250mlHDPE-H2S04	Metals 500mlHDPE-HN03	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HGL	TOX 1L-Amb-Add-H2S04		
504	Grab	GW		2/18/16	1020	3	X	X	X	X	X	X		01
505	Grab	GW		2/18/16	1055	3	X	X	X	X	X	X		02
506	Grab	GW		2/18/16	1140	3	X	X	X	X	X	X		03
510	Grab	GW		2/18/16	1450	3	X	X	X	X	X	X		04
512	Grab	GW		2/18/16	1330	3	X	X	X	X	X	X		05
601	Grab	GW		2/18/16	1255	3	X	X	X	X	X	X		06
701	Grab	GW		2/17/16	1250	3	X	X	X	X	X	X		07
702	Grab	GW		2/17/16	1155	3	X	X	X	X	X	X		08
703	Grab	GW		2/17/16	1230	3	X	X	X	X	X	X		09 - 5540
704	Grab	GW		2/17/16	1345	3	X	X	X	X	X	X		10 - 5528 - 5550

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____ **6645 0389 5561 - 5539**

Remarks: _____ Flow _____ Other _____ Hold # _____

Relinquished by: (Signature) *Whit Martin* Date: **2/18/16** Time: **1600** Received by: (Signature) *[Signature]*
 Relinquished by: (Signature) *[Signature]* Date: **2/18/16** Time: **1700** Received by: (Signature) *[Signature]*
 Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____ Received for lab by: (Signature) *[Signature]*

Samples returned via: UPS FedEx Courier _____ Condition: (lab use only) **Good**
 Temp: _____ °C Bottles Received: **3.2 57** COC Seal Intact: Y N NA
 Date: **2/18/16** Time: **9:00** pH Checked: **< 2** NCF: _____

Company Name/Address: **SCS Engineers**
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to: **Jason Franks**
 Email To: **jfranks@scsengineers.com**

Project Description: **Sibley Generating Station**
 City/State Collected: **Sibley, MO**

Chain of Custody Page **2** of **4**



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



Client Project #: **27213169.15**
 Lab Project #: **AQUAOPKS-SIBLEY**

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

Collected by (print): **Whit Martin**
 Collected by (signature): *[Signature]*
 Immediately Packed on Ice **N** **Y**

Site/Facility ID #: _____
 P.O. #: _____
 Date Results Needed: **Standard**
 Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%
 Email? No Yes
 FAX? No Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Containers	Anions 125ml HDPE-NoPres	COD 250mlHDPE-H2S04	Metals 500mlHDPE-HN03	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HGT	TOX 1L-Amb-Add H2S04	Rem./Contaminant	Sample # (lab only)
801	Grab	GW		2/17/16	1420	3	X	X	X	X	X	X		11
802	Grab	GW		2/17/16	1340	3	X	X	X	X	X	X		12
803	Grab	GW		2/17/16	1505	3	X	X	X	X	X	X		13
804	Grab	GW		2/17/16	1505	3	X	X	X	X	X	X		14
805	Grab	GW		2/17/16	1400	3	X	X	X	X	X	X		15
806	Grab	GW		2/17/16	1315	3	X	X	X	X	X	X		16
Duplicate (512)	Grab	GW		2/18/16	1330	3	X	X	X	X	X	X		17
MS (512)	Grab	GW		2/18/16	1340	3	X	X	X	X	X	X		05
MSD (512)	Grab	GW		2/18/16	1340	3	X	X	X	X	X	X		05
		GW				6	X	X	X	X	X	X		

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

Remarks: _____

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature) *[Signature]* Date: **2/18/16** Time: **1600** Received by: (Signature) *[Signature]*
 Relinquished by: (Signature) *[Signature]* Date: **2/18/16** Time: **1700** Received by: (Signature) *[Signature]*
 Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____ Received by: (Signature) _____

Samples returned via: UPS FedEx Courier _____
 Temp: _____ °C Bottles Received: **57**
 Date: **2/18/16** Time: **900**

Condition: _____ (lab use only) **G50**
 COC Seal Intact: Y N NA
 pH Checked: **< 2** NCF: _____

SCS Engineers

Sample Delivery Group: L818771
Samples Received: 02/19/2016
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1
²Tc: Table of Contents	2
³Cn: Case Narrative	3
⁴Gl: Glossary of Terms	4
⁵Al: Accreditations & Locations	5
⁶Sc: Chain of Custody	6





All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

- ¹ Cp
- ² Tc
- ³ Cn
- ⁴ Gl
- ⁵ Al
- ⁶ Sc

Jeff Carr
Technical Service Representative

Project Narrative

L818771 -01, -02, -03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19 contains subout data that is included after the chain of custody.



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
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RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

- ¹ Cp
- ² Tc
- ³ Cn
- ⁴ Gl
- ⁵ Al
- ⁶ Sc

Qualifier	Description
-----------	-------------

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



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1 Cp

2 Tc

3 Cn

4 Gl

5 Al

6 Sc

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

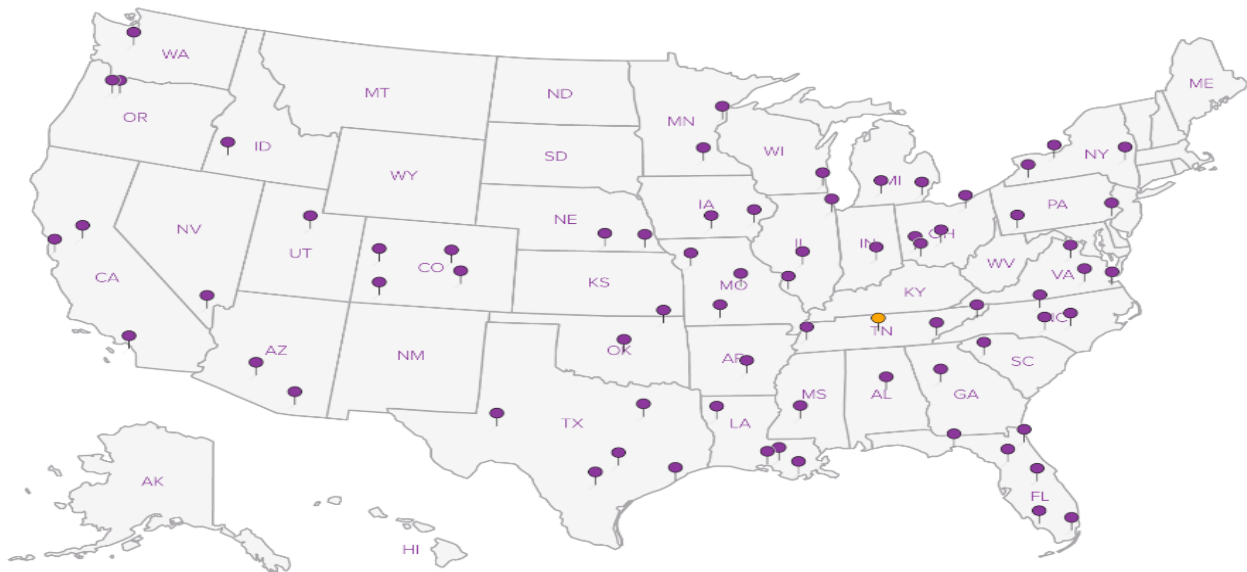
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

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 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed
Standard
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y

Analysis / Container / Preservative

Chain of Custody Page 3 of 4



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



L# **6818771**
1215

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR:
 Cooler:
 Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Intrs	Lithium, Molybdenom 500ml HDPE+HN03		RA-226, RA-228 1L HDPE+HN03	
504	Grab	GW		2/18/16	1020	2	X	X		
505	Grab	GW		2/18/16	1055	2	X	X		
506	Grab	GW		2/18/16	1140	2	X	X		
510	Grab	GW		2/18/16	1450	2	X	X		
512	Grab	GW		2/18/16	1330	2	X	X		
601	Grab	GW		2/18/16	1255	2	X	X		
701	Grab	GW		2/17/16	1250	2	X	X		
702	Grab	GW		2/17/16	1155	2	X	X		
703	Grab	GW		2/17/16	1230	2	X	X		
704	Grab	GW		2/17/16	1345	2	X	X		

Rem /Contaminant	Sample # (lab only)
	-01
	02
	03
	04
	05
	06
	07
	08
	09
	10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other **BH**

Remarks:

Relinquished by: (Signature) *Whit Martin* Date: **2/18/16** Time: **1600** Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: **2/18/16** Time: **1700** Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____ Received for lab by: (Signature) *[Signature]*

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS FedEx Courier _____

Temp: **3.2** °C Bottles Received: **38:6B**

Date: **2/19/16** Time: **910**

Hold # _____ Condition: (lab use only) **GOB**

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: _____ NCF: _____

Company Name/Address:

SCS Engineers

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 4 of 4



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

L# **1818771**

Table #

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

Rush? (Lab MUST Be Notified)

Date Results Needed

___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

standard

Email? ___ No Yes

FAX? ___ No ___ Yes

No. of

cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of cntrs													
801	Grab	GW		2/17/16	1420	2	8	X	X										
802	Grab	GW		2/17/16	1340	2	8	X	X										11
803	Grab	GW		2/17/16	1505	2	8	X	X										12
804	Grab	GW		2/17/16	1505	2	8	X	X										13
805	Grab	GW		2/17/16	1400	2	8	X	X										14
806	Grab	GW		2/17/16	1315	2	8	X	X										15
Duplicate (512)	Grab	GW		2/18/16	1330	2	8	X	X										16
MS (512)	Grab	GW		2/18/16	1340	2	8	X	X										17
MSD (512)	Grab	GW		2/18/16	1340	2	8	X	X										05
	Grab	GW				2	8	X	X										05

Lithium, Molybdenom 500ml HDPE+HN03
RA-226, RA-228 1L HDPE+HN03

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

AT

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date: **2/18/16**

Time: **1600**

Received by: (Signature)

Samples returned via: UPS

Condition: (lab use only)

Relinquished by: (Signature)

Date: **2/18/16**

Time: **1700**

Received by: (Signature)

FedEx Courier

Bottles Received:

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Temp: **3.2** °C

Bottles Received: **38 = 6A**

COC Seal Intact: ___ Y ___ N ___ NA

Date: **2/18/16** Time: **aw**

pH Checked: NCF:

Case Narrative

Lab No: 20160181

This report contains the analytical results for the 19 sample(s) received under chain of custody by Outreach Laboratory on 02/23/16 12:39:19. These samples are associated with your Sibley Generating Station project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of Outreach Laboratory.

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.

Results have been reviewed by the Laboratory Manager and QA Manager or their designees and is approved for release.

Observations / Nonconformances

Sample #9 time discrepancy: COC 12:50, label 11:50.



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160181
 Date Reported : 03/23/16
 Date Received : 02/23/16
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160181-01
Client ID : 504
Date Sampled : 02/18/16 10:20:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.060 +/- 0.075	0.098	pCi/l	03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.048 +/- 0.488	0.624	pCi/l	03/15/16	03/18/16	JR

Lab ID : 20160181-02
Client ID : 505
Date Sampled : 02/18/16 10:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.104 +/- 0.117	0.154	pCi/l	03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.811 +/- 0.754	0.900	pCi/l	03/15/16	03/18/16	JR

Lab ID : 20160181-03
Client ID : 506
Date Sampled : 02/18/16 11:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.129 +/- 0.140	0.188	pCi/l	03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.388 +/- 0.518	0.630	pCi/l	03/15/16	03/18/16	JR

Lab ID : 20160181-04
Client ID : 510
Date Sampled : 02/18/16 14:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.197 +/- 0.157	0.194	pCi/l	03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.455 +/- 0.587	0.965	pCi/l	03/15/16	03/18/16	JR

Lab ID : 20160181-05
Client ID : 512
Date Sampled : 02/18/16 13:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.321 +/- 0.201	0.160	pCi/l	03/01/16	03/08/16	AK
------------	-----------------	-----------------	-------	-------	----------	----------	----

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160181
 Date Reported : 03/23/16
 Date Received : 02/23/16
 Page Number : 3 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	1.22 +/- 0.622	0.859	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-06
Client ID : MS (512)
Date Sampled : 02/18/16 13:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	11.6 +/- 1.10	0.126	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	8.22 +/- 0.827	1.02	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-07
Client ID : MSD (512)
Date Sampled : 02/18/16 13:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	11.7 +/- 0.870	0.150	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	10.2 +/- 0.834	0.840	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-08
Client ID : 601
Date Sampled : 02/18/16 12:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	-0.035 +/- 0.074	0.174	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.827 +/- 1.03	1.05	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-09
Client ID : 701
Date Sampled : 02/17/16 12:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.049 +/- 0.095	0.150	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.410 +/- 0.751	0.774	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-10
Client ID : 702
Date Sampled : 02/17/16 11:55:00
Matrix : NPW



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160181
 Date Reported : 03/23/16
 Date Received : 02/23/16
 Page Number : 4 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.179 +/- 0.124	0.067	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.827 +/- 0.843	0.872	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-11
Client ID : 703
Date Sampled : 02/17/16 12:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.186 +/- 0.124	0.131	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.805 +/- 0.839	0.999	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-12
Client ID : 704
Date Sampled : 02/17/16 13:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.133 +/- 0.100	0.093	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.584 +/- 0.658	0.737	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-13
Client ID : 801
Date Sampled : 02/17/16 14:20:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.028 +/- 0.085	0.152	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.087 +/- 0.621	0.680	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-14
Client ID : 802
Date Sampled : 02/17/16 13:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.065 +/- 0.112	0.174	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	1.01 +/- 0.571	0.657	pCi/l		03/15/16	03/18/16	JR



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160181
 Date Reported : 03/23/16
 Date Received : 02/23/16
 Page Number : 5 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160181-15
Client ID : 803
Date Sampled : 02/17/16 15:05:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.326 +/- 0.161	0.146	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.063 +/- 0.671	0.749	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-16
Client ID : 804
Date Sampled : 02/17/16 15:05:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.372 +/- 0.173	0.152	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.936 +/- 0.665	0.690	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-17
Client ID : 805
Date Sampled : 02/17/16 14:00:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.365 +/- 0.177	0.161	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	0.575 +/- 0.665	0.716	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-18
Client ID : 806
Date Sampled : 02/17/16 13:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.383 +/- 0.176	0.146	pCi/l		03/01/16	03/08/16	AK
Radium-228	EPA 904*/9320*	-0.618 +/- 0.802	1.01	pCi/l		03/15/16	03/18/16	JR

Lab ID : 20160181-19
Client ID : Duplicate (512)
Date Sampled : 02/18/16 13:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.092 +/- 0.091	0.105	pCi/l		03/01/16	03/08/16	AK
------------	-----------------	-----------------	-------	-------	--	----------	----------	----

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160181
 Date Reported : 03/23/16
 Date Received : 02/23/16
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	1.12 +/- 0.839	0.930	pCi/l	03/15/16	03/18/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
Radium-226	0.003	115.0			NC	0.575	113.0	115.0	1.3	03/08/16
Radium-228	-0.155	104.0			NC	0.056	97.9	125.0	21.3	03/18/16

Lab Approval: _____

Company Name/Address:

SCS Engineers

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:

Jason Franks

Project

Description: Sibley Generating Station

Phone: 913-681-0030

Fax: 913-681-0012

Collected by (print): Whit Martin

Collected by (signature): Whit Martin

Immediately Packed on ice: Yes No

Sample ID

Client Project #

27213169.15

Site/Facility ID #

City/State Collected: Sibley, MO

Lab Project #

AQUAOPKS-SIBLEY

Rush? (Lab MUST Be Notified)

Same Day 700%

Next Day 100%

Two Day 50%

Three Day 25%

Date Results Needed

Standard

Email? No Yes

FAX? No Yes

No. of

Matrix

Depth

Compy/Grab

Date

Time

Matrix

Depth

Compy/Grab

Date

Time

Matrix

Depth

Compy/Grab

Date

Time

Matrix

Depth

Compy/Grab

Date

Time

Matrix

Depth

Compy/Grab

Date

Time

Matrix

Depth

Compy/Grab

Date

Time

* Matrix: SS - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Time:

Time:

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

Received for lab by: (Signature)

Received for lab by: (Signature)

Flow

Other

Samples returned via: UPS

FedEx Courier

Temp: °C Bottles Received:

Date: 2/19/16

Time: 9:00

Time: 3:28

Time: 9:00

Hold #

Condition: (lab use only)

COC Seal Intact: Y N MA

pH Checked:

INCF:



22065 Lebanon Rd
Mossy Grove, TN 37132
Phone: 615-758-5854
Phone: 800-767-5859
Fax: 615-758-5859

L# 2818771

1215

Account: AQUAOPKS

Template:

PrelogIn:

TSR:

Cooler:

Shipped Via:

Item/Container Sample # (lab only)

--01

02

03

04

05

06

07

08

09

10

20160181

Company Name/Address:

SCS Engineers

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:

Jason Franks

Project

Description: Sibley Generating Station

Phone: 913-681-0030

Fax: 913-681-0012

Collected by (print): Whit Martin

Collected by (signature): *Whit Martin*

Immediately Packed on Ice: Yes No

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed: *Standard*

Email? Yes No

FAX? Yes No

No. of Cnts

Sample ID	Comp/Grab	Matrix	Depth	Date	Time	Cnts
801	Grab	GW		2/10/16	1420	2
802	Grab	GW		2/17/16	1340	2
803	Grab	GW		2/17/16	1505	2
804	Grab	GW		2/17/16	1505	2
805	Grab	GW		2/17/16	1400	2
806	Grab	GW		2/17/16	1315	2
Duplicate (512)	Grab	GW		2/18/16	1330	2
MS (512)	Grab	GW		2/18/16	1340	2
MSD (512)	Grab	GW		2/18/16	1340	2

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) *Whit Martin*

Relinquished by: (Signature) *Whit Martin*

Relinquished by: (Signature) *Whit Martin*

Date: 2/18/16

Date: 2/18/16

Date: 2/18/16

Time: 1600

Time: 1700

Time: 1700

Received by: (Signature) *Whit Martin*

Received by: (Signature) *Whit Martin*

Received for Lab by: (Signature) *Whit Martin*

Analysis / Container / Preservative

Chain of Custody Page 4 of 4



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-258-5958
Phone: 800-997-5859
Fax: 615-730-5859

L# 1818771

Table #

Account: AQUAOPKS

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem. / Comment:

Estimate # (if applicable)

Sample ID	Analysis / Container / Preservative	Hold #
801	Lithium, Molybdenom 500ml HDPE+HN03	20166181
802	Lithium, Molybdenom 500ml HDPE+HN03	
803	Lithium, Molybdenom 500ml HDPE+HN03	
804	Lithium, Molybdenom 500ml HDPE+HN03	
805	Lithium, Molybdenom 500ml HDPE+HN03	
806	Lithium, Molybdenom 500ml HDPE+HN03	
Duplicate (512)	Lithium, Molybdenom 500ml HDPE+HN03	
MS (512)	Lithium, Molybdenom 500ml HDPE+HN03	
MSD (512)	Lithium, Molybdenom 500ml HDPE+HN03	

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS

FedEx Courier

Temp: _____ °C Bottles Received:

Date: 2/18/16 Time: 1700

Condition: (lab use only)

COC Seal Intact: Y N NA

PH Checked: NCF:

SCS Aquaterra

Sample Delivery Group: L818774
Samples Received: 02/19/2016
Project Number: 27213169.15
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213










Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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506 L818774-03	9	
510 L818774-04	10	
512 L818774-05	11	
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701 L818774-07	13	
702 L818774-08	14	
703 L818774-09	15	
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SAMPLE SUMMARY



504 L818774-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 07:59	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 10:20
 Received date/time 02/19/16 09:00



505 L818774-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:02	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 10:55
 Received date/time 02/19/16 09:00



506 L818774-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:06	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 11:40
 Received date/time 02/19/16 09:00



510 L818774-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:15	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 14:50
 Received date/time 02/19/16 09:00



512 L818774-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 07:47	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 13:30
 Received date/time 02/19/16 09:00

601 L818774-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:18	CCE

Collected by Whit Martin
 Collected date/time 02/18/16 12:55
 Received date/time 02/19/16 09:00

701 L818774-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:21	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 12:50
 Received date/time 02/19/16 09:00

702 L818774-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:24	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 11:55
 Received date/time 02/19/16 09:00

SAMPLE SUMMARY



703 L818774-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:28	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 12:30
 Received date/time 02/19/16 09:00



704 L818774-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:31	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 13:45
 Received date/time 02/19/16 09:00



801 L818774-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:34	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 14:20
 Received date/time 02/19/16 09:00



802 L818774-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:37	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 13:40
 Received date/time 02/19/16 09:00



803 L818774-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:40	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 15:05
 Received date/time 02/19/16 09:00

804 L818774-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:43	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 15:05
 Received date/time 02/19/16 09:00

805 L818774-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:52	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 14:00
 Received date/time 02/19/16 09:00

806 L818774-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:55	CCE

Collected by Whit Martin
 Collected date/time 02/17/16 13:15
 Received date/time 02/19/16 09:00

SAMPLE SUMMARY



DUPLICATE 512 L818774-17 GW

Collected by: Whit Martin
 Collected date/time: 02/18/16 13:30
 Received date/time: 02/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG851189	1	02/22/16 16:51	02/23/16 08:58	CCE

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 07:59	WG851189
Molybdenum	ND		5.00	1	02/23/2016 07:59	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:02	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:02	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:06	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:06	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:15	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:15	WG851189

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 07:47	WG851189
Molybdenum	ND		5.00	1	02/23/2016 07:47	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:18	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:18	WG851189

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:21	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:21	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:24	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:24	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:28	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:28	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:31	WG851189
Molybdenum	9.43		5.00	1	02/23/2016 08:31	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	18.2		15.0	1	02/23/2016 08:34	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:34	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:37	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:37	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	19.7		15.0	1	02/23/2016 08:40	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:40	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	25.7		15.0	1	02/23/2016 08:43	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:43	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:52	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:52	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	26.9		15.0	1	02/23/2016 08:55	WG851189
Molybdenum	1070		5.00	1	02/23/2016 08:55	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	02/23/2016 08:58	WG851189
Molybdenum	ND		5.00	1	02/23/2016 08:58	WG851189

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) 02/23/16 07:39

Analyte	MB Result	MB Qualifier	MB RDL
	mg/l		mg/l
Lithium	ND		0.0150
Molybdenum	ND		0.00500

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) 02/23/16 07:41 • (LCSD) 02/23/16 07:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Lithium	1.00	1.03	1.03	103	103	80-120			1	20
Molybdenum	1.00	0.953	0.966	95	97	80-120			1	20

L818774-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 02/23/16 07:47 • (MS) 02/23/16 07:53 • (MSD) 02/23/16 07:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Lithium	1.00	0.00839	1.07	1.04	106	103	1	75-125			3	20
Molybdenum	1.00	0.000512	0.990	0.959	99	96	1	75-125			3	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
-----------	-------------

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

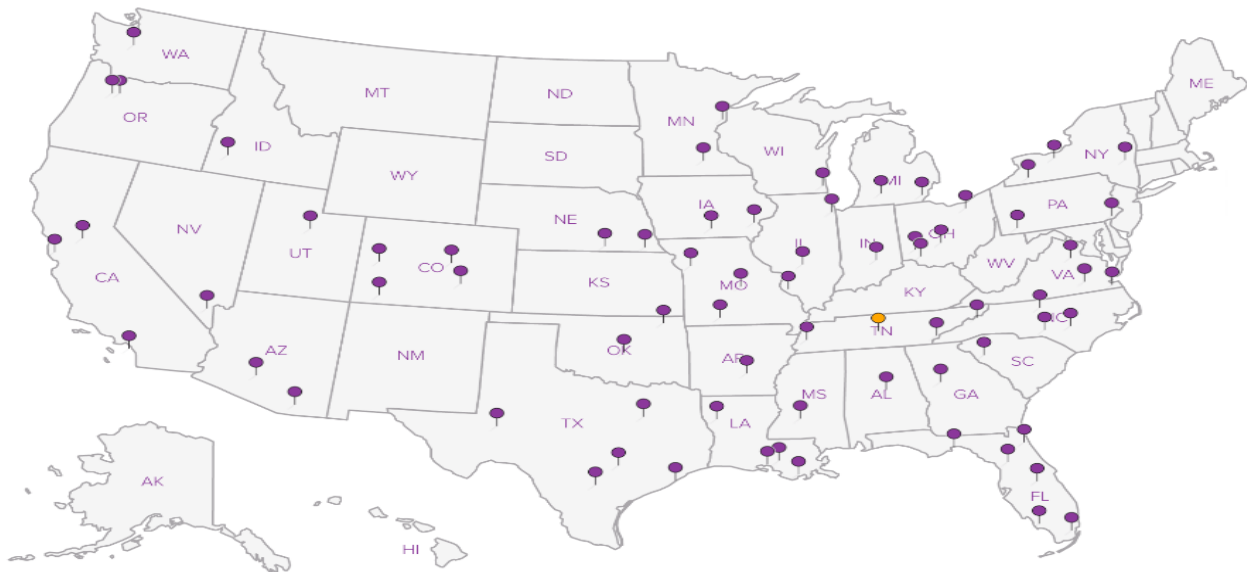
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:

SCS Engineers

7311 W. 130th St., Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page 3 of 4



YOUR LAB OF CHOICE

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

Rush? (Lab MUST Be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Date Results Needed
Standard

Email? No Yes
FAX? No Yes

Immediately Packed on Ice N Y

No. of Tests

Lithium, Molybdenom 500ml HDPE+HN03

RA-226, RA-228 1L HDPE+HN03

L# **181877Y**
1214

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem /Contaminant: Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time															
504	Grab	GW		2/18/16	1020	β	X	X												-01
505	Grab	GW		2/18/16	1055	β	X	X												02
506	Grab	GW		2/18/16	1140	β	X	X												03
510	Grab	GW		2/18/16	1450	β	X	X												04
512	Grab	GW		2/18/16	1330	β	X	X												05
601	Grab	GW		2/18/16	1255	β	X	X												06
701	Grab	GW		2/17/16	1250	β	X	X												07
702	Grab	GW		2/17/16	1155	β	X	X												08
703	Grab	GW		2/17/16	1230	β	X	X												09
704	Grab	GW		2/17/16	1345	β	X	X												10

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks:

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

pH _____ Temp _____

Flow _____ Other _____

Hold #

Samples returned via: UPS

Condition: (lab use only)

FedEx Courier _____

06 *0906*

Temp: _____ °C Bottles Received: _____

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Date: _____ Time: _____

pH Checked: _____

NCF: _____

Relinquished by: (Signature)

Date:

Time:

Received for Lab by: (Signature)

3.0 *1403842*
Date: *2/19/16* Time: *9:00*

02

Company Name/Address:
SCS Engineers
 7311 W. 130th St., Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Analysis / Container / Preservative

Chain of Custody Page **4** of **4**



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

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
Sibley Generating Station

City/State Collected:
Sibley, MO

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

Client Project #
27213169.15

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 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed
standard
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Lithium, Molybdenom 500ml HDPE+HN03

RA-226, RA-228 1L HDPE+HN03

L# **1818774**
 Table #
 Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR:
 Cooler:
 Shipped Via:
 Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No.												
801	Grab	GW		2/17/16	1420	3	X	X										11
802	Grab	GW		2/17/16	1340	3	X	X										12
803	Grab	GW		2/17/16	1505	3	X	X										13
804	Grab	GW		2/17/16	1505	3	X	X										14
805	Grab	GW		2/17/16	1400	3	X	X										15
806	Grab	GW		2/17/16	1315	3	X	X										16
Duplicate (512)	Grab	GW		2/18/16	1330	3	X	X										17
MS (512)	Grab	GW		2/18/16	1340	3	X	X										05
MSD (512)	Grab	GW		2/18/16	1340	3	X	X										05
	Grab	GW				3	X	X										

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____
 Flow _____ Other _____
 Hold # _____

Remarks:

Relinquished by: (Signature) <i>Whit Martin</i>	Date: 2/18/16	Time: 1600	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) <i>OK</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 2/18/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: _____ °C Bottles Received: <i>38 = DR</i>	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature) <i>[Signature]</i>	Date: 2/19/16	Time: <i>aw</i>	Received for lab by: (Signature) <i>[Signature]</i>	Date: 2/19/16	pH Checked: <i>22</i> NCF: _____

Jared Morrison
December 20, 2022

ATTACHMENT 1-3
May 2016 Sampling Event Laboratory Report

SCS Engineers

Sample Delivery Group: L838413
Samples Received: 05/28/2016
Project Number: 27213169.16
Description: KCPL Sibley Gen Station-Groundwater

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



805 L838413-01 GW

Collected by
Jason R. Franks
Collected date/time
05/26/16 14:25
Received date/time
05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876449	1	06/01/16 22:51	06/01/16 23:57	JM
Mercury by Method 7470A	WG876591	1	05/31/16 16:24	06/01/16 14:42	TRB
Metals (ICP) by Method 6010B	WG876402	1	06/01/16 08:44	06/01/16 22:21	ST
Metals (ICP) by Method 6010B	WG876929	1	06/01/16 15:06	06/02/16 01:20	CCE
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:08	JDG
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 12:06	JDG
Wet Chemistry by Method 9056A	WG876616	1	06/02/16 16:18	06/02/16 16:18	SAM
Wet Chemistry by Method 9056A	WG877303	1	06/03/16 18:33	06/03/16 18:33	SAM



601 L838413-03 GW

Collected by
Jason R. Franks
Collected date/time
05/26/16 12:10
Received date/time
05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:21	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:29	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:11	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 15:28	06/04/16 15:28	CM

701 L838413-04 GW

Collected by
Jason R. Franks
Collected date/time
05/26/16 15:50
Received date/time
05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:29	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:31	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:20	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 15:43	06/04/16 15:43	CM

702 L838413-05 GW

Collected by
Jason R. Franks
Collected date/time
05/26/16 15:40
Received date/time
05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:32	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:04	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:23	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 15:57	06/04/16 15:57	CM

703 L838413-06 GW

Collected by
Jason R. Franks
Collected date/time
05/26/16 15:10
Received date/time
05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:34	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:34	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:25	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 16:12	06/04/16 16:12	CM

SAMPLE SUMMARY



704 L838413-07 GW

Collected by Jason R. Franks
Collected date/time 05/26/16 15:15
Received date/time 05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:42	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:37	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:27	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 16:40	06/04/16 16:40	CM

1
Cp

2
Tc

3
Ss

4
Cn

801 L838413-08 GW

Collected by Jason R. Franks
Collected date/time 05/26/16 13:40
Received date/time 05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:44	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:40	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:30	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 17:24	06/04/16 17:24	CM

5
Sr

6
Qc

7
Gl

8
Al

802 L838413-09 GW

Collected by Jason R. Franks
Collected date/time 05/26/16 14:30
Received date/time 05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:47	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:42	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:32	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 17:38	06/04/16 17:38	CM

9
Sc

803 L838413-10 GW

Collected by Jason R. Franks
Collected date/time 05/26/16 11:55
Received date/time 05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:50	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:45	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:34	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 17:53	06/04/16 17:53	CM
Wet Chemistry by Method 9056A	WG878046	10	06/06/16 12:47	06/06/16 12:47	CM

804 L838413-11 GW

Collected by Jason R. Franks
Collected date/time 05/26/16 13:10
Received date/time 05/28/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG877494	1	06/02/16 23:32	06/02/16 23:59	JM
Mercury by Method 7470A	WG877053	1	06/02/16 11:30	06/02/16 16:52	TRB
Metals (ICP) by Method 6010B	WG877162	1	06/02/16 12:40	06/02/16 19:48	CCE
Metals (ICPMS) by Method 6020	WG877166	1	06/02/16 09:44	06/02/16 14:37	JDG
Wet Chemistry by Method 9056A	WG877300	1	06/04/16 18:07	06/04/16 18:07	CM



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	358000		10000	1	06/01/2016 23:57	WG876449

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9850		1000	1	06/02/2016 16:18	WG876616
Fluoride	191		100	1	06/02/2016 16:18	WG876616
Sulfate	ND	<u>J3</u>	5000	1	06/03/2016 18:33	WG877303

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/01/2016 14:42	WG876591

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	181		5.00	1	06/01/2016 22:21	WG876402
Boron	ND		200	1	06/01/2016 22:21	WG876402
Calcium	98500		1000	1	06/01/2016 22:21	WG876402
Chromium	ND		10.0	1	06/01/2016 22:21	WG876402
Cobalt	ND		10.0	1	06/01/2016 22:21	WG876402
Lithium	15.3		15.0	1	06/02/2016 01:20	WG876929
Molybdenum	ND		5.00	1	06/01/2016 22:21	WG876402

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/31/2016 10:08	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:08	WG876384
Beryllium	ND		2.00	1	05/31/2016 12:06	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:08	WG876384
Lead	ND		2.00	1	05/31/2016 10:08	WG876384
Selenium	ND		2.00	1	05/31/2016 10:08	WG876384
Thallium	ND		2.00	1	05/31/2016 10:08	WG876384

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	461000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3180		1000	1	06/04/2016 15:28	WG877300
Fluoride	266		100	1	06/04/2016 15:28	WG877300
Sulfate	8850		5000	1	06/04/2016 15:28	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:21	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	333		5.00	1	06/02/2016 19:29	WG877162
Boron	ND		200	1	06/02/2016 19:29	WG877162
Calcium	103000		1000	1	06/02/2016 19:29	WG877162
Chromium	ND		10.0	1	06/02/2016 19:29	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:29	WG877162
Lithium	15.4		15.0	1	06/02/2016 19:29	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:29	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:11	WG877166
Arsenic	ND		2.00	1	06/02/2016 14:11	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:11	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:11	WG877166
Lead	ND		2.00	1	06/02/2016 14:11	WG877166
Selenium	6.01		2.00	1	06/02/2016 14:11	WG877166
Thallium	ND		2.00	1	06/02/2016 14:11	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	288000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8270		1000	1	06/04/2016 15:43	WG877300
Fluoride	ND		100	1	06/04/2016 15:43	WG877300
Sulfate	15300		5000	1	06/04/2016 15:43	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:29	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	189		5.00	1	06/02/2016 19:31	WG877162
Boron	ND		200	1	06/02/2016 19:31	WG877162
Calcium	85700		1000	1	06/02/2016 19:31	WG877162
Chromium	ND		10.0	1	06/02/2016 19:31	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:31	WG877162
Lithium	ND		15.0	1	06/02/2016 19:31	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:31	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:20	WG877166
Arsenic	3.39		2.00	1	06/02/2016 14:20	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:20	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:20	WG877166
Lead	ND		2.00	1	06/02/2016 14:20	WG877166
Selenium	ND		2.00	1	06/02/2016 14:20	WG877166
Thallium	ND		2.00	1	06/02/2016 14:20	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	313000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8650		1000	1	06/04/2016 15:57	WG877300
Fluoride	104		100	1	06/04/2016 15:57	WG877300
Sulfate	20600		5000	1	06/04/2016 15:57	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:32	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	241		5.00	1	06/02/2016 19:04	WG877162
Boron	ND		200	1	06/02/2016 19:04	WG877162
Calcium	90200		1000	1	06/02/2016 19:04	WG877162
Chromium	ND		10.0	1	06/02/2016 19:04	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:04	WG877162
Lithium	18.4		15.0	1	06/02/2016 19:04	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:04	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:23	WG877166
Arsenic	6.92		2.00	1	06/02/2016 14:23	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:23	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:23	WG877166
Lead	ND		2.00	1	06/02/2016 14:23	WG877166
Selenium	ND		2.00	1	06/02/2016 14:23	WG877166
Thallium	ND		2.00	1	06/02/2016 14:23	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	461000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	18900		1000	1	06/04/2016 16:12	WG877300
Fluoride	331		100	1	06/04/2016 16:12	WG877300
Sulfate	ND		5000	1	06/04/2016 16:12	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:34	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	235		5.00	1	06/02/2016 19:34	WG877162
Boron	639		200	1	06/02/2016 19:34	WG877162
Calcium	111000		1000	1	06/02/2016 19:34	WG877162
Chromium	ND		10.0	1	06/02/2016 19:34	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:34	WG877162
Lithium	18.5		15.0	1	06/02/2016 19:34	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:34	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:25	WG877166
Arsenic	189		2.00	1	06/02/2016 14:25	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:25	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:25	WG877166
Lead	ND		2.00	1	06/02/2016 14:25	WG877166
Selenium	ND		2.00	1	06/02/2016 14:25	WG877166
Thallium	ND		2.00	1	06/02/2016 14:25	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	384000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12800		1000	1	06/04/2016 16:40	WG877300
Fluoride	132		100	1	06/04/2016 16:40	WG877300
Sulfate	31600		5000	1	06/04/2016 16:40	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:42	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	162		5.00	1	06/02/2016 19:37	WG877162
Boron	ND		200	1	06/02/2016 19:37	WG877162
Calcium	93300		1000	1	06/02/2016 19:37	WG877162
Chromium	ND		10.0	1	06/02/2016 19:37	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:37	WG877162
Lithium	15.7		15.0	1	06/02/2016 19:37	WG877162
Molybdenum	9.02		5.00	1	06/02/2016 19:37	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:27	WG877166
Arsenic	2.62		2.00	1	06/02/2016 14:27	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:27	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:27	WG877166
Lead	ND		2.00	1	06/02/2016 14:27	WG877166
Selenium	ND		2.00	1	06/02/2016 14:27	WG877166
Thallium	ND		2.00	1	06/02/2016 14:27	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	669000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	88200		1000	1	06/04/2016 17:24	WG877300
Fluoride	149		100	1	06/04/2016 17:24	WG877300
Sulfate	65200		5000	1	06/04/2016 17:24	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:44	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	110		5.00	1	06/02/2016 19:40	WG877162
Boron	377		200	1	06/02/2016 19:40	WG877162
Calcium	147000		1000	1	06/02/2016 19:40	WG877162
Chromium	ND		10.0	1	06/02/2016 19:40	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:40	WG877162
Lithium	27.4		15.0	1	06/02/2016 19:40	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:40	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:30	WG877166
Arsenic	ND		2.00	1	06/02/2016 14:30	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:30	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:30	WG877166
Lead	ND		2.00	1	06/02/2016 14:30	WG877166
Selenium	ND		2.00	1	06/02/2016 14:30	WG877166
Thallium	ND		2.00	1	06/02/2016 14:30	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	375000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	50500		1000	1	06/04/2016 17:38	WG877300
Fluoride	222		100	1	06/04/2016 17:38	WG877300
Sulfate	26100		5000	1	06/04/2016 17:38	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:47	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	123		5.00	1	06/02/2016 19:42	WG877162
Boron	ND		200	1	06/02/2016 19:42	WG877162
Calcium	68900		1000	1	06/02/2016 19:42	WG877162
Chromium	ND		10.0	1	06/02/2016 19:42	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:42	WG877162
Lithium	16.8		15.0	1	06/02/2016 19:42	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:42	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:32	WG877166
Arsenic	2.00		2.00	1	06/02/2016 14:32	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:32	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:32	WG877166
Lead	ND		2.00	1	06/02/2016 14:32	WG877166
Selenium	ND		2.00	1	06/02/2016 14:32	WG877166
Thallium	ND		2.00	1	06/02/2016 14:32	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	598000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14400		1000	1	06/04/2016 17:53	WG877300
Fluoride	290		100	1	06/04/2016 17:53	WG877300
Sulfate	135000		50000	10	06/06/2016 12:47	WG878046

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:50	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	131		5.00	1	06/02/2016 19:45	WG877162
Boron	2710		200	1	06/02/2016 19:45	WG877162
Calcium	120000		1000	1	06/02/2016 19:45	WG877162
Chromium	ND		10.0	1	06/02/2016 19:45	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:45	WG877162
Lithium	24.6		15.0	1	06/02/2016 19:45	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:45	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:34	WG877166
Arsenic	3.65		2.00	1	06/02/2016 14:34	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:34	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:34	WG877166
Lead	ND		2.00	1	06/02/2016 14:34	WG877166
Selenium	ND		2.00	1	06/02/2016 14:34	WG877166
Thallium	ND		2.00	1	06/02/2016 14:34	WG877166



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	631000		10000	1	06/02/2016 23:59	WG877494

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15500		1000	1	06/04/2016 18:07	WG877300
Fluoride	164		100	1	06/04/2016 18:07	WG877300
Sulfate	ND		5000	1	06/04/2016 18:07	WG877300

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	06/02/2016 16:52	WG877053

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	398		5.00	1	06/02/2016 19:48	WG877162
Boron	3760		200	1	06/02/2016 19:48	WG877162
Calcium	167000		1000	1	06/02/2016 19:48	WG877162
Chromium	ND		10.0	1	06/02/2016 19:48	WG877162
Cobalt	ND		10.0	1	06/02/2016 19:48	WG877162
Lithium	37.9		15.0	1	06/02/2016 19:48	WG877162
Molybdenum	ND		5.00	1	06/02/2016 19:48	WG877162

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	06/02/2016 14:37	WG877166
Arsenic	6.07		2.00	1	06/02/2016 14:37	WG877166
Beryllium	ND		2.00	1	06/02/2016 14:37	WG877166
Cadmium	ND		1.00	1	06/02/2016 14:37	WG877166
Lead	4.02		2.00	1	06/02/2016 14:37	WG877166
Selenium	ND		2.00	1	06/02/2016 14:37	WG877166
Thallium	ND		2.00	1	06/02/2016 14:37	WG877166



Method Blank (MB)

(MB) R3141545-1 06/01/16 23:57

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

L838545-02 Original Sample (OS) • Duplicate (DUP)

(OS) L838545-02 06/01/16 23:57 • (DUP) R3141545-4 06/01/16 23:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	4230000	4180000	1	1.19		5

7 Gl

8 Al

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

(LCS) R3141545-2 06/01/16 23:57 • (LCSD) R3141545-3 06/01/16 23:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8960000	8690000	102	98.8	85.0-115			3.06	5

9 Sc



Method Blank (MB)

(MB) R3141556-1 06/02/16 23:59

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L838413-03 Original Sample (OS) • Duplicate (DUP)

(OS) L838413-03 06/02/16 23:59 • (DUP) R3141556-4 06/02/16 23:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	461000	450000	1	2.41		5

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

(LCS) R3141556-2 06/02/16 23:59 • (LCSD) R3141556-3 06/02/16 23:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8370000	8750000	95.1	99.4	85.0-115			4.44	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3141357-1 06/02/16 06:28

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L838294-09 Original Sample (OS) • Duplicate (DUP)

(OS) L838294-09 06/02/16 12:57 • (DUP) R3141357-4 06/02/16 13:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3450	3450	1	0		15
Fluoride	ND	0.000	1	0		15

L838444-03 Original Sample (OS) • Duplicate (DUP)

(OS) L838444-03 06/02/16 16:45 • (DUP) R3141357-6 06/02/16 16:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	21700	21700	1	0		15
Fluoride	2260	2280	1	1		15

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

(LCS) R3141357-2 06/02/16 06:41 • (LCSD) R3141357-3 06/02/16 06:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	38400	37700	96	94	80-120			2	15
Fluoride	8000	7670	7560	96	95	80-120			1	15

L838294-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L838294-10 06/02/16 13:51 • (MS) R3141357-5 06/02/16 14:04

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	ND	50800	102	1	80-120	
Fluoride	5000	ND	5160	102	1	80-120	



[L838413-01](#)

L838454-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838454-02 06/02/16 18:06 • (MS) R3141357-7 06/02/16 18:46 • (MSD) R3141357-8 06/02/16 18:59

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	ND	48900	48800	97	96	1	80-120			0	15
Fluoride	5000	143	5180	5220	101	102	1	80-120			1	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3141698-3 06/04/16 08:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	138	J	77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L838413-06 Original Sample (OS) • Duplicate (DUP)

(OS) L838413-06 06/04/16 16:12 • (DUP) R3141698-6 06/04/16 16:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	18900	18900	1	0		15
Fluoride	331	325	1	2		15
Sulfate	ND	2840	1	0		15

L838480-01 Original Sample (OS) • Duplicate (DUP)

(OS) L838480-01 06/04/16 18:21 • (DUP) R3141698-7 06/04/16 18:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	376000	397000	10	5		15
Fluoride	551	605	10	9	J	15
Sulfate	U	0.000	10	0		15

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

(LCS) R3141698-4 06/04/16 08:23 • (LCSD) R3141698-5 06/04/16 08:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39100	39100	98	98	80-120			0	15
Fluoride	8000	7810	7810	98	98	80-120			0	15
Sulfate	40000	39600	39500	99	99	80-120			0	15



Method Blank (MB)

(MB) R3141412-1 06/03/16 07:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L838880-02 Original Sample (OS) • Duplicate (DUP)

(OS) L838880-02 06/03/16 15:06 • (DUP) R3141412-5 06/03/16 15:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	23000	22600	1	2		15

L838413-01 Original Sample (OS) • Duplicate (DUP)

(OS) L838413-01 06/03/16 18:33 • (DUP) R3141412-8 06/03/16 18:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	52200	1	184	J3	15

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

(LCS) R3141412-2 06/03/16 07:18 • (LCSD) R3141412-3 06/03/16 07:34

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	38000	37800	95	94	80-120			1	15

L838880-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838880-03 06/03/16 17:13 • (MS) R3141412-6 06/03/16 17:29 • (MSD) R3141412-7 06/03/16 17:45

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	11700	59100	59200	95	95	1	80-120			0	15



Method Blank (MB)

(MB) R3141829-1 06/06/16 11:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L838812-01 Original Sample (OS) • Duplicate (DUP)

(OS) L838812-01 06/06/16 14:37 • (DUP) R3141829-5 06/06/16 14:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	187000	186000	10	1		15

L839488-01 Original Sample (OS) • Duplicate (DUP)

(OS) L839488-01 06/06/16 17:16 • (DUP) R3141829-6 06/06/16 17:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	915	1	0		15

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

(LCS) R3141829-2 06/06/16 11:35 • (LCSD) R3141829-3 06/06/16 11:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39600	39800	99	99	80-120			0	15

L838081-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L838081-02 06/06/16 13:39 • (MS) R3141829-4 06/06/16 13:54

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	9240	59100	100	1	80-120	

L839519-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839519-05 06/06/16 20:23 • (MS) R3141829-7 06/06/16 20:38 • (MSD) R3141829-8 06/06/16 20:52

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	ND	50700	50800	98	99	1	80-120			0	15



Method Blank (MB)

(MB) R3140982-1 06/01/16 13:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3140982-2 06/01/16 13:27 • (LCSD) R3140982-3 06/01/16 13:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.97	3.05	99	102	80-120			3	20

L838338-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838338-08 06/01/16 13:32 • (MS) R3140982-4 06/01/16 13:35 • (MSD) R3140982-5 06/01/16 13:38

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	U	2.97	3.06	99	102	1	75-125			3	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3141270-1 06/02/16 16:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3141270-2 06/02/16 16:16 • (LCSD) R3141270-3 06/02/16 16:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.18	3.16	106	105	80-120			1	20

L838413-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838413-03 06/02/16 16:21 • (MS) R3141270-4 06/02/16 16:24 • (MSD) R3141270-5 06/02/16 16:26

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	3.03	2.98	101	99	1	75-125			2	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3141013-1 06/01/16 21:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Calcium	U		46.3	1000
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3141013-2 06/01/16 21:08 • (LCSD) R3141013-3 06/01/16 21:10

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1020	999	102	100	80-120			2	20
Boron	1000	975	963	97	96	80-120			1	20
Calcium	10000	9950	9810	100	98	80-120			1	20
Chromium	1000	971	950	97	95	80-120			2	20
Cobalt	1000	1010	993	101	99	80-120			2	20
Molybdenum	1000	1040	1030	104	103	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L838423-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838423-06 06/01/16 21:13 • (MS) R3141013-5 06/01/16 21:19 • (MSD) R3141013-6 06/01/16 21:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	102	1090	1090	99	99	1	75-125			0	20
Boron	1000	ND	1050	1050	97	97	1	75-125			1	20
Calcium	10000	38400	47600	47600	92	91	1	75-125			0	20
Chromium	1000	ND	948	949	95	95	1	75-125			0	20
Cobalt	1000	ND	1000	1000	100	100	1	75-125			0	20
Molybdenum	1000	17.8	1050	1050	103	104	1	75-125			0	20



Method Blank (MB)

(MB) R3141034-1 06/02/16 00:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lithium	U		5.30	15.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3141034-2 06/02/16 01:00 • (LCSD) R3141034-3 06/02/16 01:03

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lithium	1000	1030	1090	103	109	80-120			6	20

⁷Gl

⁸Al

L838473-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838473-01 06/02/16 01:06 • (MS) R3141034-5 06/02/16 01:12 • (MSD) R3141034-6 06/02/16 01:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lithium	1000	19.9	1060	1060	104	104	1	75-125			0	20

⁹Sc



Method Blank (MB)

(MB) R3141331-1 06/02/16 18:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Calcium	U		46.3	1000
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3141331-2 06/02/16 18:59 • (LCSD) R3141331-3 06/02/16 19:01

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1030	1010	103	101	80-120			2	20
Boron	1000	1020	999	102	100	80-120			3	20
Calcium	10000	10200	10000	102	100	80-120			1	20
Chromium	1000	1030	1020	103	102	80-120			2	20
Cobalt	1000	1060	1040	106	104	80-120			2	20
Lithium	1000	1040	1030	104	103	80-120			1	20
Molybdenum	1000	1060	1040	106	104	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L838413-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838413-05 06/02/16 19:04 • (MS) R3141331-5 06/02/16 19:09 • (MSD) R3141331-6 06/02/16 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	%	%		%			%	%
Barium	1000	241	1230	1230	99	98	1	75-125			0	20
Boron	1000	ND	1070	1080	101	102	1	75-125			1	20
Calcium	10000	90200	98100	98000	79	78	1	75-125			0	20
Chromium	1000	ND	1010	1010	101	101	1	75-125			0	20
Cobalt	1000	ND	1040	1040	104	104	1	75-125			0	20
Lithium	1000	18.4	1040	1040	102	103	1	75-125			1	20
Molybdenum	1000	ND	1040	1030	104	103	1	75-125			1	20



Method Blank (MB)

(MB) R3140596-1 05/31/16 10:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Antimony	0.265	J	0.210	2.00
Arsenic	U		0.250	2.00
Cadmium	U		0.160	1.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

Method Blank (MB)

(MB) R3140596-7 05/31/16 11:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Beryllium	U		0.120	2.00

⁶Qc

⁷Gl

⁸Al

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

(LCS) R3140596-2 05/31/16 10:03 • (LCSD) R3140596-3 05/31/16 10:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Antimony	50.0	49.7	51.4	99	103	80-120			3	20
Arsenic	50.0	48.0	49.9	96	100	80-120			4	20
Cadmium	50.0	51.7	53.5	103	107	80-120			4	20
Lead	50.0	49.3	50.2	99	100	80-120			2	20
Selenium	50.0	48.6	49.1	97	98	80-120			1	20
Thallium	50.0	49.0	49.7	98	99	80-120			1	20

⁹Sc

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

(LCS) R3140596-8 05/31/16 12:01 • (LCSD) R3140596-9 05/31/16 12:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Beryllium	50.0	48.0	48.9	96	98	80-120			2	20



[L838413-01](#)

L838413-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838413-01 05/31/16 10:08 • (MS) R3140596-5 05/31/16 10:13 • (MSD) R3140596-6 05/31/16 10:15

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	51.6	101	102	1	75-125			1	20
Arsenic	50.0	ND	50.1	52.8	97	102	1	75-125			5	20
Cadmium	50.0	ND	52.2	54.4	104	109	1	75-125			4	20
Lead	50.0	ND	49.9	50.6	98	100	1	75-125			1	20
Selenium	50.0	ND	49.0	50.4	97	99	1	75-125			3	20
Thallium	50.0	ND	48.6	49.2	97	98	1	75-125			1	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

L838413-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838413-01 05/31/16 12:06 • (MS) R3140596-11 05/31/16 12:11 • (MSD) R3140596-12 05/31/16 12:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	50.0	ND	46.4	47.1	93	94	1	75-125			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3141190-2 06/02/16 13:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.210	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3141190-3 06/02/16 13:57 • (LCSD) R3141190-4 06/02/16 13:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	53.8	52.6	108	105	80-120			2	20
Arsenic	50.0	46.5	48.1	93	96	80-120			3	20
Beryllium	50.0	46.2	45.7	92	91	80-120			1	20
Cadmium	50.0	48.6	50.2	97	100	80-120			3	20
Lead	50.0	50.5	49.8	101	100	80-120			1	20
Selenium	50.0	48.4	49.1	97	98	80-120			1	20
Thallium	50.0	50.0	49.4	100	99	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L838415-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838415-04 06/02/16 14:02 • (MS) R3141190-6 06/02/16 14:06 • (MSD) R3141190-7 06/02/16 14:13

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	52.8	53.6	105	107	1	75-125			2	20
Arsenic	50.0	ND	48.2	49.9	95	98	1	75-125			4	20
Beryllium	50.0	ND	45.8	45.5	92	91	1	75-125			1	20
Cadmium	50.0	ND	48.6	51.1	97	102	1	75-125			5	20
Lead	50.0	ND	49.7	49.8	99	100	1	75-125			0	20
Selenium	50.0	3.51	52.9	52.8	99	99	1	75-125			0	20
Thallium	50.0	ND	49.4	49.5	99	99	1	75-125			0	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

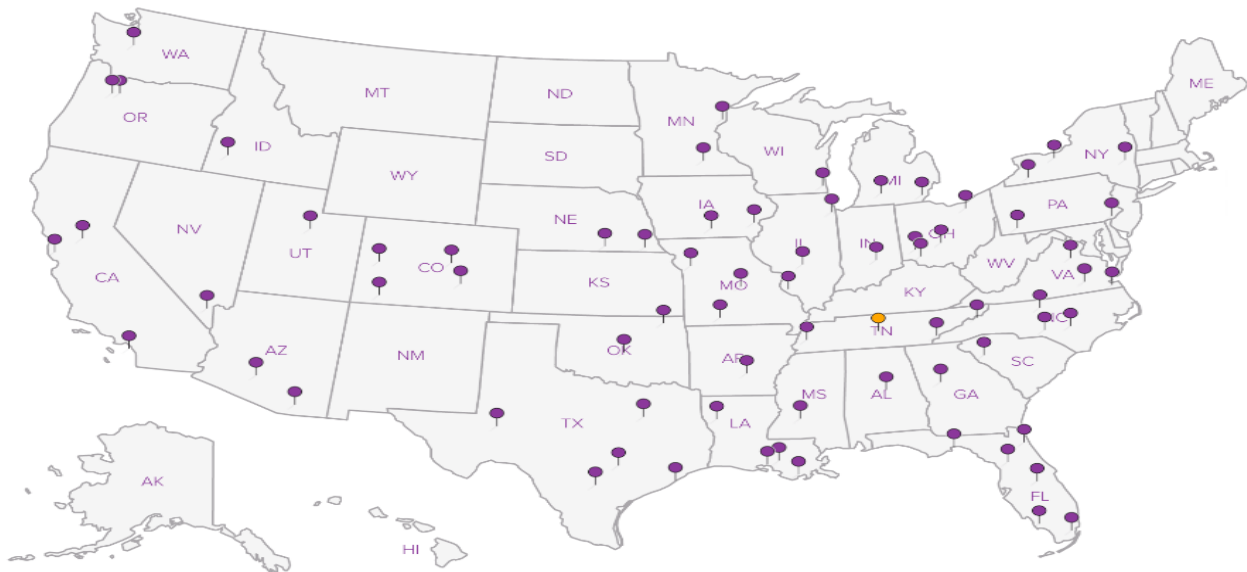
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Groundwater

City/State Collected:
Sibley, Mo

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

Client Project #
27213169.16

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
J.R. Franks
 Immediately Packed on Ice N ___ Y

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
STD

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Analysis / Container / Preservative				No. of Cntrs					
						CCR Anions (Cl-, F-, SO4)	125ml HDPE-NoPres	*CCR Metals	500ml HDPE-HNO3 < 2		TDS	250ml HDPE-NoPres	Ra226/228 (report separate & comb)	2x1L HDPE-HNO3	
805	Grab	GW	NA	5/20/16	1428	5	X	X	X	X					
806R	Grab	GW	NA	NS	NS	5	X	X	X	X					

Chain of Custody Page ___ of ___



L.A.B. S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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



L # **838413**
1061

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:

Rem./Contaminant Sample # (lab only)

RAD SAMPLES SHIPPED TO OUTLOOK

6436 7135 9649

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks: ***CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti**

Relinquished by: (Signature) <i>J.R. Franks</i>	Date: 5-27-16	Time: 1200	Received by: (Signature) <i>[Signature]</i>	Flow _____ Other _____	Hold #
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/27/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: DOB (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5-27-16	Time: 0900	Received for lab by: (Signature) <i>[Signature]</i>	Temp: 1.2 °C Bottles Received: 3	COC Seal Intact: ___ Y ___ N ___ NA
				Date: 5-28-16 Time: 0900	pH Checked: 5.6 NCF:

Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Analysis / Container / Preservative

Chain of Custody Page of



12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5658
 Phone: 800-767-5859
 Fax: 615-758-5859



Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Groundwater

City/State Collected:
Sibley, Mo

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

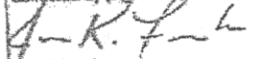
Client Project #
27213169.16

Lab Project #
 P.O. #

Collected by (print):
Jason R. Franks

Site/Facility ID #

Date Results Needed
STD

Collected by (signature):

 Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Email? No Yes
 FAX? No Yes

CCR Anions(Cl-, F-, SO4)	125mlHDPE-NoPres
*CCR Metals	500mlHDPE-HNO3
TDS	250mlHDPE-NoPres
Ra226/228(reportseparate&comb)	2x1LHDPE-HNO3

L# **838413**

Table #

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

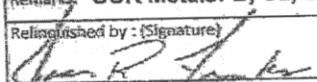
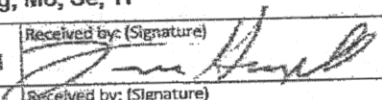
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Anions(Cl-, F-, SO4)	*CCR Metals	TDS	Ra226/228	Rem./Contaminant	Sample # (lab only)
601	Grab	GW	NA	5/26/16	1210	5	X	X	X	X		03 02
602	Grab	GW	NA	NS	NS	5	X	X	X	X		04 MS 03 0
701	Grab	GW	NA	5/26/16	1550	5	X	X	X	X		05 04
702	Grab	GW	NA	5/26/16	1540	5	X	X	X	X		06 05
703	Grab	GW	NA	5/26/16	1510	5	X	X	X	X		07 04
704	Grab	GW	NA	5/26/16	1515	5	X	X	X	X		08 04
801	Grab	GW	NA	5/26/16	1340	5	X	X	X	X		09 03
802	Grab	GW	NA	5/26/16	1430	5	X	X	X	X		10 03
803	Grab	Other	NA	5/26/16	1155	5	X	X	X	X		11 03
804	Grab	Other	NA	5/26/16	1310	5	X	X	X	X		12 03

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: ***CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti**

Relinquished by: (Signature)  Date: **5-27-16** Time: **12:00** Received by: (Signature) 

Relinquished by: (Signature) _____ Date: _____ Time: _____ Received by: (Signature) _____

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

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS FedEx Courier _____
 Temp: **3.2** °C Bottles Received: _____

Condition: (lab use only)
 COC Seal Intact: Y N NA
 pH Checked: _____ NCF: _____

Date: **5/28/16** Time: **0900**

Matt Shacklock

ESC Lab Sciences Non-Conformance Form

Login # 888413	AQUAOPKS	Date: 5/28	Evaluated by: Rosie (1066)
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Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	If Broken Container:
Parameter(s) past holding time	Login Clarification Needed	
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by: Rosie
Broken container:	x Chain of Custody is missing	Date/Time: 5/28/16 - 0900
Sufficient sample remains		Temp./Cont. Rec./pH: 3.2 -
		Carrier:
		Tracking#

Login Comments: No COC. Ids-601, 701, 702, 703, 704, 801, 802, 803, and 804. We received a 500ml-HDPE-HN03, 250ml-HDPE-UPRES, and a 125ml-HDPE-UPRES for each id.

Client informed by:	Call	Email	Voice Mail	Date: 6/1/16	Time: 1232
TSR Initials: JC	Client Contact: J. Franks				

Login Instructions: COC attached. These can be added to L838413.

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.



Case Narrative

Lab No: 20160525

This report contains the analytical results for the 23 sample(s) received under chain of custody by ESC Lab Sciences on 5/31/2016 9:38:05 AM. These samples are associated with your 27213169.16 KCPL Sibley Gen Stn -Source project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

DL for Radiochemistry = MDA

DL for Metals and Wet Chemistry = MDL

DL for Drinking Water = SDWA

Observations / Nonconformances

Report was reissued 4/30/18 to correct Project Name. No other changes were made.



Client : SCS Engineers
 Client Project : 27213169.16 KCPL Sibley Gen Stn -Source
 Lab Number : 20160525
 Date Reported : 04/30/18
 Date Received : 05/31/16
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160525-01							
Client ID : 504							
Date Sampled : 5/25/2016 2:50:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.88 +/- 0.775	0.943	pCi/l				
Radium-226 SM 7500 Ra B M*	0.023 +/- 0.089	0.164	pCi/l		06/02/16	06/06/16	AK
Radium-228 EPA 904*/9320*	2.86 +/- 0.686	0.779	pCi/l		06/24/16	07/01/16	JR
Lab ID : 20160525-02							
Client ID : 505							
Date Sampled : 5/25/2016 3:45:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.427 +/- 0.655	0.832	pCi/l				
Radium-226 SM 7500 Ra B M*	0.161 +/- 0.163	0.230	pCi/l		06/02/16	06/07/16	AK
Radium-228 EPA 904*/9320*	0.266 +/- 0.492	0.602	pCi/l		06/24/16	07/01/16	JR
Lab ID : 20160525-03							
Client ID : 506							
Date Sampled : 5/25/2016 2:35:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	3.46 +/- 0.938	1.10	pCi/l				
Radium-226 SM 7500 Ra B M*	0.511 +/- 0.205	0.183	pCi/l		06/02/16	06/07/16	AK
Radium-228 EPA 904*/9320*	2.95 +/- 0.733	0.912	pCi/l		06/24/16	07/01/16	JR
Lab ID : 20160525-04							
Client ID : 510							
Date Sampled : 5/25/2016 12:30:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.317 +/- 1.03	0.870	pCi/l				
Radium-226 SM 7500 Ra B M*	0.237 +/- 0.142	0.158	pCi/l		06/02/16	06/07/16	AK
Radium-228 EPA 904*/9320*	0.080 +/- 0.890	0.712	pCi/l		06/24/16	07/07/16	JR



Client : SCS Engineers
 Client Project : 27213169.16 KCPL Sibley Gen Stn -Source
 Lab Number : 20160525
 Date Reported : 04/30/18
 Date Received : 05/31/16
 Page Number : 3 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160525-05
Client ID : 512
Date Sampled : 5/25/2016 12:45:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.47 +/- 0.855	1.07	pCi/l			
Radium-226	SM 7500 Ra B M*	0.259 +/- 0.156	0.199	pCi/l	06/06/16	06/07/16	AK
Radium-228	EPA 904*/9320*	2.21 +/- 0.699	0.866	pCi/l	06/24/16	07/01/16	JR

Lab ID : 20160525-06
Client ID : Duplicate
Date Sampled : 5/25/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.358 +/- 1.00	0.726	pCi/l			
Radium-226	SM 7500 Ra B M*	0.358 +/- 0.191	0.145	pCi/l	06/07/16	06/07/16	AK
Radium-228	EPA 904*/9320*	-0.614 +/- 0.812	0.581	pCi/l	06/24/16	07/07/16	JR

Lab ID : 20160525-07
Client ID : 510 MS
Date Sampled : 5/25/2016 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	103		% Rec	06/06/16	06/07/16	AK
Radium-228	EPA 904*/9320*	110		% Rec	06/24/16	07/01/16	JR

Lab ID : 20160525-08
Client ID : 510 MSD
Date Sampled : 5/25/2016 12:45:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	5.7		RPD	06/06/16	06/07/16	AK
Radium-228	EPA 904*/9320*	1.0		RPD	06/24/16	07/01/16	JR



Client : SCS Engineers
 Client Project : 27213169.16 KCPL Sibley Gen Stn -Source
 Lab Number : 20160525
 Date Reported : 04/30/18
 Date Received : 05/31/16
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160525-09							
Client ID : 601							
Date Sampled : 5/26/2016 12:10:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.48 +/- 0.766	0.684	pCi/l				
Radium-226 SM 7500 Ra B M*	0.032 +/- 0.196	0.339	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	1.45 +/- 0.570	0.345	pCi/l		06/24/16	07/05/16	JR
Lab ID : 20160525-10							
Client ID : 701							
Date Sampled : 5/26/2016 3:50:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.85 +/- 0.853	0.569	pCi/l				
Radium-226 SM 7500 Ra B M*	0.293 +/- 0.140	0.156	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	2.56 +/- 0.713	0.413	pCi/l		06/24/16	07/05/16	JR
Lab ID : 20160525-11							
Client ID : 702							
Date Sampled : 5/26/2016 3:40:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.967 +/- 0.614	0.433	pCi/l				
Radium-226 SM 7500 Ra B M*	0.100 +/- 0.093	0.122	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	0.867 +/- 0.521	0.311	pCi/l		06/24/16	07/05/16	JR
Lab ID : 20160525-12							
Client ID : 703							
Date Sampled : 5/26/2016 3:10:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	3.42 +/- 0.937	0.662	pCi/l				
Radium-226 SM 7500 Ra B M*	0.331 +/- 0.169	0.200	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	3.09 +/- 0.768	0.462	pCi/l		06/24/16	07/05/16	JR



Client : SCS Engineers
 Client Project : 27213169.16 KCPL Sibley Gen Stn -Source
 Lab Number : 20160525
 Date Reported : 04/30/18
 Date Received : 05/31/16
 Page Number : 5 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160525-13							
Client ID : 704							
Date Sampled : 5/26/2016 3:15:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	4.50 +/- 1.22	0.787	pCi/l				
Radium-226 SM 7500 Ra B M*	0.706 +/- 0.188	0.089	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	3.79 +/- 1.03	0.698	pCi/l		06/24/16	07/07/16	JR
Lab ID : 20160525-14							
Client ID : 801							
Date Sampled : 5/26/2016 1:40:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.66 +/- 0.82	0.582	pCi/l				
Radium-226 SM 7500 Ra B M*	0.118 +/- 0.093	0.114	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	1.54 +/- 0.727	0.468	pCi/l		06/24/16	07/05/16	JR
Lab ID : 20160525-15							
Client ID : 802							
Date Sampled : 5/26/2016 2:30:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	4.22 +/- 1.07	0.809	pCi/l				
Radium-226 SM 7500 Ra B M*	0.242 +/- 0.139	0.154	pCi/l		06/06/16	06/07/16	AK
Radium-228 EPA 904*/9320*	3.98 +/- 0.932	0.655	pCi/l		06/24/16	07/05/16	JR
Lab ID : 20160525-16							
Client ID : 803							
Date Sampled : 5/26/2016 11:55:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.441 +/- 0.796	0.681	pCi/l				
Radium-226 SM 7500 Ra B M*	0.287 +/- 0.225	0.286	pCi/l		06/06/16	06/08/16	AK
Radium-228 EPA 904*/9320*	0.154 +/- 0.571	0.395	pCi/l		06/24/16	07/05/16	JR



Client : SCS Engineers
 Client Project : 27213169.16 KCPL Sibley Gen Stn -Source
 Lab Number : 20160525
 Date Reported : 04/30/18
 Date Received : 05/31/16
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160525-17							
Client ID : 804							
Date Sampled : 5/26/2016 1:10:00 PM							
Matrix : NPW							

Radiochemical Analyses

Combined Radium		4.27 +/- 1.45	0.973	pCi/l			
Radium-226	SM 7500 Ra B M*	2.19 +/- 0.544	0.337	pCi/l	06/06/16	06/08/16	AK
Radium-228	EPA 904*/9320*	2.08 +/- 0.905	0.636	pCi/l	06/24/16	07/05/16	JR

Lab ID : 20160525-18
Client ID : 805
Date Sampled : 5/26/2016 2:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.785 +/- 0.660	0.445	pCi/l			
Radium-226	SM 7500 Ra B M*	0.435 +/- 0.161	0.131	pCi/l	06/06/16	06/08/16	AK
Radium-228	EPA 904*/9320*	0.350 +/- 0.499	0.314	pCi/l	06/29/16	07/05/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.004	98.4			NC	0.060	103.0	97.3	5.7	
Radium-226	-0.007	85.4			NC	0.324	84.5	96.5	13.1	
Radium-228	-0.104	89.1			NC	0.441	101.0	88.4	9.5	R3825
Radium-228	0.955	92.8			NC	0.352	110.0	111.0	1.0	

Lab Approval: _____

Donna Eidson

Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks
 Email To: **jfranks@scsengineers.com**

Project Description:
KCPL Sibley Gen Station - Groundwater

Client Project #
27213169.16

Site/Facility ID #

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

Lab Project #

P.O. #

Phone: **913-681-0030**

Fax: **913-681-0012**

Collected by (print):
Jason R. Franks

Collected by (signature):
Jason R. Franks

Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
STD

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
504	Grab	GW	NA	05/25/16	1450	3
505	Grab	GW	NA	5/25/16	1545	3
506	Grab	GW	NA	5/25/16	1435	3
510	Grab	GW	NA	5/25/16	1230	3
512	Grab	GW	NA	5/25/16	1245	3
Duplicate	Grab	GW	NA	5/25/16	1245	3
MS 510	Grab	GW	NA	5/25/16	1240	3
MSD 510	Grab	GW	NA	5/25/16	1245	3

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: ****Metals=Li, Mo **** ****Ra 226&Ra228=Report Separately and combined Please****

Relinquished by: (Signature) *Jason R. Franks* Date: **5-27-16** Time: **1800**

Relinquished by: (Signature) *Jason R. Franks* Date: _____ Time: _____

Relinquished by: (Signature) *Jason R. Franks* Date: _____ Time: _____

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

KESC
 L.A.B S.C.I.E.N.C.E.S
 YOUR LABORATORY

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

L# **83866**

Table #

Account: **AQUAOPKS**

Template:

Prelogint:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

Hold #

Condition: (lab use only)

GOC Seal Intact: Y ___ N ___ NA ___

pH Checked: NGR:

Temp: _____ °C Bottles Received:

Flow _____ Other _____

Samples returned via: UPS Courter FedEx

Date: **5/27/16** Time: **1000**

SC'S Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

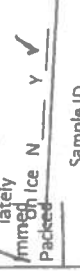
Report to:
Mr. Jason R. Franks

Project Location:
KCPL Sibley Gen Station - Groundwater

Client Project #
27213169.16

Site/Facility ID #

Collected by (print):
Jason R. Franks

Collected by (Signature):


Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Date Results Needed
STD

Jason Franks
 SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Email To:
jfranks@scsengineers.com

City/State Collected:
Sibley, Mo

Lab Project #

P.O. #

Chain of Custody Page of

ESC
 L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE
 12065 Lebonon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5859
 Fax: 615-758-5859

L.#
 Table#
 Acquium: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:

Shipped Via:
 Rem./Containment
 Sample # (lab only)

Handwritten signature

Analysis / Container / Preservative
Ra226/228(reportseparate&comb)-2x1LHDFE-HNO3
TDS 250mHDFE-NOres
***CCR Metals 500mHDFE-HNO3**
GCR Anions(GL, F, SO4) 125mHDFE-NOres

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
601	Grab	GW	NA	5/26/14	1210	5
602	Grab	GW	NA	NS	NS	5
701	Grab	GW	NA	5/26/14	1550	5
702	Grab	GW	NA	5/26/14	1540	5
703	Grab	GW	NA	5/26/14	1510	5
704	Grab	GW	NA	5/26/14	1515	5
801	Grab	GW	NA	5/26/14	1340	5
802	Grab	GW	NA	5/26/14	1430	5
803	Grab	Other	NA	5/26/14	1155	5
804	Grab	Other	NA	5/26/14	1310	5

X: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 * Matrix:
 * CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti
 Issued by: (Signature) _____
 Relinquished by: (Signature) _____
 Received by: (Signature) _____
 Time: 5:27-16 12:00
 Date: _____
 Received for lab by: (Signature) _____
 Time: _____
 Date: _____

Hold #
 Condition: (lab use only)
 GOC Seal/Intact: Y N NA
 pH Checked: Y N NA
 NGF:
 Date: **5/26/14**
 Time: **12:00**
Handwritten notes and signatures



L.A.B S.C.I.E.N
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5850
 Fax: 615-758-5659

Analysis / Container / Preservative

Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks
 Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Source
 City/State Collected: **Sibley, Mo**
 Lab Project #
 P.O. #

Sample ID	Comp/Grab	Matrix *	Depth	Date Results Needed			Cntrs
				Email? ___ No ___ Yes	FAX? ___ No ___ Yes	Time	
Slag Pond	Grab	GW	NA			1445	5
Fly Ash Pond	Grab	GW	NA			1300	5
Fly Ash Pond Outfall	Grab	GW	NA			1445	5
Leachate Pond	Grab	GW	NA			1415	5
River	Grab	GW	NA			1400	5

CCR Anions (Cl-, F-, SO4-) 125mlHDPF-NP185
 CCR Metals 500mlHDPF-HN03
 TDS 250mlHDPF-NP185
 Ra226/228(reportseparate&comb)-2x1LHDPF-HN03

L.#
 Table #
 Account: AQUADPT
 Template:
 Prelogin:
 TSR: 206-Jeff Ca
 PB:
 Shipped Via:
 Rem./Continent
 Sample #

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%
 Collected by (print): **Jason R. Franks**
 Collected by (signature): *Jason R. Franks*
 Immediately Packed on Ice N ___ Y

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: ***CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl**

Relinquished by: (Signature) *Jason R. Franks* Date: **5/27/16** Time: **1200**

Relinquished by: (Signature) *Jason R. Franks* Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) *Jason R. Franks* Date: _____ Time: _____

Received by: (Signature) *Jason R. Franks* Date: **5/26/16** Time: **1000**

Received by: (Signature) _____ Date: _____ Time: _____

Condition: (lab use only)

GOC Seal Intact: Y ___ N ___

pH Checked: NGF

pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS
 FedEx Courier Bottles Received:
 Temp: _____ °C

Hold #
 Date: **5/26/16** Time: **1000**
 Date: _____ Time: _____

7311 West 130th

SAMPLE LOGIN

Date Received: 05/31/16 09:38:05

Lab Number: 20160525

Due: 06/27/16

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160525-01 B	504	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-01 A	504	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-02 A	505	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-02 B	505	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-03 A	506	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-03 B	506	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-04 A	510	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-04 B	510	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-05 A	512	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-05 B	512	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-06 A	Duplicate	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-06 B	Duplicate	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-07 B	510 MS	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-07 A	510 MS	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						

20160525-08 A	510 MSD	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-08 B	510 MSD	NPW	05/25/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-09 A	601	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-09 B	601	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-10 A	701	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-10 B	701	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-11 A	702	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-11 B	702	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-12 B	703	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-12 A	703	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-13 A	704	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-13 B	704	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-14 A	801	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-14 B	801	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-15 A	802	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-15 B	802	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20160525-16 A	803	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160525-16 B	803	NPW	05/26/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						

BM 5 21/16
802 - time 14:50

Sample ID	Location	Method	Date	Container	Volume	Parameter	Result	Notes
20160525-17 B	Radium-226	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	SM 7500 Ra B M* EPA 904*/9320*
20160525-17 A	Radium-226	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-18 A	Radium-226	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-18 B	Radium-226	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-19 A	Slag Pond	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-19 B	Slag Pond	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-20 A	Fly Ash Pond	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-20 B	Fly Ash Pond	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-21 A	Fly Ash Pond Outfall	NPW	05/25/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-21 B	Fly Ash Pond Outfall	NPW	05/25/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-22 A	Leachate Pond	NPW	05/25/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-22 B	Leachate Pond	NPW	05/25/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-23 B	River	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	
20160525-23 A	River	NPW	05/26/16	Plastic	1 L	HNO3, pH < 2	Yes	

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken No Temperature: C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete MA

Anomalies

Inspected By: D. Dick DATE 5/31/16
QA or Designee Review: Raymond Thomas DATE 05/31/16
Sample Custodian Review: Ben Mahoney DATE 5.31.16

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-4
August 2016 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L855852
Samples Received: 08/25/2016
Project Number: 27213169.16
Description: Sibley Generating Station

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Nancy McLain
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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⁴Cn: Case Narrative	7	
⁵Sr: Sample Results	8	
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510 L855852-04	11	
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SAMPLE SUMMARY



504 L855852-01 GW

Collected by
Adam Parris
Collected date/time
08/23/16 13:55
Received date/time
08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:26	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:34	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 14:48	JDG
Wet Chemistry by Method 9056A	WG903670	1	09/01/16 11:31	09/01/16 11:31	CM

1
Cp

2
Tc

3
Ss

4
Cn

505 L855852-02 GW

Collected by
Adam Parris
Collected date/time
08/23/16 13:20
Received date/time
08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:35	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:37	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 14:51	JDG
Wet Chemistry by Method 9056A	WG903670	1	09/01/16 11:45	09/01/16 11:45	CM

5
Sr

6
Qc

7
Gl

8
Al

506 L855852-03 GW

Collected by
Adam Parris
Collected date/time
08/23/16 13:20
Received date/time
08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:38	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:39	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 14:54	JDG
Wet Chemistry by Method 9056A	WG903670	1	09/01/16 12:00	09/01/16 12:00	CM

9
Sc

510 L855852-04 GW

Collected by
Adam Parris
Collected date/time
08/23/16 11:25
Received date/time
08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:41	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:47	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:04	JDG
Wet Chemistry by Method 9056A	WG903670	1	09/01/16 12:14	09/01/16 12:14	CM

512 L855852-05 GW

Collected by
Adam Parris
Collected date/time
08/23/16 10:45
Received date/time
08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:09	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:23	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 14:35	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 12:30	08/31/16 12:30	CM

SAMPLE SUMMARY



601 L855852-06 GW

Collected by Adam Parris
Collected date/time 08/23/16 12:10
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902479	1	08/26/16 15:08	08/26/16 16:06	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:44	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:50	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:07	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 07:41	08/31/16 07:41	CM

1
Cp

2
Tc

3
Ss

4
Cn

701 L855852-07 GW

Collected by Adam Parris
Collected date/time 08/23/16 11:30
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:47	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:53	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:11	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 08:10	08/31/16 08:10	CM

5
Sr

6
Qc

7
Gl

8
Al

702 L855852-08 GW

Collected by Adam Parris
Collected date/time 08/23/16 12:15
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902754	1	08/27/16 05:51	08/30/16 12:02	NJB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:56	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:14	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 09:37	08/31/16 09:37	CM

9
Sc

703 L855852-09 GW

Collected by Adam Parris
Collected date/time 08/23/16 12:55
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:50	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 14:59	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:17	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 09:51	08/31/16 09:51	CM

704 L855852-10 GW

Collected by Adam Parris
Collected date/time 08/23/16 13:30
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:53	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:02	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:20	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 10:06	08/31/16 10:06	CM

SAMPLE SUMMARY



801 L855852-11 GW

Collected by Adam Parris
Collected date/time 08/23/16 14:40
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:56	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:04	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:24	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 11:47	08/31/16 11:47	CM

1
Cp

2
Tc

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Ss

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Cn

802 L855852-12 GW

Collected by Adam Parris
Collected date/time 08/23/16 15:25
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 13:59	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:07	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:27	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 12:01	08/31/16 12:01	CM

5
Sr

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Qc

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Gl

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Al

803 L855852-13 GW

Collected by Adam Parris
Collected date/time 08/23/16 14:05
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 14:01	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:10	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:30	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 12:16	08/31/16 12:16	CM
Wet Chemistry by Method 9056A	WG903670	10	09/01/16 12:43	09/01/16 12:43	CM

9
Sc

804 L855852-14 GW

Collected by Adam Parris
Collected date/time 08/23/16 14:45
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 14:10	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:13	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:34	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 11:32	08/31/16 11:32	CM

805 L855852-15 GW

Collected by Adam Parris
Collected date/time 08/23/16 15:20
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 14:13	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:21	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:43	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 14:55	08/31/16 14:55	SAM

SAMPLE SUMMARY



806R L855852-16 GW

Collected by Adam Parris
Collected date/time 08/23/16 15:50
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902480	1	08/29/16 11:07	08/29/16 12:02	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 14:16	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:23	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:47	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 13:28	08/31/16 13:28	CM
Wet Chemistry by Method 9056A	WG903670	10	09/01/16 13:26	09/01/16 13:26	CM

1
Cp

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Tc

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Ss

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Cn

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Sr

DUPLICATE L855852-17 GW

Collected by Adam Parris
Collected date/time 08/23/16 10:50
Received date/time 08/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902678	1	08/29/16 16:16	08/29/16 16:50	MMF
Mercury by Method 7470A	WG902487	1	08/26/16 09:38	08/26/16 14:19	TRB
Metals (ICP) by Method 6010B	WG902465	1	08/31/16 09:01	08/31/16 15:26	ST
Metals (ICPMS) by Method 6020	WG902960	1	08/31/16 09:40	08/31/16 15:50	JDG
Wet Chemistry by Method 9056A	WG903338	1	08/31/16 15:23	08/31/16 15:23	SAM

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Qc

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Gl

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Al

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Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Nancy McLain
Technical Service Representative

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



Collected date/time: 08/23/16 13:55

L855852

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	168000		10000	1	08/26/2016 16:06	WG902479

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	09/01/2016 11:31	WG903670
Fluoride	118		100	1	09/01/2016 11:31	WG903670
Sulfate	15400		5000	1	09/01/2016 11:31	WG903670

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:26	WG902487

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	111		5.00	1	08/31/2016 14:34	WG902465
Boron	ND		200	1	08/31/2016 14:34	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:34	WG902465
Calcium	32200		1000	1	08/31/2016 14:34	WG902465
Chromium	ND		10.0	1	08/31/2016 14:34	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:34	WG902465
Lithium	ND		15.0	1	08/31/2016 14:34	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:34	WG902465

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 14:48	WG902960
Arsenic	ND		2.00	1	08/31/2016 14:48	WG902960
Beryllium	ND		2.00	1	08/31/2016 14:48	WG902960
Cadmium	ND		1.00	1	08/31/2016 14:48	WG902960
Lead	ND		2.00	1	08/31/2016 14:48	WG902960
Selenium	2.48		2.00	1	08/31/2016 14:48	WG902960
Thallium	ND		2.00	1	08/31/2016 14:48	WG902960

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	182000		10000	1	08/26/2016 16:06	WG902479

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1190		1000	1	09/01/2016 11:45	WG903670
Fluoride	265		100	1	09/01/2016 11:45	WG903670
Sulfate	9730		5000	1	09/01/2016 11:45	WG903670

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:35	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	87.8		5.00	1	08/31/2016 14:37	WG902465
Boron	ND		200	1	08/31/2016 14:37	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:37	WG902465
Calcium	25700		1000	1	08/31/2016 14:37	WG902465
Chromium	ND		10.0	1	08/31/2016 14:37	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:37	WG902465
Lithium	ND		15.0	1	08/31/2016 14:37	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:37	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 14:51	WG902960
Arsenic	ND		2.00	1	08/31/2016 14:51	WG902960
Beryllium	ND		2.00	1	08/31/2016 14:51	WG902960
Cadmium	ND		1.00	1	08/31/2016 14:51	WG902960
Lead	ND		2.00	1	08/31/2016 14:51	WG902960
Selenium	2.21		2.00	1	08/31/2016 14:51	WG902960
Thallium	ND		2.00	1	08/31/2016 14:51	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	459000		10000	1	08/26/2016 16:06	WG902479

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6160		1000	1	09/01/2016 12:00	WG903670
Fluoride	312		100	1	09/01/2016 12:00	WG903670
Sulfate	65800		5000	1	09/01/2016 12:00	WG903670

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:38	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	237		5.00	1	08/31/2016 14:39	WG902465
Boron	ND		200	1	08/31/2016 14:39	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:39	WG902465
Calcium	97200		1000	1	08/31/2016 14:39	WG902465
Chromium	ND		10.0	1	08/31/2016 14:39	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:39	WG902465
Lithium	ND		15.0	1	08/31/2016 14:39	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:39	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 14:54	WG902960
Arsenic	ND		2.00	1	08/31/2016 14:54	WG902960
Beryllium	ND		2.00	1	08/31/2016 14:54	WG902960
Cadmium	ND		1.00	1	08/31/2016 14:54	WG902960
Lead	ND		2.00	1	08/31/2016 14:54	WG902960
Selenium	9.32		2.00	1	08/31/2016 14:54	WG902960
Thallium	ND		2.00	1	08/31/2016 14:54	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	472000		10000	1	08/26/2016 16:06	WG902479

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3580		1000	1	09/01/2016 12:14	WG903670
Fluoride	311		100	1	09/01/2016 12:14	WG903670
Sulfate	12700		5000	1	09/01/2016 12:14	WG903670

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:41	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	367		5.00	1	08/31/2016 14:47	WG902465
Boron	ND		200	1	08/31/2016 14:47	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:47	WG902465
Calcium	122000		1000	1	08/31/2016 14:47	WG902465
Chromium	ND		10.0	1	08/31/2016 14:47	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:47	WG902465
Lithium	ND		15.0	1	08/31/2016 14:47	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:47	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:04	WG902960
Arsenic	ND		2.00	1	08/31/2016 15:04	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:04	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:04	WG902960
Lead	ND		2.00	1	08/31/2016 15:04	WG902960
Selenium	3.14		2.00	1	08/31/2016 15:04	WG902960
Thallium	ND		2.00	1	08/31/2016 15:04	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	422000		10000	1	08/26/2016 16:06	WG902479

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3230		1000	1	08/31/2016 12:30	WG903338
Fluoride	331		100	1	08/31/2016 12:30	WG903338
Sulfate	24400		5000	1	08/31/2016 12:30	WG903338

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:09	WG902487

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	360		5.00	1	08/31/2016 14:23	WG902465
Boron	ND		200	1	08/31/2016 14:23	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:23	WG902465
Calcium	103000		1000	1	08/31/2016 14:23	WG902465
Chromium	11.1	<u>B</u>	10.0	1	08/31/2016 14:23	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:23	WG902465
Lithium	ND		15.0	1	08/31/2016 14:23	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:23	WG902465

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 14:35	WG902960
Arsenic	ND		2.00	1	08/31/2016 14:35	WG902960
Beryllium	ND		2.00	1	08/31/2016 14:35	WG902960
Cadmium	ND		1.00	1	08/31/2016 14:35	WG902960
Lead	ND		2.00	1	08/31/2016 14:35	WG902960
Selenium	5.05		2.00	1	08/31/2016 14:35	WG902960
Thallium	ND		2.00	1	08/31/2016 14:35	WG902960

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	401000		10000	1	08/26/2016 16:06	WG902479

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3410		1000	1	08/31/2016 07:41	WG903338
Fluoride	275		100	1	08/31/2016 07:41	WG903338
Sulfate	9110		5000	1	08/31/2016 07:41	WG903338

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:44	WG902487

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	331		5.00	1	08/31/2016 14:50	WG902465
Boron	ND		200	1	08/31/2016 14:50	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:50	WG902465
Calcium	102000		1000	1	08/31/2016 14:50	WG902465
Chromium	ND		10.0	1	08/31/2016 14:50	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:50	WG902465
Lithium	ND		15.0	1	08/31/2016 14:50	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:50	WG902465

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:07	WG902960
Arsenic	ND		2.00	1	08/31/2016 15:07	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:07	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:07	WG902960
Lead	ND		2.00	1	08/31/2016 15:07	WG902960
Selenium	6.02		2.00	1	08/31/2016 15:07	WG902960
Thallium	ND		2.00	1	08/31/2016 15:07	WG902960

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	300000		10000	1	08/29/2016 12:02	WG902480

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8180		1000	1	08/31/2016 08:10	WG903338
Fluoride	110		100	1	08/31/2016 08:10	WG903338
Sulfate	15400		5000	1	08/31/2016 08:10	WG903338

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:47	WG902487

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	180		5.00	1	08/31/2016 14:53	WG902465
Boron	ND		200	1	08/31/2016 14:53	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:53	WG902465
Calcium	87700		1000	1	08/31/2016 14:53	WG902465
Chromium	ND		10.0	1	08/31/2016 14:53	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:53	WG902465
Lithium	ND		15.0	1	08/31/2016 14:53	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:53	WG902465

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:11	WG902960
Arsenic	2.36		2.00	1	08/31/2016 15:11	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:11	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:11	WG902960
Lead	ND		2.00	1	08/31/2016 15:11	WG902960
Selenium	ND		2.00	1	08/31/2016 15:11	WG902960
Thallium	ND		2.00	1	08/31/2016 15:11	WG902960

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	306000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8970		1000	1	08/31/2016 09:37	WG903338
Fluoride	106		100	1	08/31/2016 09:37	WG903338
Sulfate	20800		5000	1	08/31/2016 09:37	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/30/2016 12:02	WG902754

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	263		5.00	1	08/31/2016 14:56	WG902465
Boron	ND		200	1	08/31/2016 14:56	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:56	WG902465
Calcium	89700		1000	1	08/31/2016 14:56	WG902465
Chromium	ND		10.0	1	08/31/2016 14:56	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:56	WG902465
Lithium	ND		15.0	1	08/31/2016 14:56	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:56	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:14	WG902960
Arsenic	10.4		2.00	1	08/31/2016 15:14	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:14	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:14	WG902960
Lead	ND		2.00	1	08/31/2016 15:14	WG902960
Selenium	ND		2.00	1	08/31/2016 15:14	WG902960
Thallium	ND		2.00	1	08/31/2016 15:14	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	507000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20600		1000	1	08/31/2016 09:51	WG903338
Fluoride	358		100	1	08/31/2016 09:51	WG903338
Sulfate	ND		5000	1	08/31/2016 09:51	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:50	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	244		5.00	1	08/31/2016 14:59	WG902465
Boron	763		200	1	08/31/2016 14:59	WG902465
Cadmium	ND		2.00	1	08/31/2016 14:59	WG902465
Calcium	121000		1000	1	08/31/2016 14:59	WG902465
Chromium	ND		10.0	1	08/31/2016 14:59	WG902465
Cobalt	ND		10.0	1	08/31/2016 14:59	WG902465
Lithium	ND		15.0	1	08/31/2016 14:59	WG902465
Molybdenum	ND		5.00	1	08/31/2016 14:59	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:17	WG902960
Arsenic	212		2.00	1	08/31/2016 15:17	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:17	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:17	WG902960
Lead	ND		2.00	1	08/31/2016 15:17	WG902960
Selenium	ND		2.00	1	08/31/2016 15:17	WG902960
Thallium	ND		2.00	1	08/31/2016 15:17	WG902960



Collected date/time: 08/23/16 13:30

L855852

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	345000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13400		1000	1	08/31/2016 10:06	WG903338
Fluoride	146		100	1	08/31/2016 10:06	WG903338
Sulfate	31700		5000	1	08/31/2016 10:06	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:53	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	156		5.00	1	08/31/2016 15:02	WG902465
Boron	ND		200	1	08/31/2016 15:02	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:02	WG902465
Calcium	95200		1000	1	08/31/2016 15:02	WG902465
Chromium	ND		10.0	1	08/31/2016 15:02	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:02	WG902465
Lithium	ND		15.0	1	08/31/2016 15:02	WG902465
Molybdenum	10.1		5.00	1	08/31/2016 15:02	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:20	WG902960
Arsenic	2.03		2.00	1	08/31/2016 15:20	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:20	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:20	WG902960
Lead	ND		2.00	1	08/31/2016 15:20	WG902960
Selenium	ND		2.00	1	08/31/2016 15:20	WG902960
Thallium	ND		2.00	1	08/31/2016 15:20	WG902960



Collected date/time: 08/23/16 14:40

L855852

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	544000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	73800		1000	1	08/31/2016 11:47	WG903338
Fluoride	159		100	1	08/31/2016 11:47	WG903338
Sulfate	58600		5000	1	08/31/2016 11:47	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:56	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	103		5.00	1	08/31/2016 15:04	WG902465
Boron	315		200	1	08/31/2016 15:04	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:04	WG902465
Calcium	137000		1000	1	08/31/2016 15:04	WG902465
Chromium	ND		10.0	1	08/31/2016 15:04	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:04	WG902465
Lithium	15.4		15.0	1	08/31/2016 15:04	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:04	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:24	WG902960
Arsenic	ND		2.00	1	08/31/2016 15:24	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:24	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:24	WG902960
Lead	ND		2.00	1	08/31/2016 15:24	WG902960
Selenium	2.24		2.00	1	08/31/2016 15:24	WG902960
Thallium	ND		2.00	1	08/31/2016 15:24	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	372000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	46300		1000	1	08/31/2016 12:01	WG903338
Fluoride	202		100	1	08/31/2016 12:01	WG903338
Sulfate	41200		5000	1	08/31/2016 12:01	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 13:59	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	172		5.00	1	08/31/2016 15:07	WG902465
Boron	ND		200	1	08/31/2016 15:07	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:07	WG902465
Calcium	82200		1000	1	08/31/2016 15:07	WG902465
Chromium	ND		10.0	1	08/31/2016 15:07	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:07	WG902465
Lithium	ND		15.0	1	08/31/2016 15:07	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:07	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:27	WG902960
Arsenic	2.57		2.00	1	08/31/2016 15:27	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:27	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:27	WG902960
Lead	ND		2.00	1	08/31/2016 15:27	WG902960
Selenium	ND		2.00	1	08/31/2016 15:27	WG902960
Thallium	ND		2.00	1	08/31/2016 15:27	WG902960



Collected date/time: 08/23/16 14:05

L855852

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	538000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14900		1000	1	08/31/2016 12:16	WG903338
Fluoride	295		100	1	08/31/2016 12:16	WG903338
Sulfate	130000		50000	10	09/01/2016 12:43	WG903670

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 14:01	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	129		5.00	1	08/31/2016 15:10	WG902465
Boron	2860		200	1	08/31/2016 15:10	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:10	WG902465
Calcium	120000		1000	1	08/31/2016 15:10	WG902465
Chromium	ND		10.0	1	08/31/2016 15:10	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:10	WG902465
Lithium	ND		15.0	1	08/31/2016 15:10	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:10	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:30	WG902960
Arsenic	2.96		2.00	1	08/31/2016 15:30	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:30	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:30	WG902960
Lead	ND		2.00	1	08/31/2016 15:30	WG902960
Selenium	ND		2.00	1	08/31/2016 15:30	WG902960
Thallium	ND		2.00	1	08/31/2016 15:30	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	613000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14400		1000	1	08/31/2016 11:32	WG903338
Fluoride	168		100	1	08/31/2016 11:32	WG903338
Sulfate	ND		5000	1	08/31/2016 11:32	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 14:10	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	329		5.00	1	08/31/2016 15:13	WG902465
Boron	3620		200	1	08/31/2016 15:13	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:13	WG902465
Calcium	157000		1000	1	08/31/2016 15:13	WG902465
Chromium	ND		10.0	1	08/31/2016 15:13	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:13	WG902465
Lithium	23.4		15.0	1	08/31/2016 15:13	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:13	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:34	WG902960
Arsenic	4.03		2.00	1	08/31/2016 15:34	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:34	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:34	WG902960
Lead	ND		2.00	1	08/31/2016 15:34	WG902960
Selenium	ND		2.00	1	08/31/2016 15:34	WG902960
Thallium	ND		2.00	1	08/31/2016 15:34	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	360000		10000	1	08/29/2016 12:02	WG902480

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	10900		1000	1	08/31/2016 14:55	WG903338
Fluoride	172		100	1	08/31/2016 14:55	WG903338
Sulfate	51700		5000	1	08/31/2016 14:55	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 14:13	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	174		5.00	1	08/31/2016 15:21	WG902465
Boron	ND		200	1	08/31/2016 15:21	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:21	WG902465
Calcium	105000		1000	1	08/31/2016 15:21	WG902465
Chromium	ND		10.0	1	08/31/2016 15:21	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:21	WG902465
Lithium	ND		15.0	1	08/31/2016 15:21	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:21	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:43	WG902960
Arsenic	ND		2.00	1	08/31/2016 15:43	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:43	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:43	WG902960
Lead	ND		2.00	1	08/31/2016 15:43	WG902960
Selenium	ND		2.00	1	08/31/2016 15:43	WG902960
Thallium	ND		2.00	1	08/31/2016 15:43	WG902960



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	605000		10000	1	08/29/2016 12:02	WG902480

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	22900		1000	1	08/31/2016 13:28	WG903338
Fluoride	253		100	1	08/31/2016 13:28	WG903338
Sulfate	146000		50000	10	09/01/2016 13:26	WG903670

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 14:16	WG902487

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	102		5.00	1	08/31/2016 15:23	WG902465
Boron	5250		200	1	08/31/2016 15:23	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:23	WG902465
Calcium	141000		1000	1	08/31/2016 15:23	WG902465
Chromium	ND		10.0	1	08/31/2016 15:23	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:23	WG902465
Lithium	18.1		15.0	1	08/31/2016 15:23	WG902465
Molybdenum	1180		5.00	1	08/31/2016 15:23	WG902465

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:47	WG902960
Arsenic	3.42		2.00	1	08/31/2016 15:47	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:47	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:47	WG902960
Lead	ND		2.00	1	08/31/2016 15:47	WG902960
Selenium	ND		2.00	1	08/31/2016 15:47	WG902960
Thallium	ND		2.00	1	08/31/2016 15:47	WG902960

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	403000		10000	1	08/29/2016 16:50	WG902678

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3220		1000	1	08/31/2016 15:23	WG903338
Fluoride	335		100	1	08/31/2016 15:23	WG903338
Sulfate	24800		5000	1	08/31/2016 15:23	WG903338

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/26/2016 14:19	WG902487

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	362		5.00	1	08/31/2016 15:26	WG902465
Boron	ND		200	1	08/31/2016 15:26	WG902465
Cadmium	ND		2.00	1	08/31/2016 15:26	WG902465
Calcium	104000		1000	1	08/31/2016 15:26	WG902465
Chromium	11.0	B	10.0	1	08/31/2016 15:26	WG902465
Cobalt	ND		10.0	1	08/31/2016 15:26	WG902465
Lithium	ND		15.0	1	08/31/2016 15:26	WG902465
Molybdenum	ND		5.00	1	08/31/2016 15:26	WG902465

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/31/2016 15:50	WG902960
Arsenic	ND		2.00	1	08/31/2016 15:50	WG902960
Beryllium	ND		2.00	1	08/31/2016 15:50	WG902960
Cadmium	ND		1.00	1	08/31/2016 15:50	WG902960
Lead	ND		2.00	1	08/31/2016 15:50	WG902960
Selenium	5.00		2.00	1	08/31/2016 15:50	WG902960
Thallium	ND		2.00	1	08/31/2016 15:50	WG902960



Method Blank (MB)

(MB) R3160318-1 08/26/16 16:06

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L855388-01 Original Sample (OS) • Duplicate (DUP)

(OS) L855388-01 08/26/16 16:06 • (DUP) R3160318-4 08/26/16 16:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2130000	2120000	1	0.236		5

⁷ Gl

⁸ Al

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

(LCS) R3160318-2 08/26/16 16:06 • (LCSD) R3160318-3 08/26/16 16:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8530000	8540000	96.9	97.0	85.0-115			0.117	5

⁹ Sc



Method Blank (MB)

(MB) R3160323-1 08/29/16 12:02

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L855852-07 Original Sample (OS) • Duplicate (DUP)

(OS) L855852-07 08/29/16 12:02 • (DUP) R3160323-4 08/29/16 12:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	300000	299000	1	0.334		5

⁷ Gl

⁸ Al

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

(LCS) R3160323-2 08/29/16 12:02 • (LCSD) R3160323-3 08/29/16 12:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8630000	8650000	98.1	98.3	85.0-115			0.231	5

⁹ Sc



Method Blank (MB)

(MB) R3160309-1 08/29/16 16:50

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L855553-01 Original Sample (OS) • Duplicate (DUP)

(OS) L855553-01 08/29/16 16:50 • (DUP) R3160309-4 08/29/16 16:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	319000	316000	1	0.945		5

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

(LCS) R3160309-2 08/29/16 16:50 • (LCSD) R3160309-3 08/29/16 16:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8540000	8620000	97.0	98.0	85.0-115			0.932	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3160592-1 08/31/16 05:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L855852-06 Original Sample (OS) • Duplicate (DUP)

(OS) L855852-06 08/31/16 07:41 • (DUP) R3160592-4 08/31/16 07:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3410	3390	1	1		15
Fluoride	275	275	1	0		15
Sulfate	9110	9050	1	1		15

L855852-16 Original Sample (OS) • Duplicate (DUP)

(OS) L855852-16 08/31/16 13:28 • (DUP) R3160592-7 08/31/16 14:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	22900	23100	1	1		15
Fluoride	253	250	1	1		15

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

(LCS) R3160592-2 08/31/16 05:43 • (LCSD) R3160592-3 08/31/16 05:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39100	39100	98	98	80-120			0	15
Fluoride	8000	7910	7900	99	99	80-120			0	15
Sulfate	40000	39400	39300	99	98	80-120			0	15

L855852-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855852-05 08/31/16 12:30 • (MS) R3160592-5 08/31/16 12:59 • (MSD) R3160592-6 08/31/16 13:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	3230	52800	53100	99	100	1	80-120			1	15
Fluoride	5000	331	5300	5270	99	99	1	80-120			0	15
Sulfate	50000	24400	72800	73000	97	97	1	80-120			0	15



L855852-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L855852-15 08/31/16 14:55 • (MS) R3160592-8 08/31/16 15:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	10900	59500	97	1	80-120	
Fluoride	5000	172	5140	99	1	80-120	
Sulfate	50000	51700	98400	93	1	80-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3160875-1 09/01/16 07:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L856691-01 Original Sample (OS) • Duplicate (DUP)

(OS) L856691-01 09/01/16 09:51 • (DUP) R3160875-4 09/01/16 10:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	9680	9630	1	1		15
Fluoride	837	849	1	1		15
Sulfate	45700	45800	1	0		15

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

(LCS) R3160875-2 09/01/16 08:09 • (LCSD) R3160875-3 09/01/16 08:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	38800	38900	97	97	80-120			0	15
Fluoride	8000	7670	7720	96	96	80-120			1	15
Sulfate	40000	38900	39100	97	98	80-120			1	15

L855852-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L855852-04 09/01/16 12:14 • (MS) R3160875-5 09/01/16 12:29

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	3580	52800	99	1	80-120	
Fluoride	5000	311	4990	94	1	80-120	
Sulfate	50000	12700	61000	97	1	80-120	



Method Blank (MB)

(MB) R3159599-1 08/26/16 13:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3159599-2 08/26/16 13:03 • (LCSD) R3159599-3 08/26/16 13:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.11	3.06	104	102	80-120			2	20

L855852-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855852-05 08/26/16 13:09 • (MS) R3159599-4 08/26/16 13:11 • (MSD) R3159599-5 08/26/16 13:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	3.00	2.92	100	97	1	75-125			3	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3160250-1 08/30/16 11:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3160250-2 08/30/16 11:45 • (LCSD) R3160250-3 08/30/16 11:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.01	2.99	100	100	80-120			1	20

L856059-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L856059-01 08/30/16 11:55 • (MS) R3160250-4 08/30/16 11:57 • (MSD) R3160250-5 08/30/16 12:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	2.98	2.98	99	99	1	75-125			0	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3160693-1 08/31/16 14:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Cadmium	U		0.700	2.00
Calcium	U		46.3	1000
Chromium	2.64	J	1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3160693-2 08/31/16 14:18 • (LCSD) R3160693-3 08/31/16 14:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1000	1030	100	103	80-120			3	20
Boron	1000	1020	1050	102	105	80-120			3	20
Cadmium	1000	992	1020	99	102	80-120			3	20
Calcium	10000	9730	10100	97	101	80-120			4	20
Chromium	1000	974	1010	97	101	80-120			4	20
Cobalt	1000	1000	1040	100	104	80-120			4	20
Lithium	1000	961	978	96	98	80-120			2	20
Molybdenum	1000	992	1020	99	102	80-120			3	20

L855852-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855852-05 08/31/16 14:23 • (MS) R3160693-5 08/31/16 14:29 • (MSD) R3160693-6 08/31/16 14:31

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	360	1370	1350	101	99	1	75-125			1	20
Boron	1000	ND	1140	1120	106	104	1	75-125			1	20
Cadmium	1000	ND	1030	1020	103	102	1	75-125			1	20
Calcium	10000	103000	111000	111000	79	82	1	75-125			0	20
Chromium	1000	11.1	1020	1000	101	99	1	75-125			1	20
Cobalt	1000	ND	1050	1040	105	104	1	75-125			1	20
Lithium	1000	ND	996	982	99	98	1	75-125			1	20
Molybdenum	1000	ND	1020	1000	102	100	1	75-125			2	20



Method Blank (MB)

(MB) R3160649-1 08/31/16 14:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	0.798	J	0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

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

(LCS) R3160649-2 08/31/16 14:28 • (LCSD) R3160649-3 08/31/16 14:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	57.9	56.0	54.4	97	94	80-120			3	20
Arsenic	50.0	52.6	51.2	105	102	80-120			3	20
Beryllium	50.0	48.8	47.3	98	95	80-120			3	20
Cadmium	50.0	52.6	51.4	105	103	80-120			2	20
Lead	50.0	50.9	49.8	102	100	80-120			2	20
Selenium	50.0	51.1	49.9	102	100	80-120			2	20
Thallium	50.0	50.2	49.3	100	99	80-120			2	20

L855852-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855852-05 08/31/16 14:35 • (MS) R3160649-5 08/31/16 14:41 • (MSD) R3160649-6 08/31/16 14:44

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	57.9	ND	56.5	57.2	96	97	1	75-125			1	20
Arsenic	50.0	ND	54.2	53.5	107	106	1	75-125			1	20
Beryllium	50.0	ND	48.6	48.6	97	97	1	75-125			0	20
Cadmium	50.0	ND	52.3	52.2	105	104	1	75-125			0	20
Lead	50.0	ND	50.4	50.7	100	100	1	75-125			1	20
Selenium	50.0	5.05	56.6	58.0	103	106	1	75-125			2	20
Thallium	50.0	ND	50.5	50.4	101	101	1	75-125			0	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

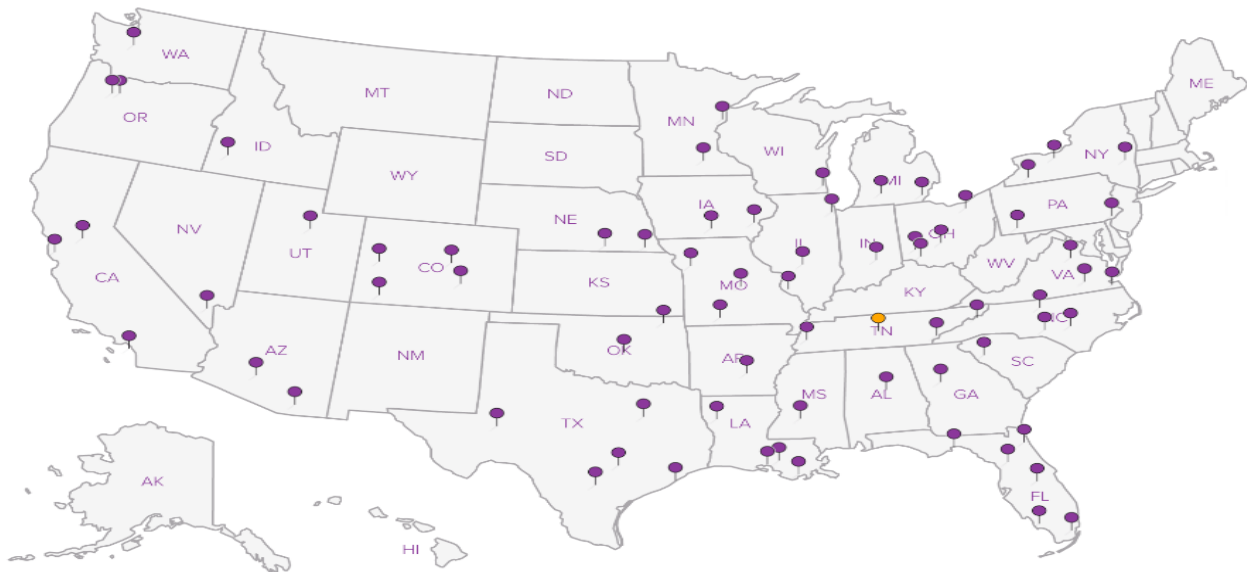
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Mr. Jason R. Franks

Email To: jfranks@scsengineers.com;
LMeyer@scsengineers.com

Project
Description: **Sibley Generating Station**

City/State
Collected:

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

Client Project #
27213169.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Adam Parris

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately
Packed on Ice N ___ Y

___ Same Day200%
___ Next Day100%
___ Two Day50%
___ Three Day25%

Email? ___ No Yes
FAX? No ___ Yes

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mIHDPE-HNO3	Chloride, F, SO4 125mIHDPE-NoPres	TDS 250mIHDPE-NoPres	Analysis / Container / Preservative					Rem./Contaminant	Sample # (lab only)
504	Grab	GW	N/A	8/23/16	1355	3	X	X	X							01
505		GW			1320	3	X	X	X							02
506		GW			1320	3	X	X	X							03
510		GW			1125	3	X	X	X							04
512		GW			1045	3	X	X	X							05
601		GW			1210	3	X	X	X							06
602		GW				3	X	X	X							
701		GW			1130	3	X	X	X							07
702		GW			1215	3	X	X	X							08
703		GW			1255	3	X	X	X							09

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: 6010 Metals-B,CA,CR,CO,LI,MO, 6020 Metals-SB,AS,BE,CD,PB,SE,TL, 7470 Metals-H:G.

pH _____ Temp _____

Flow _____ Other _____

Hold # _____

Relinquished by: (Signature) *[Signature]*

Date: **8/23/16**

Time: **1700**

Received by: (Signature) *[Signature]*

Samples returned via: UPS
 FedEx Courier SWA

Condition: (lab use only)
4 MR

Relinquished by: (Signature) *[Signature]*

Date: **8/24/16**

Time: **1200**

Received by: (Signature) *[Signature]*

Temp: _____ °C Bottles Received: **32**
11/29/57

COC Seal Intact: ___ Y ___ N ___ NA

Relinquished by: (Signature) *[Signature]*

Date: _____

Time: _____

Received for lab by: (Signature) *[Signature]*

Date: **8-25-16** Time: **09:00**


pH Checked: **22** NCF: _____

Chain of Custody Page **1** of **3**

ESC
L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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



L # **855852**

A227

Acctnum: **AQUAOPKS**
Template: **T115107**
Prelogin: **P565218**
TSR: **206 - Jeff Carr**
PB: _____

Shipped Via: _____

Rem./Contaminant	Sample # (lab only)
	01
	02
	03
	04
	05
	06
	07
	08
	09

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Mr. Jason R. Franks

Email To: jfranks@scsengineers.com;
LMeyer@scsengineers.com

Project Description: **Sibley Generating Station**

City/State Collected:

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

Client Project #
27213169.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Adam Parrish

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
Standard

Email? No Yes
FAX? No Yes

Immediately Packed on Ice N Y

CCR Metals 250mHDPE-HNO3

Chloride, F, SO4 125mHDPE-NoPres

TDS 250mHDPE-NoPres

Analysis / Container / Preservative

Chain of Custody Page **2** of **3**



YOUR LAB OF CHOICE

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



L # *855892*

Table #

Acctnum: **AQUAOPKS**

Template: **T115107**

Prelogin: **P565218**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mHDPE-HNO3	Chloride, F, SO4 125mHDPE-NoPres	TDS 250mHDPE-NoPres								
704	Grab	GW	N/A	8/23/16	1330	3	X	X	X								10
801		GW			1440	3	X	X	X								11
802		GW			1525	3	X	X	X								12
803		GW			1405	3	X	X	X								13
804		GW			1445	3	X	X	X								14
805		GW			1520	3	X	X	X								15
806R		GW			1550	3	X	X	X								16
DUPLICATE		GW			1050	3	X	X	X								17
512 MS		GW			1055	3	X	X	X								05
512 MSD		GW			1100	3	X	X	X								05

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

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

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature) *[Signature]*

Date: *8/23/16*

Time: *1:00*

Received by: (Signature) *[Signature]*

Samples returned via: UPS

Condition: (lab use only)

Relinquished by: (Signature) *[Signature]*

Date: *8/24/16*

Time: *12:00*

Received by: (Signature) *[Signature]*

Temp: _____ °C Bottles Received: *69 57*

COC Seal Intact: Y N NA

Relinquished by: (Signature) *[Signature]*

Date: _____

Time: _____

Received for lab by: (Signature) *[Signature]*

Date: *8-25-16* Time: *09:00*

pH Checked: *8.2*

NCF: *82*



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

Cooler Receipt Checklist

Client: AQUAOPXS SDG# 855852

Cooler Received/Opened On: 8/25/2016 By: Nikki Farmer

Temperature Upon Receipt: 3.2 °c
[Signature]
(Signature)

Cooler Receipt Check List			Yes	No	N/A
Were custody seals on outside of cooler and intact?					<input checked="" type="checkbox"/>
Were custody papers properly filled out (ink, signed, etc.)?			<input checked="" type="checkbox"/>		
Did all bottles arrive in good condition?			<input checked="" type="checkbox"/>		
Were correct bottles used for the analyses requested?			<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent in each bottle?			<input checked="" type="checkbox"/>		
Were correct preservatives used?			<input checked="" type="checkbox"/>		
Were all applicable sample containers checked for preservation? (Any samples not in accepted pH range noted on COC.)					
If applicable, was an observable VOA headspace present?					<input checked="" type="checkbox"/>
Non Conformance Generated? (If yes see attached NCF)					<input checked="" type="checkbox"/>



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O-N-E L-A-B



N-A-T-I-O-N-W-I-D-E

Case Narrative

Lab No: 20160828

This report contains the analytical results for the 23 sample(s) received under chain of custody by ESC Lab Sciences on 8/25/2016 10:35:00 AM. These samples are associated with your Sibley Generating Station project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 2 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160828-01
Client ID : 504
Date Sampled : 8/23/2016 1:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.957 +/- 0.825	0.498	pCi/l			
Radium-226	SM 7500 Ra B M*	0.398 +/- 0.181	0.119	pCi/l	08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.559 +/- 0.644	0.378	pCi/l	09/14/16	09/16/16	JR

Lab ID : 20160828-02
Client ID : 505
Date Sampled : 8/23/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.388 +/- 0.750	0.498	pCi/l			
Radium-226	SM 7500 Ra B M*	0.098 +/- 0.083	0.103	pCi/l	08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.290 +/- 0.667	0.395	pCi/l	09/14/16	09/16/16	JR

Lab ID : 20160828-03
Client ID : 506
Date Sampled : 8/23/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.00 +/- 0.714	0.516	pCi/l			
Radium-226	SM 7500 Ra B M*	0.109 +/- 0.124	0.184	pCi/l	08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.888 +/- 0.591	0.333	pCi/l	09/14/16	09/16/16	JR

Lab ID : 20160828-04
Client ID : 510
Date Sampled : 8/23/2016 11:25:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.849 +/- 0.881	0.671	pCi/l			
Radium-226	SM 7500 Ra B M*	0.128 +/- 0.166	0.251	pCi/l	08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.720 +/- 0.715	0.420	pCi/l	09/14/16	09/16/16	JR



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 3 of 7

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160828-05
Client ID : 512
Date Sampled : 8/23/2016 10:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.529 +/- 0.781	0.499	pCi/l				
Radium-226	SM 7500 Ra B M*	0.279 +/- 0.131	0.126	pCi/l		08/31/16	09/06/16	AK
Radium-228	EPA 904*/9320*	0.250 +/- 0.650	0.372	pCi/l		09/14/16	09/16/16	JR

Lab ID : 20160828-06
Client ID : 512 MS
Date Sampled : 8/23/2016 10:55:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	90.9		% Rec		08/31/16	09/06/16	AK
Radium-228	EPA 904*/9320*	86.2		% Rec		09/14/16	09/16/16	JR

Lab ID : 20160828-07
Client ID : 512 MSD
Date Sampled : 8/23/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	1.1		RPD		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	3.3		RPD		09/14/16	09/16/16	JR

Lab ID : 20160828-08
Client ID : 601
Date Sampled : 8/23/2016 12:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.181 +/- 0.797	0.554	pCi/l				
Radium-226	SM 7500 Ra B M*	0.034 +/- 0.082	0.144	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	0.147 +/- 0.715	0.411	pCi/l		09/14/16	09/16/16	JR

Lab ID : 20160828-09
Client ID : 701
Date Sampled : 8/23/2016 11:30:00 AM
Matrix : NPW

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 4 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses							
Combined Radium	0.291 +/- 0.929	0.654	pCi/l				
Radium-226 SM 7500 Ra B M*	0.140 +/- 0.126	0.172	pCi/l		08/31/16	09/07/16	AK
Radium-228 EPA 904*/9320*	0.151 +/- 0.803	0.482	pCi/l		09/14/16	09/16/16	JR

Lab ID : 20160828-10
Client ID : 702
Date Sampled : 8/23/2016 12:15:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.153 +/- 0.810	0.566	pCi/l				
Radium-226 SM 7500 Ra B M*	0.153 +/- 0.106	0.125	pCi/l		08/31/16	09/07/16	AK
Radium-228 EPA 904*/9320*	-0.150 +/- 0.704	0.441	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-11
Client ID : 703
Date Sampled : 8/23/2016 12:55:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.888 +/- 0.684	0.479	pCi/l				
Radium-226 SM 7500 Ra B M*	0.168 +/- 0.117	0.142	pCi/l		08/31/16	09/07/16	AK
Radium-228 EPA 904*/9320*	0.719 +/- 0.568	0.337	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-12
Client ID : 704
Date Sampled : 8/23/2016 1:30:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.469 +/- 0.808	0.590	pCi/l				
Radium-226 SM 7500 Ra B M*	0.096 +/- 0.106	0.156	pCi/l		08/31/16	09/07/16	AK
Radium-228 EPA 904*/9320*	0.373 +/- 0.701	0.435	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-13
Client ID : 801
Date Sampled : 8/23/2016 2:40:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.146 +/- 0.720	0.560	pCi/l				

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 5 of 7

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.146 +/- 0.146	0.211	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	-0.136 +/- 0.574	0.349	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-14
Client ID : 802
Date Sampled : 8/23/2016 3:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.287 +/- 0.609	0.399	pCi/l				
Radium-226	SM 7500 Ra B M*	0.287 +/- 0.147	0.108	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	-0.006 +/- 0.462	0.291	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-15
Client ID : 803
Date Sampled : 8/23/2016 2:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.741 +/- 0.593	0.389	pCi/l				
Radium-226	SM 7500 Ra B M*	0.218 +/- 0.107	0.093	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	0.523 +/- 0.486	0.296	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-16
Client ID : 804
Date Sampled : 8/23/2016 2:45:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.54 +/- 0.660	0.472	pCi/l				
Radium-226	SM 7500 Ra B M*	0.225 +/- 0.136	0.170	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	1.32 +/- 0.524	0.302	pCi/l		09/14/16	09/19/16	JR

Lab ID : 20160828-17
Client ID : 805
Date Sampled : 8/23/2016 3:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.71 +/- 1.26	0.866	pCi/l				
Radium-226	SM 7500 Ra B M*	0.385 +/- 0.166	0.186	pCi/l		08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	1.32 +/- 1.10	0.680	pCi/l		09/14/16	09/19/16	JR

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 6 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20160828-18
Client ID : 806R
Date Sampled : 8/23/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.109 +/- 0.585	0.430	pCi/l			
Radium-226	SM 7500 Ra B M*	0.109 +/- 0.093	0.119	pCi/l	08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	0.000 +/- 0.493	0.311	pCi/l	09/14/16	09/19/16	JR

Lab ID : 20160828-19
Client ID : DUPLICATE
Date Sampled : 8/23/2016 10:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.54 +/- 0.772	0.537	pCi/l			
Radium-226	SM 7500 Ra B M*	0.125 +/- 0.113	0.160	pCi/l	08/31/16	09/07/16	AK
Radium-228	EPA 904*/9320*	1.42 +/- 0.658	0.377	pCi/l	09/14/16	09/19/16	JR



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20160828
 Date Reported : 09/22/16
 Date Received : 08/25/16
 Page Number : 7 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.009	99.1			NC	1.670	86.5	99.4	13.8	R1128
Radium-226	-0.004	101.0			NC	0.614	90.9	91.9	1.1	R1129
Radium-228	0.749	106.0			NC	0.157	89.9	92.9	3.2	R3855
Radium-228	-0.154	96.6			NC	0.701	86.2	89.2	3.3	R3854

Lab Approval:

Ron Eidson
 Director of Radiochemistry

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

L# 958835
 Table #
 Account: **AQUAOPKS**
 Template: **T115110**
 Prelogin: **P565222**
 TSR: 206 - Jeff Garr
 PB:

Shipped Via:	Rem./Contaminant	Sample # (lab only)
		-01
		-02
		-03
		-04
		-05
		-08
		-09
		-10
		-11

2060828

Analysis / Container / Preservative

Billing Information:
SCS Engineers - KS
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Mr. Jason R. Franks
 Email To: jfranks@scsengineers.com;
 LMeyer@scsengineers.com

Project
 Description: **Sibley Generating Station**

Client Project #
27213167.16

City/State Collected:
AQUAOPKS-SIBLEY

Collected by (print):
Adrian Parris

Collected by (signature):
[Signature]

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA226, RA228 TL-HDPE-ADD HNO3
504	Grab	NPW	N/A	8/23/16	1355	2	X
505		NPW			1320	2	X
506		NPW			1320	2	X
510		NPW			1175	2	X
512		NPW			1045	2	X
601		NPW			1210	2	X
602		NPW				2	X
701		NPW			1130	2	X
702		NPW			1215	2	X
703		NPW			1255	2	X

PH _____ Temp _____
 Flow _____ Other _____

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

Relinquished by: (Signature)
[Signature]
 Date: 8/23/16
 Time: 1700

Relinquished by: (Signature)
[Signature]
 Date: 8/24/16
 Time: 1700

Relinquished by: (Signature)
[Signature]
 Date: _____
 Time: _____

Samples returned via: UPS
 FedEx Courier

Temp: Auto Bottles Received:
 Date: 8/25/16 Time: 1035

Hold #
 Condition: 20160828
 COC Seal Intact: Y N NA
 PH Checked: NGF

Analysis / Container / Preservative

Billing information:
SCS Engineers - KS
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213
 Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213
 Email To: jfranks@scsengineers.com;
 LMeyer@scsengineers.com

Project
 Description: **Sibley Generating Station**
 Client Project #
27213167.16
 Lab Project #
AQUAOPKS-SIBLEY
 City/State Collected:
 P.O. #

Collected by (print):
Adam Paris
 Collected by (signature):
 Date Results Needed
Standard
 Email? No Yes
 FAX? No Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
704	Grab	NPW	N/A	8/23/16	1330	2
801		NPW			1440	2
802		NPW			1525	2
803		NPW			1405	2
804		NPW			1445	2
805		NPW			1520	2
806R		NPW			1550	2
DUPLICATE		NPW			1050	2
512 MS		NPW			1055	2
512 MSD		NPW			1100	2

Sample ID	Matrix	Depth	Date	Time	No. of Cntrs	Temp	Sample # (lab only)
704	NPW	N/A	8/23/16	1330	2		-12
801	NPW			1440	2		-13
802	NPW			1525	2		-14
803	NPW			1405	2		-15
804	NPW			1445	2		-16
805	NPW			1520	2		-17
806R	NPW			1550	2		-18
DUPLICATE	NPW			1050	2		-19
512 MS	NPW			1055	2		-06
512 MSD	NPW			1100	2		-07

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: RA 226/228 - Report separately and combined.

pH _____ Temp _____
 Flow _____ Other _____

Hold# _____
 Condition: (lab use only)
 Condition: _____
 Condition: _____

Relinquished by: (Signature) _____
 Date: 8/23/16 Time: 1700
 Received by: (Signature) _____
 Date: 8/23/16 Time: 1700

Relinquished by: (Signature) _____
 Date: 8/24/16 Time: 1700
 Received by: (Signature) _____
 Date: 8/24/16 Time: 1700

Relinquished by: (Signature) _____
 Date: _____ Time: _____
 Received by: (Signature) _____
 Date: 8/25/16 Time: 1035

GOC Seal Intact: Y N NA
 pH Checked: _____ NGF: _____

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

L# 455836
 Table #
 Acctnum: **AQUAOPKS**
 Template: **T115126**
 Prelogin: **P565270**
 TSR: **206 - Jeff Carr**
 PB:
 Shipped Via:

Analysis / Container / Preservative

Billing information:
SCS Engineers - KS
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Mr. Jason R. Franks
 Email To: jfranks@scsengineers.com;
LMeyer@scsengineers.com

Project
 Description: **Sibley Generating Station**
 Client Project #
27213169.16
 Site/Facility ID #

City/State Collected:
AQUAOPKS-SIBLEY
 P.O. #
 Date Results Needed
Standard
 Email? No Yes
 FAX? No Yes

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs
SLAG POND	Grab	NPW	N/A	8/23/16	1615	2
FLY ASH POND	↓	NPW	↓	↓	1530	2
FLY ASH POND OUTFALL	↓	NPW	↓	↓	1500	2
LEACHATE POND	↓	NPW	↓	↓	1550	2
RIVER	↓	NPW	↓	↓	↓	2

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: RA 226/228 - Report separately and combined.

Temp: 20160828
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS
 FedEx Courier
 Temp: Amb °C Bottles Received:
 Date: 8/25/16 Time: 1035
 Received for lab by: (Signature) [Signature]
 Received for lab by: (Signature) [Signature]
 Received for lab by: (Signature) [Signature]

[Handwritten signature]

RA226, RA228 1L-HDPF Add HNO3

SAMPLE LOGIN

Date Received: 8/25/2016 10:35:0

Lab Number: 20160828

Due: 9/22/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160828-01 B	504	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-01 A	504	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-02 A	505	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-02 B	505	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-03 A	506	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-03 B	506	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-04 A	510	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-04 B	510	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-05 A	512	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-05 B	512	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-06 A	512 MS	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-06 B	512 MS	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-07 B	512 MSD	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-07 A	512 MSD	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160828-08 A	601	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-08 B	601	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-09 A	701	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-09 B	701	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-10 A	702	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-10 B	702	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-11 A	703	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-11 B	703	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-12 B	704	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-12 A	704	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-13 A	801	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-13 B	801	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-14 A	802	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-14 B	802	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-15 A	803	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-15 B	803	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160828-16 A	804	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20160828-16 B	804	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes

Radium-226
Radium-228

20160828-17 B	805	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20160828-17 A	805	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes

Radium-226
Radium-228

20160828-18 A	806R	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20160828-18 B	806R	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes

Radium-226
Radium-228

20160828-19 A	DUPLICATE	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20160828-19 B	DUPLICATE	NPW	08/23/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes

Radium-226
Radium-228

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken N/A Temperature: Armb Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 2 Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete N/A

Anomalies

Inspected By: Subir Jayne DATE 8/25/16
 QA or Designee Review: Rajiv Kumar DATE 08/25/16
 Sample Custodian Review: Quate Mandell DATE 8/25/16

Project Notes:

Y

Jared Morrison
December 20, 2022

ATTACHMENT 1-5
November 2016 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L872447
Samples Received: 11/12/2016
Project Number: 27213169.16
Description: KCPL-Sibley Generating Station-Groundwater

Report To: Mr. Jason R. Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213








Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1	
²Tc: Table of Contents	2	
³Ss: Sample Summary	3	
⁴Cn: Case Narrative	6	
⁵Sr: Sample Results	7	
601 L872447-01	7	
701 L872447-02	8	
702 L872447-03	9	
703 L872447-04	10	
704 L872447-05	11	
801 L872447-06	12	
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SAMPLE SUMMARY



601 L872447-01 GW

Collected by
Alex McCormick Collected date/time
11/11/16 11:10 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927658	1	11/18/16 01:51	11/18/16 04:36	JM
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:24	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 10:52	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 20:45	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 14:27	11/17/16 14:27	SAM

1
Cp

2
Tc

3
Ss

4
Cn

701 L872447-02 GW

Collected by
Alex McCormick Collected date/time
11/10/16 10:20 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927309	1	11/17/16 13:06	11/17/16 13:39	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:26	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 10:55	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 20:49	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 14:43	11/17/16 14:43	SAM

5
Sr

6
Qc

7
Gl

8
Al

702 L872447-03 GW

Collected by
Alex McCormick Collected date/time
11/10/16 12:20 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927309	1	11/17/16 13:06	11/17/16 13:39	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:33	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 10:57	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 20:52	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 14:58	11/17/16 14:58	SAM

9
Sc

703 L872447-04 GW

Collected by
Alex McCormick Collected date/time
11/10/16 11:40 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927309	1	11/17/16 13:06	11/17/16 13:39	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:35	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:00	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 20:56	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 15:14	11/17/16 15:14	SAM

704 L872447-05 GW

Collected by
Alex McCormick Collected date/time
11/10/16 10:55 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927311	1	11/17/16 10:43	11/17/16 11:06	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:38	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:03	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 19:46	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 15:29	11/17/16 15:29	SAM

SAMPLE SUMMARY



801 L872447-06 GW

Collected by
Alex McCormick Collected date/time
11/10/16 13:30 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927311	1	11/17/16 10:43	11/17/16 11:06	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:40	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:06	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 20:59	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 15:44	11/17/16 15:44	SAM



802 L872447-07 GW

Collected by
Alex McCormick Collected date/time
11/10/16 12:50 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927311	1	11/17/16 10:43	11/17/16 11:06	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:42	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:08	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 21:03	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 16:00	11/17/16 16:00	SAM



803 L872447-08 GW

Collected by
Alex McCormick Collected date/time
11/10/16 14:30 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927311	1	11/17/16 10:43	11/17/16 11:06	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:44	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:11	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 21:06	JPD
Wet Chemistry by Method 9056A	WG927226	1	11/17/16 16:50	11/17/16 16:50	SAM
Wet Chemistry by Method 9056A	WG928098	5	11/19/16 14:38	11/19/16 14:38	CM



804 L872447-09 GW

Collected by
Alex McCormick Collected date/time
11/10/16 15:25 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927311	1	11/17/16 10:43	11/17/16 11:06	MMF
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:47	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:14	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 21:10	JPD
Wet Chemistry by Method 9056A	WG927227	1	11/17/16 10:50	11/17/16 10:50	SAM

805 L872447-10 GW

Collected by
Alex McCormick Collected date/time
11/11/16 09:50 Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927658	1	11/18/16 01:51	11/18/16 04:36	JM
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:49	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:16	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 21:13	JPD
Wet Chemistry by Method 9056A	WG927227	1	11/17/16 11:04	11/17/16 11:04	SAM

SAMPLE SUMMARY



806R L872447-11 GW

Collected by
Alex McCormick

Collected date/time
11/11/16 12:55

Received date/time
11/12/16 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG927658	1	11/18/16 01:51	11/18/16 04:36	JM
Mercury by Method 7470A	WG926265	1	11/14/16 10:40	11/15/16 13:51	NJB
Metals (ICP) by Method 6010B	WG926575	1	11/15/16 22:44	11/16/16 11:24	LTB
Metals (ICPMS) by Method 6020	WG926582	1	11/16/16 18:51	11/17/16 21:17	JPD
Wet Chemistry by Method 9056A	WG927227	1	11/17/16 11:19	11/17/16 11:19	SAM
Wet Chemistry by Method 9056A	WG928098	5	11/19/16 14:52	11/19/16 14:52	CM

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	423000		10000	1	11/18/2016 04:36	WG927658

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3510		1000	1	11/17/2016 14:27	WG927226
Fluoride	273		100	1	11/17/2016 14:27	WG927226
Sulfate	16100		5000	1	11/17/2016 14:27	WG927226

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:24	WG926265

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	324		5.00	1	11/16/2016 10:52	WG926575
Boron	ND		200	1	11/16/2016 10:52	WG926575
Calcium	105000		1000	1	11/16/2016 10:52	WG926575
Chromium	ND		10.0	1	11/16/2016 10:52	WG926575
Cobalt	ND		10.0	1	11/16/2016 10:52	WG926575
Lithium	ND		15.0	1	11/16/2016 10:52	WG926575
Molybdenum	ND		5.00	1	11/16/2016 10:52	WG926575

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 20:45	WG926582
Arsenic	ND		2.00	1	11/17/2016 20:45	WG926582
Beryllium	ND		2.00	1	11/17/2016 20:45	WG926582
Cadmium	ND		1.00	1	11/17/2016 20:45	WG926582
Lead	ND		2.00	1	11/17/2016 20:45	WG926582
Selenium	5.21		2.00	1	11/17/2016 20:45	WG926582
Thallium	ND		2.00	1	11/17/2016 20:45	WG926582



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	307000		10000	1	11/17/2016 13:39	WG927309

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8400		1000	1	11/17/2016 14:43	WG927226
Fluoride	ND		100	1	11/17/2016 14:43	WG927226
Sulfate	15600		5000	1	11/17/2016 14:43	WG927226

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:26	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	184		5.00	1	11/16/2016 10:55	WG926575
Boron	ND		200	1	11/16/2016 10:55	WG926575
Calcium	84000		1000	1	11/16/2016 10:55	WG926575
Chromium	ND		10.0	1	11/16/2016 10:55	WG926575
Cobalt	ND		10.0	1	11/16/2016 10:55	WG926575
Lithium	ND		15.0	1	11/16/2016 10:55	WG926575
Molybdenum	ND		5.00	1	11/16/2016 10:55	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 20:49	WG926582
Arsenic	2.50		2.00	1	11/17/2016 20:49	WG926582
Beryllium	ND		2.00	1	11/17/2016 20:49	WG926582
Cadmium	ND		1.00	1	11/17/2016 20:49	WG926582
Lead	ND		2.00	1	11/17/2016 20:49	WG926582
Selenium	ND		2.00	1	11/17/2016 20:49	WG926582
Thallium	ND		2.00	1	11/17/2016 20:49	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	308000		10000	1	11/17/2016 13:39	WG927309

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8730		1000	1	11/17/2016 14:58	WG927226
Fluoride	ND		100	1	11/17/2016 14:58	WG927226
Sulfate	21500		5000	1	11/17/2016 14:58	WG927226

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:33	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	245		5.00	1	11/16/2016 10:57	WG926575
Boron	ND		200	1	11/16/2016 10:57	WG926575
Calcium	87800		1000	1	11/16/2016 10:57	WG926575
Chromium	ND		10.0	1	11/16/2016 10:57	WG926575
Cobalt	ND		10.0	1	11/16/2016 10:57	WG926575
Lithium	ND		15.0	1	11/16/2016 10:57	WG926575
Molybdenum	ND		5.00	1	11/16/2016 10:57	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 20:52	WG926582
Arsenic	5.34		2.00	1	11/17/2016 20:52	WG926582
Beryllium	ND		2.00	1	11/17/2016 20:52	WG926582
Cadmium	ND		1.00	1	11/17/2016 20:52	WG926582
Lead	ND		2.00	1	11/17/2016 20:52	WG926582
Selenium	ND		2.00	1	11/17/2016 20:52	WG926582
Thallium	ND		2.00	1	11/17/2016 20:52	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	490000		10000	1	11/17/2016 13:39	WG927309

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20200		1000	1	11/17/2016 15:14	WG927226
Fluoride	318		100	1	11/17/2016 15:14	WG927226
Sulfate	ND		5000	1	11/17/2016 15:14	WG927226

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:35	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	252		5.00	1	11/16/2016 11:00	WG926575
Boron	700		200	1	11/16/2016 11:00	WG926575
Calcium	119000		1000	1	11/16/2016 11:00	WG926575
Chromium	ND		10.0	1	11/16/2016 11:00	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:00	WG926575
Lithium	ND		15.0	1	11/16/2016 11:00	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:00	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 20:56	WG926582
Arsenic	186		2.00	1	11/17/2016 20:56	WG926582
Beryllium	ND		2.00	1	11/17/2016 20:56	WG926582
Cadmium	ND		1.00	1	11/17/2016 20:56	WG926582
Lead	ND		2.00	1	11/17/2016 20:56	WG926582
Selenium	ND		2.00	1	11/17/2016 20:56	WG926582
Thallium	ND		2.00	1	11/17/2016 20:56	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	393000		10000	1	11/17/2016 11:06	WG927311

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13900		1000	1	11/17/2016 15:29	WG927226
Fluoride	170		100	1	11/17/2016 15:29	WG927226
Sulfate	39800		5000	1	11/17/2016 15:29	WG927226

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:38	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	159		5.00	1	11/16/2016 11:03	WG926575
Boron	ND		200	1	11/16/2016 11:03	WG926575
Calcium	93900		1000	1	11/16/2016 11:03	WG926575
Chromium	ND		10.0	1	11/16/2016 11:03	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:03	WG926575
Lithium	ND		15.0	1	11/16/2016 11:03	WG926575
Molybdenum	9.39		5.00	1	11/16/2016 11:03	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 19:46	WG926582
Arsenic	ND		2.00	1	11/17/2016 19:46	WG926582
Beryllium	ND		2.00	1	11/17/2016 19:46	WG926582
Cadmium	ND		1.00	1	11/17/2016 19:46	WG926582
Lead	ND		2.00	1	11/17/2016 19:46	WG926582
Selenium	ND		2.00	1	11/17/2016 19:46	WG926582
Thallium	ND		2.00	1	11/17/2016 19:46	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	602000		10000	1	11/17/2016 11:06	WG927311

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	88200		1000	1	11/17/2016 15:44	WG927226
Fluoride	182		100	1	11/17/2016 15:44	WG927226
Sulfate	66500		5000	1	11/17/2016 15:44	WG927226

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:40	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	114		5.00	1	11/16/2016 11:06	WG926575
Boron	361		200	1	11/16/2016 11:06	WG926575
Calcium	143000		1000	1	11/16/2016 11:06	WG926575
Chromium	ND		10.0	1	11/16/2016 11:06	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:06	WG926575
Lithium	15.3		15.0	1	11/16/2016 11:06	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:06	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 20:59	WG926582
Arsenic	ND		2.00	1	11/17/2016 20:59	WG926582
Beryllium	ND		2.00	1	11/17/2016 20:59	WG926582
Cadmium	ND		1.00	1	11/17/2016 20:59	WG926582
Lead	ND		2.00	1	11/17/2016 20:59	WG926582
Selenium	2.18		2.00	1	11/17/2016 20:59	WG926582
Thallium	ND		2.00	1	11/17/2016 20:59	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	277000		10000	1	11/17/2016 11:06	WG927311

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	26600		1000	1	11/17/2016 16:00	WG927226
Fluoride	183		100	1	11/17/2016 16:00	WG927226
Sulfate	38000		5000	1	11/17/2016 16:00	WG927226

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:42	WG926265

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	133		5.00	1	11/16/2016 11:08	WG926575
Boron	ND		200	1	11/16/2016 11:08	WG926575
Calcium	49600		1000	1	11/16/2016 11:08	WG926575
Chromium	ND		10.0	1	11/16/2016 11:08	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:08	WG926575
Lithium	ND		15.0	1	11/16/2016 11:08	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:08	WG926575

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 21:03	WG926582
Arsenic	2.62		2.00	1	11/17/2016 21:03	WG926582
Beryllium	ND		2.00	1	11/17/2016 21:03	WG926582
Cadmium	ND		1.00	1	11/17/2016 21:03	WG926582
Lead	ND		2.00	1	11/17/2016 21:03	WG926582
Selenium	ND		2.00	1	11/17/2016 21:03	WG926582
Thallium	ND		2.00	1	11/17/2016 21:03	WG926582



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	543000		10000	1	11/17/2016 11:06	WG927311

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15000		1000	1	11/17/2016 16:50	WG927226
Fluoride	290		100	1	11/17/2016 16:50	WG927226
Sulfate	135000		25000	5	11/19/2016 14:38	WG928098

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:44	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	137		5.00	1	11/16/2016 11:11	WG926575
Boron	2790		200	1	11/16/2016 11:11	WG926575
Calcium	121000		1000	1	11/16/2016 11:11	WG926575
Chromium	ND		10.0	1	11/16/2016 11:11	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:11	WG926575
Lithium	ND		15.0	1	11/16/2016 11:11	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:11	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 21:06	WG926582
Arsenic	3.36		2.00	1	11/17/2016 21:06	WG926582
Beryllium	ND		2.00	1	11/17/2016 21:06	WG926582
Cadmium	ND		1.00	1	11/17/2016 21:06	WG926582
Lead	3.85		2.00	1	11/17/2016 21:06	WG926582
Selenium	ND		2.00	1	11/17/2016 21:06	WG926582
Thallium	ND		2.00	1	11/17/2016 21:06	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	606000		10000	1	11/17/2016 11:06	WG927311

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14200		1000	1	11/17/2016 10:50	WG927227
Fluoride	148		100	1	11/17/2016 10:50	WG927227
Sulfate	ND		5000	1	11/17/2016 10:50	WG927227

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:47	WG926265

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	390		5.00	1	11/16/2016 11:14	WG926575
Boron	3330		200	1	11/16/2016 11:14	WG926575
Calcium	155000		1000	1	11/16/2016 11:14	WG926575
Chromium	ND		10.0	1	11/16/2016 11:14	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:14	WG926575
Lithium	19.5		15.0	1	11/16/2016 11:14	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:14	WG926575

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 21:10	WG926582
Arsenic	6.44		2.00	1	11/17/2016 21:10	WG926582
Beryllium	ND		2.00	1	11/17/2016 21:10	WG926582
Cadmium	ND		1.00	1	11/17/2016 21:10	WG926582
Lead	ND		2.00	1	11/17/2016 21:10	WG926582
Selenium	ND		2.00	1	11/17/2016 21:10	WG926582
Thallium	ND		2.00	1	11/17/2016 21:10	WG926582

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	381000		10000	1	11/18/2016 04:36	WG927658

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	10900		1000	1	11/17/2016 11:04	WG927227
Fluoride	170		100	1	11/17/2016 11:04	WG927227
Sulfate	54700		5000	1	11/17/2016 11:04	WG927227

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:49	WG926265

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	171		5.00	1	11/16/2016 11:16	WG926575
Boron	ND		200	1	11/16/2016 11:16	WG926575
Calcium	98900		1000	1	11/16/2016 11:16	WG926575
Chromium	ND		10.0	1	11/16/2016 11:16	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:16	WG926575
Lithium	ND		15.0	1	11/16/2016 11:16	WG926575
Molybdenum	ND		5.00	1	11/16/2016 11:16	WG926575

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 21:13	WG926582
Arsenic	ND		2.00	1	11/17/2016 21:13	WG926582
Beryllium	ND		2.00	1	11/17/2016 21:13	WG926582
Cadmium	ND		1.00	1	11/17/2016 21:13	WG926582
Lead	ND		2.00	1	11/17/2016 21:13	WG926582
Selenium	ND		2.00	1	11/17/2016 21:13	WG926582
Thallium	ND		2.00	1	11/17/2016 21:13	WG926582



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	589000		10000	1	11/18/2016 04:36	WG927658

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	22900		1000	1	11/17/2016 11:19	WG927227
Fluoride	197		100	1	11/17/2016 11:19	WG927227
Sulfate	134000		25000	5	11/19/2016 14:52	WG928098

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/15/2016 13:51	WG926265

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	96.6		5.00	1	11/16/2016 11:24	WG926575
Boron	4770		200	1	11/16/2016 11:24	WG926575
Calcium	137000		1000	1	11/16/2016 11:24	WG926575
Chromium	ND		10.0	1	11/16/2016 11:24	WG926575
Cobalt	ND		10.0	1	11/16/2016 11:24	WG926575
Lithium	15.4		15.0	1	11/16/2016 11:24	WG926575
Molybdenum	1180		5.00	1	11/16/2016 11:24	WG926575

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	11/17/2016 21:17	WG926582
Arsenic	3.88		2.00	1	11/17/2016 21:17	WG926582
Beryllium	ND		2.00	1	11/17/2016 21:17	WG926582
Cadmium	ND		1.00	1	11/17/2016 21:17	WG926582
Lead	ND		2.00	1	11/17/2016 21:17	WG926582
Selenium	ND		2.00	1	11/17/2016 21:17	WG926582
Thallium	ND		2.00	1	11/17/2016 21:17	WG926582



Method Blank (MB)

(MB) R3179182-1 11/17/16 13:39

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L872441-04 Original Sample (OS) • Duplicate (DUP)

(OS) L872441-04 11/17/16 13:39 • (DUP) R3179182-4 11/17/16 13:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	468000	471000	1	0.639		5

6 Qc

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

(LCS) R3179182-2 11/17/16 13:39 • (LCSD) R3179182-3 11/17/16 13:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8470000	8460000	96.3	96.1	85.0-115			0.118	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3179181-1 11/17/16 11:06

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

L872447-05 Original Sample (OS) • Duplicate (DUP)

(OS) L872447-05 11/17/16 11:06 • (DUP) R3179181-4 11/17/16 11:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	393000	397000	1	1.01		5

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

(LCS) R3179181-2 11/17/16 11:06 • (LCSD) R3179181-3 11/17/16 11:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8420000	8390000	95.7	95.3	85.0-115			0.357	5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3179385-1 11/18/16 04:36

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L872441-05 Original Sample (OS) • Duplicate (DUP)

(OS) L872441-05 11/18/16 04:36 • (DUP) R3179385-4 11/18/16 04:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	443000	425000	1	4.22		5

⁷Gl

⁸Al

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

(LCS) R3179385-2 11/18/16 04:36 • (LCSD) R3179385-3 11/18/16 04:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8110000	8500000	92.2	96.6	85.0-115			4.70	5

⁹Sc



Method Blank (MB)

(MB) R3179103-1 11/17/16 07:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L872444-05 Original Sample (OS) • Duplicate (DUP)

(OS) L872444-05 11/17/16 13:57 • (DUP) R3179103-6 11/17/16 14:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	28300	28200	1	0		15
Fluoride	393	391	1	0		15
Sulfate	198000	199000	1	0	E	15

L872444-01 Original Sample (OS) • Duplicate (DUP)

(OS) L872444-01 11/17/16 11:53 • (DUP) R3179103-5 11/17/16 13:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	23700	23500	1	1		15
Fluoride	297	296	1	0		15
Sulfate	121000	121000	1	0	E	15

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

(LCS) R3179103-2 11/17/16 07:54 • (LCSD) R3179103-3 11/17/16 08:10

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39100	39000	98	97	80-120			0	15
Fluoride	8000	7880	7860	98	98	80-120			0	15
Sulfate	40000	40000	39800	100	99	80-120			1	15

L871908-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L871908-14 11/17/16 09:35 • (MS) R3179103-4 11/17/16 09:50

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	1120000	1130000	13	1	80-120	E V
Fluoride	5000	U	3770	75	1	80-120	J6



L871908-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L871908-14 11/17/16 09:35 • (MS) R3179103-4 11/17/16 09:50

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	7360	57000	99	1	80-120	

L872447-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872447-08 11/17/16 16:50 • (MS) R3179103-7 11/17/16 17:05 • (MSD) R3179103-8 11/17/16 17:20

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	15000	65000	66000	100	102	1	80-120			2	15
Fluoride	5000	290	4940	5430	93	103	1	80-120			9	15
Sulfate	50000	143000	185000	185000	83	85	1	80-120	E	E	0	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3179046-1 11/17/16 07:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	142	J	77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L872447-09 Original Sample (OS) • Duplicate (DUP)

(OS) L872447-09 11/17/16 10:50 • (DUP) R3179046-4 11/17/16 11:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	14200	14100	1	0		15
Fluoride	148	143	1	3		15
Sulfate	ND	0.000	1	0		15

L872471-01 Original Sample (OS) • Duplicate (DUP)

(OS) L872471-01 11/17/16 16:46 • (DUP) R3179046-6 11/17/16 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	5510	5390	1	2		15
Fluoride	35.1	34.6	1	1	J	15
Sulfate	14600	14400	1	2		15

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

(LCS) R3179046-2 11/17/16 07:40 • (LCSD) R3179046-3 11/17/16 07:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39700	39700	99	99	80-120			0	15
Fluoride	8000	8020	8010	100	100	80-120			0	15
Sulfate	40000	41000	41000	103	103	80-120			0	15

L872447-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L872447-11 11/17/16 11:19 • (MS) R3179046-5 11/17/16 12:19

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	22900	72900	100	1	80-120	
Fluoride	5000	197	5380	104	1	80-120	



L872480-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872480-03 11/17/16 18:15 • (MS) R3179046-7 11/17/16 18:30 • (MSD) R3179046-8 11/17/16 18:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	1730	53200	53200	103	103	1	80-120			0	15
Fluoride	5000	86.5	5320	5390	105	106	1	80-120			1	15
Sulfate	50000	29400	79700	79500	101	100	1	80-120			0	15

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



Method Blank (MB)

(MB) R3179389-1 11/19/16 07:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L871759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871759-01 11/19/16 10:10 • (DUP) R3179389-4 11/19/16 10:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	2610	1	0		15

L871809-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871809-01 11/19/16 10:39 • (DUP) R3179389-5 11/19/16 10:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	14700	14800	1	0		15

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

(LCS) R3179389-2 11/19/16 07:15 • (LCSD) R3179389-3 11/19/16 07:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39300	39200	98	98	80-120			0	15

L872191-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L872191-09 11/19/16 11:54 • (MS) R3179389-6 11/19/16 12:09

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	ND	51100	101	1	80-120	

L872461-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872461-01 11/19/16 15:07 • (MS) R3179389-7 11/19/16 15:22 • (MSD) R3179389-8 11/19/16 15:37

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	14700	63100	63500	97	98	1	80-120			1	15



Method Blank (MB)

(MB) R3178166-1 11/15/16 12:45

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3178166-2 11/15/16 12:47 • (LCSD) R3178166-3 11/15/16 12:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.58	2.70	86	90	80-120			4	20

L872441-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872441-04 11/15/16 12:52 • (MS) R3178166-4 11/15/16 12:54 • (MSD) R3178166-5 11/15/16 12:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	2.87	2.79	96	93	1	75-125			3	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3178432-1 11/16/16 10:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Calcium	U		46.3	1000
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3178432-2 11/16/16 10:23 • (LCSD) R3178432-3 11/16/16 10:26

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1030	1040	103	104	80-120			0	20
Boron	1000	992	999	99	100	80-120			1	20
Calcium	10000	9900	9920	99	99	80-120			0	20
Chromium	1000	1020	1020	102	102	80-120			0	20
Cobalt	1000	1030	1030	103	103	80-120			1	20
Lithium	1000	1020	1020	102	102	80-120			0	20
Molybdenum	1000	1030	1040	103	104	80-120			0	20

L872560-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872560-02 11/16/16 10:28 • (MS) R3178432-5 11/16/16 10:34 • (MSD) R3178432-6 11/16/16 10:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	ND	1040	1040	104	104	1	75-125			0	20
Boron	1000	ND	1050	1050	99	100	1	75-125			1	20
Calcium	10000	27600	37700	37600	101	100	1	75-125			0	20
Chromium	1000	ND	1020	1020	102	102	1	75-125			0	20
Cobalt	1000	ND	1040	1040	104	104	1	75-125			0	20
Lithium	1000	ND	1030	1030	103	103	1	75-125			0	20
Molybdenum	1000	ND	1040	1040	104	104	1	75-125			0	20



Method Blank (MB)

(MB) R3178984-1 11/17/16 19:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3178984-2 11/17/16 19:38 • (LCSD) R3178984-3 11/17/16 19:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	57.9	52.1	52.1	90	90	80-120			0	20
Arsenic	50.0	50.2	50.0	100	100	80-120			0	20
Beryllium	50.0	47.0	47.2	94	94	80-120			1	20
Cadmium	50.0	49.4	50.1	99	100	80-120			2	20
Lead	50.0	46.8	46.8	94	94	80-120			0	20
Selenium	50.0	51.0	51.6	102	103	80-120			1	20
Thallium	50.0	46.9	46.7	94	93	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L872447-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872447-05 11/17/16 19:46 • (MS) R3178984-5 11/17/16 19:53 • (MSD) R3178984-6 11/17/16 19:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	57.9	ND	50.4	52.6	87	91	1	75-125			4	20
Arsenic	50.0	ND	49.9	49.1	96	95	1	75-125			2	20
Beryllium	50.0	ND	46.0	47.2	92	94	1	75-125			3	20
Cadmium	50.0	ND	50.0	51.0	100	102	1	75-125			2	20
Lead	50.0	ND	46.8	47.3	94	95	1	75-125			1	20
Selenium	50.0	ND	52.6	52.0	103	102	1	75-125			1	20
Thallium	50.0	ND	46.7	47.5	93	95	1	75-125			2	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

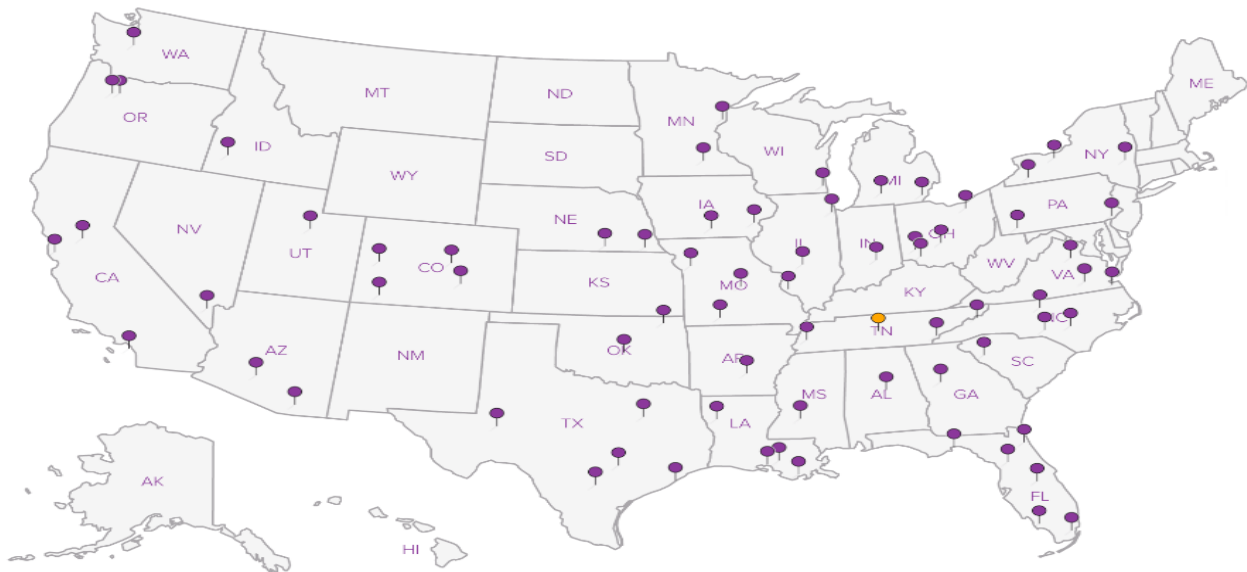
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
SCS Engineers
 7311 West 130th Street, Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste.100
 Overland Park, KS 66213

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL-Sibley Gen Station-Groundwater

City/State Collected:
Sibley, MO

Phone: **(913) 681-0030**
 Fax: **(913) 681-0012**

Client Project #
27213169.16

Collected by (print):
Alex McBurnick

Lab Project #
AQUAOPKS-SIBLEY

Collected by (signature):
Alex M

Date Results Needed
STD

Immediately Packed on ice N Y

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs
601	Grab	GW	NA	11/11/16	1110	3
602	Grab	GW	NA			3
701	Grab	GW	NA	11/10/16	1020	3
702	Grab	GW	NA		1220	3
703	Grab	GW	NA		1140	3
704	Grab	GW	NA		1055	3
801	Grab	GW	NA		1330	3
802	Grab	GW	NA		1250	3
803	Grab	GW	NA		1430	3
804	Grab	GW	NA	11/10/16	1525	3

Analysis / Container / Preservative		
CCR Anions(Cl-,F-,SO4)	125mlHDPE-NoPres	
*CCR Metals	250mlHDPE-HN03	
TDS	250mlHDPE-NoPres	

Chain of Custody Page **23**



ESC
 L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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



L # **872447**
B101

Acctnum: **AQUAOPKS**
 Template: **T115107**
 Prelogin:
 TSR: **206-Jeff Carr**
 Cooler:

Item / Contaminant	Sample # (lab only)
	01
	02
	03
	04
	05
	06
	07
	08
	09

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: ****Metals=B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, TI****

Relinquished by: (Signature) <i>Alex M</i>	Date: 11/11/16	Time: 1555	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>

pH _____ Temp _____

Flow _____ Other _____

Hold # _____

Samples returned via: UPS
 FedEx Courier *DLWA*

Temp: **2.2** °C Bottles Received: **33**

COC Seal Intact: Y N NA

pH Checked: _____ NCF: _____

11-12-16 1130 ←2

Company Name/Address:

SCS Engineers

7311 West 130th Street, Suite 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste.100
Overland Park, KS 66213

Report to:

Jason Franks

Email To:

jfranks@scsengineers.com

Project

Description: **KCPL-Sibley Gen Station-Groundwater**

City/State

Collected: **Sibley, MO**

Phone: (913) 681-0030

Client Project #

27213169.16

Lab Project #

AQUAOPKS-SIBLEY

Fax: (913) 681-0012

Collected by (print):

Alex Melornick

Site/Facility ID #

P.O. #

Collected by (signature):

Alex Melornick

Rush? (Lab MUST Be Notified)

Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed

STD

Email? No Yes

FAX? No Yes

Mo. of Cntrs

Packed on Ice: N Y

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

Mo. of Cntrs

805

Grab

GW

NA

11/11/16

950

3

X

X

X

806R

Grab

GW

NA

11/11/16

1255

3

X

X

X

Analysis / Container / Preservative

CCR Anions(Cl-,F-,SO4) 125mlHDPE-NoPres

*CCR Metals 250mlHDPE-HN03

TDS 250mlHDPE-NoPres

Chain of Custody



YOUR LAB OF CHOICE

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



L# **872447**

Table #

Acctnum: **AQUAOPKS**

Template: **T115107**

Prelogin:

TSR: **206-Jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

10
4

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: **Metals=B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, TI**

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date:

11/11/16

Time:

1555

Received by: (Signature)

Jason Franks

Samples returned via: UPS

FedEx Courier **DISWA**

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Jason Franks

Temp: **2.2** °C Bottles Received: **33**

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Jason Franks

Date: **11-12-16** Time: **1130**


pH Checked: _____ NCF: _____



L · A · B S · C · I · E · N · C · E · S

YOUR LAB OF CHOICE

Cooler Receipt Form

Client: AQUAOPKS	SDG#	872447
Cooler Received/Opened On: 11/ 12 /16	Temperature Upon Receipt:	2.7 °c
Received by: Nikki Farmer		
Signature: 		

Receipt Check List			
	Yes	No	N/A
Were custody seals on outside of cooler and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were custody papers properly filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did all bottles arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were correct bottles used for the analyses requested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was sufficient amount of sample sent in each bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If applicable, was an observable VOA headspace present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non Conformance Generated. (If yes see attached NCF)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Case Narrative

Lab No: 20161115

This report contains the analytical results for the 19 sample(s) received under chain of custody by ESC Lab Sciences on 11/14/2016 1:30:00 PM. These samples are associated with your Sibley Generating Station project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L873128



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20161115
 Date Reported : 12/06/16
 Date Received : 11/14/16
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20161115-01
Client ID : 504
Date Sampled : 11/11/2016 12:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.655 +/- 0.605	0.834	pCi/l			
Radium-226	SM 7500 Ra B M*	0.156 +/- 0.122	0.166	pCi/l	11/30/16	12/01/16	AK
Radium-228	EPA 904*/9320*	0.499 +/- 0.483	0.668	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-02
Client ID : 505
Date Sampled : 11/11/2016 12:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.17 +/- 0.483	0.628	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.035 +/- 0.095	0.177	pCi/l	11/30/16	12/01/16	AK
Radium-228	EPA 904*/9320*	1.17 +/- 0.388	0.451	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-03
Client ID : 506
Date Sampled : 11/11/2016 12:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.508 +/- 0.568	0.864	pCi/l			
Radium-226	SM 7500 Ra B M*	0.235 +/- 0.115	0.092	pCi/l	11/30/16	12/01/16	AK
Radium-228	EPA 904*/9320*	0.273 +/- 0.453	0.772	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-04
Client ID : 510
Date Sampled : 11/10/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.31 +/- 0.550	0.662	pCi/l			
Radium-226	SM 7500 Ra B M*	0.151 +/- 0.104	0.119	pCi/l	11/30/16	12/01/16	AK
Radium-228	EPA 904*/9320*	1.16 +/- 0.446	0.543	pCi/l	11/23/16	11/29/16	JR



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20161115
 Date Reported : 12/06/16
 Date Received : 11/14/16
 Page Number : 3 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20161115-05
Client ID : 512
Date Sampled : 11/11/2016 12:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.42 +/- 0.676	0.885	pCi/l				
Radium-226	SM 7500 Ra B M*	0.144 +/- 0.128	0.175	pCi/l		11/30/16	12/01/16	AK
Radium-228	EPA 904*/9320*	1.28 +/- 0.548	0.710	pCi/l		11/23/16	11/29/16	JR

Lab ID : 20161115-06
Client ID : Duplicate
Date Sampled : 11/10/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.06 +/- 0.584	0.823	pCi/l				
Radium-226	SM 7500 Ra B M*	0.048 +/- 0.109	0.182	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.01 +/- 0.475	0.641	pCi/l		11/23/16	11/29/16	JR

Lab ID : 20161115-07
Client ID : MS - 510
Date Sampled : 11/10/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	107		% Rec		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	93.9		% Rec		11/23/16	11/29/16	JR

Lab ID : 20161115-08
Client ID : MSD - 510
Date Sampled : 11/10/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	3.1		RPD		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	90.0		RPD		11/23/16	11/29/16	JR

Lab ID : 20161115-09
Client ID : 601
Date Sampled : 11/11/2016 11:10:00 AM
Matrix : NPW

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20161115
 Date Reported : 12/06/16
 Date Received : 11/14/16
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses							
Combined Radium	1.30 +/- 0.627	0.885	pCi/l				
Radium-226	SM 7500 Ra B M*	0.187 +/- 0.129	0.159	pCi/l	11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.11 +/- 0.498	0.726	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-10
Client ID : 701
Date Sampled : 11/10/2016 10:20:00 AM
Matrix : NPW

Radiochemical Analyses							
Combined Radium		1.73 +/- 0.572	0.739	pCi/l			
Radium-226	SM 7500 Ra B M*	0.181 +/- 0.131	0.172	pCi/l	11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.55 +/- 0.441	0.567	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-11
Client ID : 702
Date Sampled : 11/10/2016 12:20:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium		1.19 +/- 0.543	0.690	pCi/l			
Radium-226	SM 7500 Ra B M*	0.115 +/- 0.128	0.190	pCi/l	11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.07 +/- 0.415	0.500	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-12
Client ID : 703
Date Sampled : 11/10/2016 11:40:00 AM
Matrix : NPW

Radiochemical Analyses							
Combined Radium		1.16 +/- 0.522	0.662	pCi/l			
Radium-226	SM 7500 Ra B M*	0.159 +/- 0.131	0.181	pCi/l	11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.00 +/- 0.391	0.481	pCi/l	11/23/16	11/29/16	JR

Lab ID : 20161115-13
Client ID : 704
Date Sampled : 11/10/2016 10:55:00 AM
Matrix : NPW

Radiochemical Analyses							
Combined Radium		1.84 +/- 0.641	0.899	pCi/l			

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20161115
 Date Reported : 12/06/16
 Date Received : 11/14/16
 Page Number : 5 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	-0.166 +/- 0.153	0.313	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	1.84 +/- 0.488	0.586	pCi/l		11/23/16	11/29/16	JR

Lab ID : 20161115-14
Client ID : 801
Date Sampled : 11/10/2016 1:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.251 +/- 0.611	0.823	pCi/l				
Radium-226	SM 7500 Ra B M*	0.025 +/- 0.108	0.180	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	0.226 +/- 0.503	0.643	pCi/l		11/23/16	11/30/16	JR

Lab ID : 20161115-15
Client ID : 802
Date Sampled : 11/10/2016 12:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.144 +/- 0.517	0.647	pCi/l				
Radium-226	SM 7500 Ra B M*	0.144 +/- 0.092	0.092	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	-0.024 +/- 0.425	0.555	pCi/l		11/23/16	11/30/16	JR

Lab ID : 20161115-16
Client ID : 803
Date Sampled : 11/10/2016 2:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.817 +/- 0.527	0.667	pCi/l				
Radium-226	SM 7500 Ra B M*	0.268 +/- 0.129	0.117	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	0.549 +/- 0.398	0.550	pCi/l		11/23/16	11/30/16	JR

Lab ID : 20161115-17
Client ID : 804
Date Sampled : 11/10/2016 3:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.00 +/- 0.656	0.808	pCi/l				
Radium-226	SM 7500 Ra B M*	0.185 +/- 0.134	0.171	pCi/l		11/30/16	12/02/16	AK
Radium-228	EPA 904*/9320*	0.815 +/- 0.522	0.637	pCi/l		11/23/16	11/30/16	JR

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : Sibley Generating Station
 Lab Number : 20161115
 Date Reported : 12/06/16
 Date Received : 11/14/16
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20161115-18
Client ID : 805
Date Sampled : 11/11/2016 9:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.668 +/- 0.542	0.651	pCi/l			
Radium-226	SM 7500 Ra B M*	0.321 +/- 0.162	0.181	pCi/l	11/30/16	12/03/16	AK
Radium-228	EPA 904*/9320*	0.347 +/- 0.380	0.470	pCi/l	11/23/16	11/30/16	JR

Lab ID : 20161115-19
Client ID : 806R
Date Sampled : 11/11/2016 11:10:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.228 +/- 0.610	0.989	pCi/l			
Radium-226	SM 7500 Ra B M*	0.212 +/- 0.156	0.205	pCi/l	11/30/16	12/03/16	AK
Radium-228	EPA 904*/9320*	0.016 +/- 0.454	0.784	pCi/l	11/23/16	11/30/16	JR

QC Report

Parameter	Blank	LCS	LCSD		DUP RPD	RER, NAD or DER	MS	MSD		Batch ID
		%REC	%REC	RPD			%REC	%REC	RPD	
Radium-226	-0.005	114.0			NC	0.874	107.0	104.0	3.1	R1166
Radium-228	-0.059	108.0			NC	1.280	93.9	90.0	3.6	R3887

Lab Approval:

Ron Eidson
 Director of Radiochemistry



L# **973128**
 Table #
 Acctnum: **AQUAOPKS**
 Template:
 Preidgin:
 TSR: **206-Jeff Carr**
 Cooler:
 Shipped Via:
 Reim/Contaminator: Sample # (lab only)

Analysis // Container // Preservative

Company Name/Address:
SCS Engineers
 7311 West 130th Street, Suite 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to:
Jason Franks
 Email To: **jfranks@scsengineers.com**

Project Description:
KCPL-Sibley Gen Station-Groundwater
 Client Project #
27243169.16
 Site/Facility ID #
AQUAOPKS-SIBLEY

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

Collected by (print): **JASON R. FRANK**
 Collected by (signature): *[Signature]*
 Rush? (Lab MUST Be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
504	Grab	GW	NA	11/11/16	1210	2
505	Grab	GW	NA	11/11/16	1255	2
506	Grab	GW	NA	11/11/16	1230	2
510	Grab	GW	NA	11/10/16	1530	2
512	Grab	GW	NA	11/11/16	1230	2
Duplicate	Grab	GW	NA	11/10/16	1530	2
MS - 510	Grab	GW	NA	11/10/16	1530	2
MSD - 510	Grab	GW	NA	11/10/16	1530	2

Lab 226/228 1L HDPF+HN03

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

PH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS Courier Bottles Received
 Temp: **Amb** °C **38**
 Date: **11/14/16** Time: **1330**

Hold # **20161115**
 Condition **good** (lab use only)
 GOC Seal Intact: **X** Y N NA
 pH Checked: _____ NGF: _____

Relinquished by (Signature): *[Signature]* Date: **11/11/16** Time: **1355**
 Relinquished by (Signature): *[Signature]* Date: _____ Time: _____
 Relinquished by (Signature): *[Signature]* Date: _____ Time: _____



32695 Lubbock Rd
Mount Laurel, NJ 07023
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# **97328**
Table #
Account: **AQUAOPKS**
Template:
Pre-ign: **206-Jeff Carr**
TSR:
Cooler:
Shipped Via
Reim / Container (part) Sample # (lab only)

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Email To:
franks@scsengineers.com

City/State Collected:
Sibley, MO

Lab Project #
AQUAOPKS-SIBLEY

P.O. #

Date Results Needed
STID
Email? No Yes
FAX? No Yes

Ra226/228 1L HDPE+HN03

Company Name / Address:
SCS Engineers
7311 West 130th Street, Suite 100
Overland Park, KS 66213

Report to:
Jason Franks

Project Description:
KCPL-Sibley Gen Station-Groundwater

Client Project #
27213169.16

Site/Facility ID #

Rush? (Lab MUST Be Notified)
Same Day200%
Next Day100%
Two Day50%
Three Day25%

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Entrs
601	Grab	GW	NA	11/17/16	1110	2
602	Grab	GW	NA			2
701	Grab	GW	NA	11/10/16	1020	2
702	Grab	GW	NA		1220	2
703	Grab	GW	NA		1140	2
704	Grab	GW	NA		1055	2
801	Grab	GW	NA		1330	2
802	Grab	GW	NA		1250	2
803	Grab	GW	NA		1430	2
804	Grab	GW	NA		1525	2

* Matrix: SS - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date:

Date:

Date:

Time:

Time:

Time:

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS

FedEx Courier

Temp: **Amb** °C Bottles Received: **38**

Date: **11/14/16** Time: **1330**

Hold #

Condition: **good** (if use only)

GOC Seal Intact: **X** N NA

pH Checked: **NGF**

2016115



L# **873128**
 Table #
 Acctnum: **AQUAOPKS**
 Template:
 Preloghi:
 TSR: **206-Jeff Carr**
 Cooler:
 Shipped Via:
 Rem./Contaminant: Sample # (Lab only)

Analysis: Container // Preservative

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste.100
 Overland Park, KS 66213

Email To:
jfranks@scsengineers.com

City/State Collected:
Sibley, MO
 Lab Project #
AQUAOPKS-SIBLEY

P.O. #
 Date Results Needed
STD

Email? No Yes
 FAX? No Yes

No. of Entrs
2

Date
11/11/16 950

Date
11/11/16 1210

Depth
NA

Matrix *
GW

Comp/Grab
Grab

Sample ID
805

Sample ID
806R

Matrix: **SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other**

Company Name/Address:
SCS Engineers
 7311 West 130th Street, Suite 100
 Overland Park, KS 66213

Report to:
Jason Franks

Project Description:
KCPL-Sibley Gen Station-Groundwater

Client Project #
27213169.16

Site/Facility ID #
Ra226/228 1LHDPF+HN03

Rush? (Lab MUST Be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Collected by (print):
Alex Mc

Collected by (signature):
Alex Mc

Immediately Packed on Ice N Y Y

Relinquished by (Signature)
[Signature]

Relinquished by (Signature)
[Signature]

Relinquished by (Signature)
[Signature]

Date: **11/11/16 1555**

Date: **11/14/16 1330**

Hold #
 Condition: **good**
 COC Seal Intact: **X** Y N NA
 pH Checked: **NCF**

20161115

Temp: **Amb** °C
 Date: **11/14/16 1330**

Temp: **38** °C
 Date: **11/14/16 1330**

Temp: **38** °C
 Date: **11/14/16 1330**

Temp: **38** °C
 Date: **11/14/16 1330**

Flow: UPS
 FedEx Courier Other
 Samples returned via: UPS

Received by (Signature)
[Signature]

Received by (Signature)
[Signature]

Received by (Signature)
[Signature]

Received by (Signature)
[Signature]

Received by (Signature)
[Signature]

SAMPLE LOGIN

Date Received: 11/14/2016 1:30:0

Lab Number: 20161115

Due: 12/12/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161115-01 B	504	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-01 A	504	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-02 A	505	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-02 B	505	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-03 A	506	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-03 B	506	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-04 A	510	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-04 B	510	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-05 A	512	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-05 B	512	NPW	11/11/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-06 B	Duplicate	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-06 A	Duplicate	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						
20161115-07 A	MS - 510	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20161115-07 B	MS - 510	NPW	11/10/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
	Radium-226		SM 7500 Ra B M*						
	Radium-228		EPA 904*/9320*						

20161115-08 A	MSD - 510	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-08 B	MSD - 510	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-09 A	601	NPW	11/11/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-09 B	601	NPW	11/11/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-10 B	701	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-10 A	701	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-11 A	702	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-11 B	702	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-12 A	703	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-12 B	703	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-13 A	704	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-13 B	704	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-14 B	801	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-14 A	801	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-15 A	802	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-15 B	802	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161115-16 A	803	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes
20161115-16 B	803	NPW	11/10/16	Plastic	I L	HNO3, pH < 2	Yes	Yes

Radium-226	SM 7500 Ra B M*								
Radium-228	EPA 904*/9320*								
20161115-17 A	804	NPW	11/10/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
20161115-17 B	804	NPW	11/10/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
Radium-226	SM 7500 Ra B M*								
Radium-228	EPA 904*/9320*								
20161115-18 A	805	NPW	11/11/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
20161115-18 B	805	NPW	11/11/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
Radium-226	SM 7500 Ra B M*								
Radium-228	EPA 904*/9320*								
20161115-19 B	806R	NPW	11/11/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
20161115-19 A	806R	NPW	11/11/16	Plastic	1 L	HNO3, pH < 2		Yes	Yes
Radium-226	SM 7500 Ra B M*								
Radium-228	EPA 904*/9320*								

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken 0 Temperature: amb C Ice Labels in Tact Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 Chain of Custody Record Labels in Tact Radiation Survey Complete N/A

Anomalies

Inspected By: [Signature] DATE 11/15/16
 QA or Designee Review: [Signature] DATE 11/15/16
 Sample Custodian Review: [Signature] DATE 11/15/16

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-6
February 2017 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L889450
Samples Received: 02/10/2017
Project Number: 27213169.16
Description: KCPL Sibley Generating Station-CCR GW BG

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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512 L889450-05	12
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701 L889450-07	14
702 L889450-08	15
703 L889450-09	16
704 L889450-10	17
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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY



504 L889450-01 GW

Collected by
Adam Parris Collected date/time
02/08/17 15:00 Received date/time
02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 15:55	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:37	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:36	LAT
Wet Chemistry by Method 9056A	WG952142	1	02/14/17 20:25	02/14/17 20:25	KCF

1
Cp

2
Tc

3
Ss

4
Cn

505 L889450-02 GW

Collected by
Adam Parris Collected date/time
02/08/17 15:00 Received date/time
02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 15:57	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:40	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:40	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 12:22	02/14/17 12:22	KCF

5
Sr

6
Qc

7
Gl

8
Al

506 L889450-03 GW

Collected by
Adam Parris Collected date/time
02/08/17 12:20 Received date/time
02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 15:59	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:42	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:43	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 12:35	02/14/17 12:35	KCF

9
Sc

510 L889450-04 GW

Collected by
Adam Parris Collected date/time
02/08/17 10:40 Received date/time
02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 16:02	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:45	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:54	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 12:50	02/14/17 12:50	KCF

512 L889450-05 GW

Collected by
Adam Parris Collected date/time
02/08/17 10:30 Received date/time
02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 15:48	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:27	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:22	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 13:19	02/14/17 13:19	KCF

SAMPLE SUMMARY



601 L889450-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 16:04	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:48	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 15:57	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 14:31	02/14/17 14:31	KCF

Collected by Adam Parris
Collected date/time 02/08/17 11:30
Received date/time 02/10/17 14:10

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn

701 L889450-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:14	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:51	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:01	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 14:45	02/14/17 14:45	KCF

Collected by Adam Parris
Collected date/time 02/08/17 14:20
Received date/time 02/10/17 14:10

- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al

702 L889450-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:16	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 21:59	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:04	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 15:00	02/14/17 15:00	KCF

Collected by Adam Parris
Collected date/time 02/08/17 13:20
Received date/time 02/10/17 14:10

- 9
Sc

703 L889450-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:30	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:01	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:08	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 15:14	02/14/17 15:14	KCF

Collected by Adam Parris
Collected date/time 02/08/17 13:50
Received date/time 02/10/17 14:10

704 L889450-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:44	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:04	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:11	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 15:28	02/14/17 15:28	KCF

Collected by Adam Parris
Collected date/time 02/08/17 13:30
Received date/time 02/10/17 14:10

SAMPLE SUMMARY



801 L889450-11 GW

Collected by Adam Parris
Collected date/time 02/09/17 09:40
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:46	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:07	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:15	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 15:43	02/14/17 15:43	KCF

1
Cp

2
Tc

3
Ss

4
Cn

802 L889450-12 GW

Collected by Adam Parris
Collected date/time 02/09/17 10:40
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:48	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:10	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:18	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 15:57	02/14/17 15:57	KCF

5
Sr

6
Qc

7
Gl

8
Al

803 L889450-13 GW

Collected by Adam Parris
Collected date/time 02/09/17 11:15
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:51	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:12	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:28	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 16:55	02/14/17 16:55	KCF
Wet Chemistry by Method 9056A	WG952648	5	02/16/17 22:05	02/16/17 22:05	SAM

9
Sc

804 L889450-14 GW

Collected by Adam Parris
Collected date/time 02/09/17 12:00
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:53	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:15	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:32	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 17:09	02/14/17 17:09	KCF

805 L889450-15 GW

Collected by Adam Parris
Collected date/time 02/09/17 12:40
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:55	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:18	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:36	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 17:24	02/14/17 17:24	KCF

SAMPLE SUMMARY



806R L889450-16 GW

Collected by Adam Parris
Collected date/time 02/09/17 12:35
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952718	1	02/16/17 01:02	02/16/17 06:30	JM
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 22:57	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:20	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:39	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 17:38	02/14/17 17:38	KCF
Wet Chemistry by Method 9056A	WG952648	5	02/16/17 22:20	02/16/17 22:20	SAM

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

DUPLICATE L889450-17 GW

Collected by Adam Parris
Collected date/time 02/08/17 10:35
Received date/time 02/10/17 14:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG951817	1	02/13/17 13:45	02/14/17 23:00	TRB
Metals (ICP) by Method 6010B	WG951960	1	02/15/17 08:35	02/15/17 22:23	LTB
Metals (ICPMS) by Method 6020	WG952076	1	02/15/17 09:27	02/16/17 16:43	LAT
Wet Chemistry by Method 9056A	WG952143	1	02/14/17 17:53	02/14/17 17:53	KCF



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	174000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	02/14/2017 20:25	WG952142
Fluoride	151		100	1	02/14/2017 20:25	WG952142
Sulfate	21000		5000	1	02/14/2017 20:25	WG952142

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 15:55	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	123		5.00	1	02/15/2017 21:37	WG951960
Boron	ND		200	1	02/15/2017 21:37	WG951960
Chromium	ND		10.0	1	02/15/2017 21:37	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:37	WG951960
Lithium	ND		15.0	1	02/15/2017 21:37	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:37	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:36	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:36	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:36	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:36	WG952076
Calcium	29600		1000	1	02/16/2017 15:36	WG952076
Lead	ND		2.00	1	02/16/2017 15:36	WG952076
Selenium	2.49		2.00	1	02/16/2017 15:36	WG952076
Thallium	ND		2.00	1	02/16/2017 15:36	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	151000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	02/14/2017 12:22	WG952143
Fluoride	217		100	1	02/14/2017 12:22	WG952143
Sulfate	14900		5000	1	02/14/2017 12:22	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 15:57	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	91.9		5.00	1	02/15/2017 21:40	WG951960
Boron	ND		200	1	02/15/2017 21:40	WG951960
Chromium	ND		10.0	1	02/15/2017 21:40	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:40	WG951960
Lithium	ND		15.0	1	02/15/2017 21:40	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:40	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:40	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:40	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:40	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:40	WG952076
Calcium	23500		1000	1	02/16/2017 15:40	WG952076
Lead	ND		2.00	1	02/16/2017 15:40	WG952076
Selenium	2.31		2.00	1	02/16/2017 15:40	WG952076
Thallium	ND		2.00	1	02/16/2017 15:40	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	451000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	5890		1000	1	02/14/2017 12:35	WG952143
Fluoride	317		100	1	02/14/2017 12:35	WG952143
Sulfate	76500		5000	1	02/14/2017 12:35	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 15:59	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	233		5.00	1	02/15/2017 21:42	WG951960
Boron	ND		200	1	02/15/2017 21:42	WG951960
Chromium	ND		10.0	1	02/15/2017 21:42	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:42	WG951960
Lithium	ND		15.0	1	02/15/2017 21:42	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:42	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:43	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:43	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:43	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:43	WG952076
Calcium	83600		1000	1	02/16/2017 15:43	WG952076
Lead	ND		2.00	1	02/16/2017 15:43	WG952076
Selenium	10.1		2.00	1	02/16/2017 15:43	WG952076
Thallium	ND		2.00	1	02/16/2017 15:43	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	462000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3490		1000	1	02/14/2017 12:50	WG952143
Fluoride	320		100	1	02/14/2017 12:50	WG952143
Sulfate	16100		5000	1	02/14/2017 12:50	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 16:02	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	355		5.00	1	02/15/2017 21:45	WG951960
Boron	ND		200	1	02/15/2017 21:45	WG951960
Chromium	ND		10.0	1	02/15/2017 21:45	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:45	WG951960
Lithium	ND		15.0	1	02/15/2017 21:45	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:45	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:54	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:54	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:54	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:54	WG952076
Calcium	103000		1000	1	02/16/2017 15:54	WG952076
Lead	ND		2.00	1	02/16/2017 15:54	WG952076
Selenium	3.41		2.00	1	02/16/2017 15:54	WG952076
Thallium	ND		2.00	1	02/16/2017 15:54	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	404000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3140		1000	1	02/14/2017 13:19	WG952143
Fluoride	302		100	1	02/14/2017 13:19	WG952143
Sulfate	27800		5000	1	02/14/2017 13:19	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 15:48	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	364		5.00	1	02/15/2017 21:27	WG951960
Boron	ND		200	1	02/15/2017 21:27	WG951960
Chromium	10.5		10.0	1	02/15/2017 21:27	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:27	WG951960
Lithium	ND		15.0	1	02/15/2017 21:27	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:27	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:22	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:22	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:22	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:22	WG952076
Calcium	86400	V	1000	1	02/16/2017 15:22	WG952076
Lead	ND		2.00	1	02/16/2017 15:22	WG952076
Selenium	4.46		2.00	1	02/16/2017 15:22	WG952076
Thallium	ND		2.00	1	02/16/2017 15:22	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	396000		10000	1	02/15/2017 13:59	WG952275

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3190		1000	1	02/14/2017 14:31	WG952143
Fluoride	260		100	1	02/14/2017 14:31	WG952143
Sulfate	10500		5000	1	02/14/2017 14:31	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 16:04	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	331		5.00	1	02/15/2017 21:48	WG951960
Boron	ND		200	1	02/15/2017 21:48	WG951960
Chromium	ND		10.0	1	02/15/2017 21:48	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:48	WG951960
Lithium	ND		15.0	1	02/15/2017 21:48	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:48	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 15:57	WG952076
Arsenic	ND		2.00	1	02/16/2017 15:57	WG952076
Beryllium	ND		2.00	1	02/16/2017 15:57	WG952076
Cadmium	ND		1.00	1	02/16/2017 15:57	WG952076
Calcium	87500		1000	1	02/16/2017 15:57	WG952076
Lead	ND		2.00	1	02/16/2017 15:57	WG952076
Selenium	4.82		2.00	1	02/16/2017 15:57	WG952076
Thallium	ND		2.00	1	02/16/2017 15:57	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	301000		10000	1	02/15/2017 15:09	WG952277

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8640		1000	1	02/14/2017 14:45	WG952143
Fluoride	105		100	1	02/14/2017 14:45	WG952143
Sulfate	17300		5000	1	02/14/2017 14:45	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:14	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	177		5.00	1	02/15/2017 21:51	WG951960
Boron	ND		200	1	02/15/2017 21:51	WG951960
Chromium	ND		10.0	1	02/15/2017 21:51	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:51	WG951960
Lithium	ND		15.0	1	02/15/2017 21:51	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:51	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:01	WG952076
Arsenic	2.24		2.00	1	02/16/2017 16:01	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:01	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:01	WG952076
Calcium	74400		1000	1	02/16/2017 16:01	WG952076
Lead	ND		2.00	1	02/16/2017 16:01	WG952076
Selenium	ND		2.00	1	02/16/2017 16:01	WG952076
Thallium	ND		2.00	1	02/16/2017 16:01	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	300000		10000	1	02/15/2017 15:09	WG952277

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8690		1000	1	02/14/2017 15:00	WG952143
Fluoride	113		100	1	02/14/2017 15:00	WG952143
Sulfate	22800		5000	1	02/14/2017 15:00	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:16	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	237		5.00	1	02/15/2017 21:59	WG951960
Boron	ND		200	1	02/15/2017 21:59	WG951960
Chromium	ND		10.0	1	02/15/2017 21:59	WG951960
Cobalt	ND		10.0	1	02/15/2017 21:59	WG951960
Lithium	ND		15.0	1	02/15/2017 21:59	WG951960
Molybdenum	ND		5.00	1	02/15/2017 21:59	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:04	WG952076
Arsenic	4.52		2.00	1	02/16/2017 16:04	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:04	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:04	WG952076
Calcium	78200		1000	1	02/16/2017 16:04	WG952076
Lead	ND		2.00	1	02/16/2017 16:04	WG952076
Selenium	ND		2.00	1	02/16/2017 16:04	WG952076
Thallium	ND		2.00	1	02/16/2017 16:04	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	494000		10000	1	02/15/2017 15:09	WG952277

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	19600		1000	1	02/14/2017 15:14	WG952143
Fluoride	293		100	1	02/14/2017 15:14	WG952143
Sulfate	ND		5000	1	02/14/2017 15:14	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:30	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	294		5.00	1	02/15/2017 22:01	WG951960
Boron	652		200	1	02/15/2017 22:01	WG951960
Chromium	ND		10.0	1	02/15/2017 22:01	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:01	WG951960
Lithium	ND		15.0	1	02/15/2017 22:01	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:01	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:08	WG952076
Arsenic	247		2.00	1	02/16/2017 16:08	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:08	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:08	WG952076
Calcium	113000		1000	1	02/16/2017 16:08	WG952076
Lead	ND		2.00	1	02/16/2017 16:08	WG952076
Selenium	ND		2.00	1	02/16/2017 16:08	WG952076
Thallium	ND		2.00	1	02/16/2017 16:08	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	343000		10000	1	02/15/2017 15:09	WG952277

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13400		1000	1	02/14/2017 15:28	WG952143
Fluoride	149		100	1	02/14/2017 15:28	WG952143
Sulfate	37700		5000	1	02/14/2017 15:28	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:44	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	150		5.00	1	02/15/2017 22:04	WG951960
Boron	ND		200	1	02/15/2017 22:04	WG951960
Chromium	ND		10.0	1	02/15/2017 22:04	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:04	WG951960
Lithium	ND		15.0	1	02/15/2017 22:04	WG951960
Molybdenum	8.24		5.00	1	02/15/2017 22:04	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:11	WG952076
Arsenic	ND		2.00	1	02/16/2017 16:11	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:11	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:11	WG952076
Calcium	80900		1000	1	02/16/2017 16:11	WG952076
Lead	ND		2.00	1	02/16/2017 16:11	WG952076
Selenium	ND		2.00	1	02/16/2017 16:11	WG952076
Thallium	ND		2.00	1	02/16/2017 16:11	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	564000		10000	1	02/16/2017 06:30	WG952718

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	78600		1000	1	02/14/2017 15:43	WG952143
Fluoride	117		100	1	02/14/2017 15:43	WG952143
Sulfate	66600		5000	1	02/14/2017 15:43	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:46	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	110		5.00	1	02/15/2017 22:07	WG951960
Boron	321		200	1	02/15/2017 22:07	WG951960
Chromium	ND		10.0	1	02/15/2017 22:07	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:07	WG951960
Lithium	ND		15.0	1	02/15/2017 22:07	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:07	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:15	WG952076
Arsenic	ND		2.00	1	02/16/2017 16:15	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:15	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:15	WG952076
Calcium	115000		1000	1	02/16/2017 16:15	WG952076
Lead	ND		2.00	1	02/16/2017 16:15	WG952076
Selenium	ND		2.00	1	02/16/2017 16:15	WG952076
Thallium	ND		2.00	1	02/16/2017 16:15	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	432000		10000	1	02/16/2017 06:30	WG952718

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	58600		1000	1	02/14/2017 15:57	WG952143
Fluoride	113		100	1	02/14/2017 15:57	WG952143
Sulfate	88900		5000	1	02/14/2017 15:57	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:48	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	198		5.00	1	02/15/2017 22:10	WG951960
Boron	ND		200	1	02/15/2017 22:10	WG951960
Chromium	ND		10.0	1	02/15/2017 22:10	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:10	WG951960
Lithium	ND		15.0	1	02/15/2017 22:10	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:10	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:18	WG952076
Arsenic	2.00		2.00	1	02/16/2017 16:18	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:18	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:18	WG952076
Calcium	71400		1000	1	02/16/2017 16:18	WG952076
Lead	ND		2.00	1	02/16/2017 16:18	WG952076
Selenium	ND		2.00	1	02/16/2017 16:18	WG952076
Thallium	ND		2.00	1	02/16/2017 16:18	WG952076



Collected date/time: 02/09/17 11:15

L889450

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	594000		10000	1	02/16/2017 06:30	WG952718

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15100		1000	1	02/14/2017 16:55	WG952143
Fluoride	262		100	1	02/14/2017 16:55	WG952143
Sulfate	157000		25000	5	02/16/2017 22:05	WG952648

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:51	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	126		5.00	1	02/15/2017 22:12	WG951960
Boron	2790		200	1	02/15/2017 22:12	WG951960
Chromium	ND		10.0	1	02/15/2017 22:12	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:12	WG951960
Lithium	ND		15.0	1	02/15/2017 22:12	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:12	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:28	WG952076
Arsenic	2.82		2.00	1	02/16/2017 16:28	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:28	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:28	WG952076
Calcium	105000		1000	1	02/16/2017 16:28	WG952076
Lead	ND		2.00	1	02/16/2017 16:28	WG952076
Selenium	ND		2.00	1	02/16/2017 16:28	WG952076
Thallium	ND		2.00	1	02/16/2017 16:28	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	561000		10000	1	02/16/2017 06:30	WG952718

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15200		1000	1	02/14/2017 17:09	WG952143
Fluoride	119		100	1	02/14/2017 17:09	WG952143
Sulfate	ND		5000	1	02/14/2017 17:09	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:53	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	342		5.00	1	02/15/2017 22:15	WG951960
Boron	3580		200	1	02/15/2017 22:15	WG951960
Chromium	ND		10.0	1	02/15/2017 22:15	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:15	WG951960
Lithium	20.4		15.0	1	02/15/2017 22:15	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:15	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:32	WG952076
Arsenic	6.40		2.00	1	02/16/2017 16:32	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:32	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:32	WG952076
Calcium	132000		1000	1	02/16/2017 16:32	WG952076
Lead	ND		2.00	1	02/16/2017 16:32	WG952076
Selenium	ND		2.00	1	02/16/2017 16:32	WG952076
Thallium	ND		2.00	1	02/16/2017 16:32	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	417000		10000	1	02/16/2017 06:30	WG952718

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11200		1000	1	02/14/2017 17:24	WG952143
Fluoride	178		100	1	02/14/2017 17:24	WG952143
Sulfate	59800		5000	1	02/14/2017 17:24	WG952143

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:55	WG951817

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	163		5.00	1	02/15/2017 22:18	WG951960
Boron	ND		200	1	02/15/2017 22:18	WG951960
Chromium	ND		10.0	1	02/15/2017 22:18	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:18	WG951960
Lithium	ND		15.0	1	02/15/2017 22:18	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:18	WG951960

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:36	WG952076
Arsenic	ND		2.00	1	02/16/2017 16:36	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:36	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:36	WG952076
Calcium	88800		1000	1	02/16/2017 16:36	WG952076
Lead	ND		2.00	1	02/16/2017 16:36	WG952076
Selenium	ND		2.00	1	02/16/2017 16:36	WG952076
Thallium	ND		2.00	1	02/16/2017 16:36	WG952076

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	633000		10000	1	02/16/2017 06:30	WG952718

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	24600		1000	1	02/14/2017 17:38	WG952143
Fluoride	205		100	1	02/14/2017 17:38	WG952143
Sulfate	165000		25000	5	02/16/2017 22:20	WG952648

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 22:57	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	91.9		5.00	1	02/15/2017 22:20	WG951960
Boron	4640		200	1	02/15/2017 22:20	WG951960
Chromium	ND		10.0	1	02/15/2017 22:20	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:20	WG951960
Lithium	18.0		15.0	1	02/15/2017 22:20	WG951960
Molybdenum	1090		5.00	1	02/15/2017 22:20	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:39	WG952076
Arsenic	3.57		2.00	1	02/16/2017 16:39	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:39	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:39	WG952076
Calcium	123000		1000	1	02/16/2017 16:39	WG952076
Lead	ND		2.00	1	02/16/2017 16:39	WG952076
Selenium	ND		2.00	1	02/16/2017 16:39	WG952076
Thallium	ND		2.00	1	02/16/2017 16:39	WG952076



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	41000		10000	1	02/15/2017 15:09	WG952277

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3260		1000	1	02/14/2017 17:53	WG952143
Fluoride	222		100	1	02/14/2017 17:53	WG952143
Sulfate	27900		5000	1	02/14/2017 17:53	WG952143

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/14/2017 23:00	WG951817

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	359		5.00	1	02/15/2017 22:23	WG951960
Boron	ND		200	1	02/15/2017 22:23	WG951960
Chromium	10.0		10.0	1	02/15/2017 22:23	WG951960
Cobalt	ND		10.0	1	02/15/2017 22:23	WG951960
Lithium	ND		15.0	1	02/15/2017 22:23	WG951960
Molybdenum	ND		5.00	1	02/15/2017 22:23	WG951960

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/16/2017 16:43	WG952076
Arsenic	ND		2.00	1	02/16/2017 16:43	WG952076
Beryllium	ND		2.00	1	02/16/2017 16:43	WG952076
Cadmium	ND		1.00	1	02/16/2017 16:43	WG952076
Calcium	89600		1000	1	02/16/2017 16:43	WG952076
Lead	ND		2.00	1	02/16/2017 16:43	WG952076
Selenium	4.73		2.00	1	02/16/2017 16:43	WG952076
Thallium	ND		2.00	1	02/16/2017 16:43	WG952076



Method Blank (MB)

(MB) R3197322-1 02/15/17 13:59

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L889323-15 Original Sample (OS) • Duplicate (DUP)

(OS) L889323-15 02/15/17 13:59 • (DUP) R3197322-4 02/15/17 13:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	587000	600000	1	2.25		5

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3197322-2 02/15/17 13:59 • (LCSD) R3197322-3 02/15/17 13:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8520000	8510000	96.8	96.7	85.0-115			0.117	5



Method Blank (MB)

(MB) R3197313-1 02/15/17 15:09

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

L889664-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889664-01 02/15/17 15:09 • (DUP) R3197313-4 02/15/17 15:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	580000	596000	1	2.72		5

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

(LCS) R3197313-2 02/15/17 15:09 • (LCSD) R3197313-3 02/15/17 15:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8500000	8560000	96.6	97.3	85.0-115			0.703	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3197393-1 02/16/17 06:30

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L889377-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889377-01 02/16/17 06:30 • (DUP) R3197393-4 02/16/17 06:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	130000	131000	1	0.766		5

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

(LCS) R3197393-2 02/16/17 06:30 • (LCSD) R3197393-3 02/16/17 06:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8040000	8210000	91.4	93.3	85.0-115			2.09	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3196829-1 02/14/17 13:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L889355-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889355-01 02/14/17 17:30 • (DUP) R3196829-6 02/14/17 17:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	55400	55100	1	1		15
Fluoride	2870	2890	1	0		15

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

(LCS) R3196829-2 02/14/17 14:09 • (LCSD) R3196829-3 02/14/17 14:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39400	39400	99	98	80-120			0	15
Fluoride	8000	7970	7940	100	99	80-120			0	15
Sulfate	40000	39900	39700	100	99	80-120			0	15

L888883-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L888883-03 02/14/17 15:30 • (MS) R3196829-5 02/14/17 15:43

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	8430	59700	103	1	80-120	
Fluoride	5000	165	5270	102	1	80-120	
Sulfate	50000	74600	120000	92	1	80-120	E

L889368-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889368-07 02/14/17 19:31 • (MS) R3196829-7 02/14/17 19:44 • (MSD) R3196829-8 02/14/17 19:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	U	51400	51500	103	103	1	80-120			0	15
Fluoride	5000	U	5170	5160	103	103	1	80-120			0	15
Sulfate	50000	U	52000	51400	104	103	1	80-120			1	15



Method Blank (MB)

(MB) R3196826-1 02/14/17 10:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L889450-04 Original Sample (OS) • Duplicate (DUP)

(OS) L889450-04 02/14/17 12:50 • (DUP) R3196826-4 02/14/17 13:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3490	3450	1	1		15
Fluoride	320	317	1	1		15
Sulfate	16100	15900	1	1		15

L889450-12 Original Sample (OS) • Duplicate (DUP)

(OS) L889450-12 02/14/17 15:57 • (DUP) R3196826-7 02/14/17 16:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	58600	58600	1	0		15
Fluoride	113	120	1	6		15
Sulfate	88900	89200	1	0		15

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

(LCS) R3196826-2 02/14/17 10:50 • (LCSD) R3196826-3 02/14/17 11:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39600	39600	99	99	80-120			0	15
Fluoride	8000	8050	8010	101	100	80-120			0	15
Sulfate	40000	41700	41400	104	104	80-120			1	15

L889450-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889450-05 02/14/17 13:19 • (MS) R3196826-5 02/14/17 14:02 • (MSD) R3196826-6 02/14/17 14:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	3140	54800	54800	103	103	1	80-120			0	15
Fluoride	5000	302	5330	5600	101	106	1	80-120			5	15



L889450-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889450-05 02/14/17 13:19 • (MS) R3196826-5 02/14/17 14:02 • (MSD) R3196826-6 02/14/17 14:16

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
Sulfate	50000	27800	76300	77500	97	99	1	80-120			1	15

L889450-17 Original Sample (OS) • Matrix Spike (MS)

(OS) L889450-17 02/14/17 17:53 • (MS) R3196826-8 02/14/17 18:07

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3260	54100	102	1	80-120	
Fluoride	5000	222	5290	101	1	80-120	
Sulfate	50000	27900	76600	97	1	80-120	

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



Method Blank (MB)

(MB) R3197458-1 02/16/17 18:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

L889344-06 Original Sample (OS) • Duplicate (DUP)

(OS) L889344-06 02/16/17 20:10 • (DUP) R3197458-4 02/16/17 20:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	1400000	1350000	20	4		15

7 Gl

8 Al

L889401-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889401-01 02/16/17 21:36 • (DUP) R3197458-6 02/17/17 00:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	5330	5250	1	2		15

9 Sc

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

(LCS) R3197458-2 02/16/17 18:29 • (LCSD) R3197458-3 02/16/17 18:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	41400	41300	103	103	80-120			0	15

L889779-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L889779-04 02/16/17 22:48 • (MS) R3197458-5 02/16/17 23:03

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	12600	64000	103	1	80-120	



Method Blank (MB)

(MB) R3196746-1 02/14/17 15:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

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

(LCS) R3196746-2 02/14/17 15:43 • (LCSD) R3196746-3 02/14/17 15:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.01	2.80	100	93	80-120			7	20

L889450-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889450-05 02/14/17 15:48 • (MS) R3196746-4 02/14/17 15:50 • (MSD) R3196746-5 02/14/17 15:52

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	2.90	2.41	97	80	1	75-125			18	20

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3197053-1 02/15/17 21:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3197053-2 02/15/17 21:16 • (LCSD) R3197053-3 02/15/17 21:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1000	1000	100	100	80-120			0	20
Boron	1000	981	975	98	97	80-120			1	20
Chromium	1000	1030	1030	103	103	80-120			0	20
Cobalt	1000	997	998	100	100	80-120			0	20
Lithium	1000	954	949	95	95	80-120			1	20
Molybdenum	1000	974	977	97	98	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L889450-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889450-05 02/15/17 21:27 • (MS) R3197053-5 02/15/17 21:32 • (MSD) R3197053-6 02/15/17 21:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	364	1350	1330	99	96	1	75-125			2	20
Boron	1000	ND	1070	1050	99	96	1	75-125			2	20
Chromium	1000	10.5	1040	1010	103	100	1	75-125			3	20
Cobalt	1000	ND	1010	992	101	99	1	75-125			2	20
Lithium	1000	ND	961	943	95	94	1	75-125			2	20
Molybdenum	1000	ND	984	965	98	96	1	75-125			2	20



Method Blank (MB)

(MB) R3197421-7 02/16/17 15:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Calcium	U		46.0	1000
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3197421-8 02/16/17 15:15 • (LCSD) R3197421-9 02/16/17 15:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	57.9	49.5	48.8	85	84	80-120			1	20
Arsenic	50.0	47.5	48.2	95	96	80-120			1	20
Beryllium	50.0	43.2	41.7	86	83	80-120			3	20
Cadmium	50.0	50.4	50.1	101	100	80-120			1	20
Calcium	5000	4840	4810	97	96	80-120			1	20
Lead	50.0	48.0	48.2	96	96	80-120			0	20
Selenium	50.0	48.9	49.7	98	99	80-120			2	20
Thallium	50.0	47.3	46.9	95	94	80-120			1	20

⁷ Gl

⁸ Al

⁹ Sc

L889450-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889450-05 02/16/17 15:22 • (MS) R3197421-11 02/16/17 15:29 • (MSD) R3197421-12 02/16/17 15:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	57.9	ND	49.5	50.1	86	87	1	75-125			1	20
Arsenic	50.0	ND	48.0	48.2	95	95	1	75-125			0	20
Beryllium	50.0	ND	42.5	42.5	85	85	1	75-125			0	20
Cadmium	50.0	ND	51.6	51.1	103	102	1	75-125			1	20
Calcium	5000	86400	89700	88500	65	42	1	75-125	V	V	1	20
Lead	50.0	ND	49.1	49.4	97	98	1	75-125			1	20
Selenium	50.0	4.46	53.5	53.9	98	99	1	75-125			1	20
Thallium	50.0	ND	48.5	48.7	97	97	1	75-125			0	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

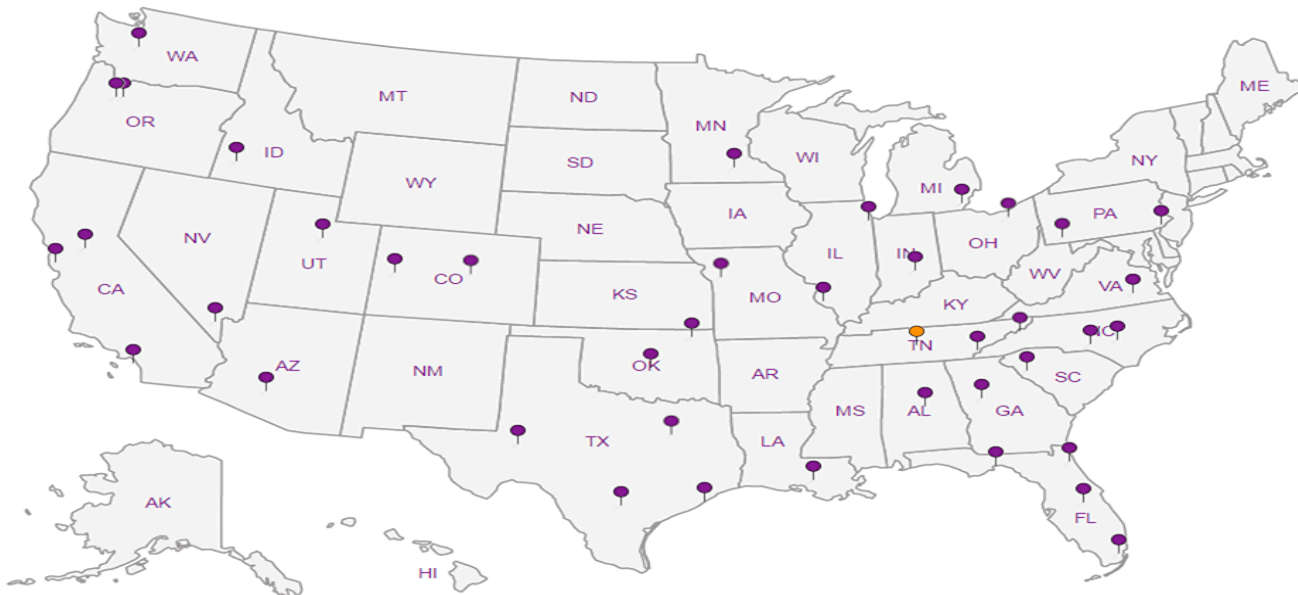
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3



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



Report to: **Jason Franks** Email To: jfranks@scsengineers.com

Project: **KCP L** City/State Collected:
Description: **Sibley Generating Station - CLR GW BG**

Phone: **913-681-0030** Client Project # **27213169.16** Lab Project # **AQUAOPKS-SIBLEY**
Fax: **913-681-0012**

Collected by (print): **Adam Parris** Site/Facility ID # P.O. #

Collected by (signature): **Rush?** (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%
 Date Results Needed: **Standard**
 Immediately Packed on Ice N ___ Y **X**

L# **1889450**
J157

Acctnum: **AQUAOPKS**
Template: **T115107**
Prelogin: **P585802**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:
Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4 125mHDPE-NoPres	Chloride, F, SO4 125mHDPE-NoPres	Metals 250mHDPE-HNO3	TDS 250mHDPE-NoPres				
504	Grab	GW	-	2/8/17	1500	3	X	X	X					-01
505		GW	-		1500	3	X	X	X					-02
506		GW	-		1220	3	X	X	X					-03
510		GW	-		1040	3	X	X	X					-04
512		GW	-		1030	3	X	X	X					-05
601		GW	-		1130	3	X	X	X					-06
602		GW	-			3	X	X	X					-07
701		GW	-		1420	3	X	X	X					-08
702		GW	-		1320	3	X	X	X					-09
703		GW	-		1350	3	X	X	X					-10

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

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

pH _____ Temp _____
Flow _____ Other _____

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

Samples returned via: ___ UPS ___ FedEx ___ Courier **SWA** Tracking #

Relinquished by: (Signature)	Date: 2/9/17	Time: 1410	Received by: (Signature)	Trip Blank Received: Yes/No <input checked="" type="checkbox"/> HCL / MeOH TBR	Temp: 3.2 °C	Bottles Received: 72	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)				
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2-10-17	Time: 1410	Hold:	Condition: NCF / OK

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks

Project: **KCP+L**
Description: **Sibley Generating Station - CCR GW BG**

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

Client Project #
27213169.16

City/State Collected:
AQUAOPKS-SIBLEY

Collected by (print):
Adam Parris

Site/Facility ID #

P.O. #

Collected by (signature):



Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Quote #
Standard

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

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Analysis / Container / Preservative
704	Grab	GW	-	2/8/17	1330	3	X	LL Anions - Cl, F, SO4 125mlHDPE-NoPres Chloride, F, SO4 125mlHDPE-NoPres Metals 250mlHDPE-HNO3 TDS 250mlHDPE-NoPres
801		GW	-	2/9/17	0940	3		
802		GW	-		1040	3		
803		GW	-		1115	3		
804		GW	-		1200	3		
805		GW	-		1240	3		
806R		GW	-		1235	3		
DUPLICATE		GW	-	2/8/17	1035	3		
512 MS		GW	-		1040	3		
512 MSD		GW	-		1045	3		


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

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

pH _____ Temp _____
 Flow _____ Other _____

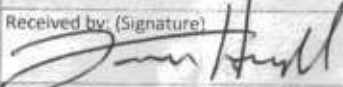
Samples returned via: ___ UPS ___ FedEx ___ Courier _____ Tracking # _____

Sample Receipt Check/et
 COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
IF Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature) 

Date: **2/9/17**

Time: **1410**

Received by: (Signature) 

Trip Blank Received: Yes/No
 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)


Temp: **3.2** °C Bottles Received: **72**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature) 

Date: **2-10-17** Time: **1410**

Hold: Condition: **NCF / 0**



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



L # **6889450**

Table #

Acctnum: **AQUAOPKS**

Template: **T115107**

Prelogin: **P585802**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

		-10
		-11
		-12
		-13
		-14
		-15
		-16
		-17
		-18
		-19

Case Narrative

Lab No: 20170096

This report contains the analytical results for the 19 sample(s) received under chain of custody by ESC Lab Sciences on 2/10/2017 10:04:34 AM. These samples are associated with your 27213167.16 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L889746



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170096
 Date Reported : 03/10/17
 Date Received : 02/10/17
 Page Number : 2 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20170096-01
Client ID : 504
Date Sampled : 2/8/2017 3:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.499 +/- 0.813	0.800	pCi/l				
Radium-226	SM 7500 Ra B M*	0.499 +/- 0.289	0.195	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.294 +/- 0.524	0.605	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-02
Client ID : 505
Date Sampled : 2/8/2017 3:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.000 +/- 0.832	1.13	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.121 +/- 0.300	0.504	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.327 +/- 0.532	0.630	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-03
Client ID : 506
Date Sampled : 2/8/2017 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.177 +/- 0.782	0.945	pCi/l				
Radium-226	SM 7500 Ra B M*	0.177 +/- 0.194	0.256	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.457 +/- 0.588	0.689	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-04
Client ID : 510
Date Sampled : 2/8/2017 10:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.344 +/- 0.823	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	0.186 +/- 0.276	0.414	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.158 +/- 0.547	0.616	pCi/l	02/24/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170096
 Date Reported : 03/10/17
 Date Received : 02/10/17
 Page Number : 3 of 7

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170096-05
Client ID : 512
Date Sampled : 2/8/2017 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.41 +/- 0.771	0.884	pCi/l				
Radium-226	SM 7500 Ra B M*	0.195 +/- 0.206	0.236	pCi/l		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	1.21 +/- 0.565	0.648	pCi/l		02/24/17	03/07/17	JR

Lab ID : 20170096-06
Client ID : 601
Date Sampled : 2/8/2017 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.103 +/- 0.692	0.966	pCi/l				
Radium-226	SM 7500 Ra B M*	0.103 +/- 0.130	0.170	pCi/l		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.000 +/- 0.562	0.796	pCi/l		02/24/17	03/07/17	JR

Lab ID : 20170096-07
Client ID : 701
Date Sampled : 2/8/2017 2:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.098 +/- 0.650	0.890	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.010 +/- 0.148	0.354	pCi/l		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.098 +/- 0.502	0.536	pCi/l		02/24/17	03/07/17	JR

Lab ID : 20170096-08
Client ID : 702
Date Sampled : 2/8/2017 1:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.995 +/- 0.906	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	0.308 +/- 0.272	0.309	pCi/l		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.687 +/- 0.634	0.723	pCi/l		02/24/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170096
 Date Reported : 03/10/17
 Date Received : 02/10/17
 Page Number : 4 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170096-09
Client ID : 703
Date Sampled : 2/8/2017 1:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.200 +/- 0.914	1.21	pCi/l			
Radium-226	SM 7500 Ra B M*	0.200 +/- 0.292	0.440	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.933 +/- 0.622	0.767	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-10
Client ID : 704
Date Sampled : 2/8/2017 1:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.181 +/- 0.921	1.13	pCi/l			
Radium-226	SM 7500 Ra B M*	0.181 +/- 0.226	0.298	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.548 +/- 0.695	0.833	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-11
Client ID : 801
Date Sampled : 2/9/2017 9:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.170 +/- 0.927	1.27	pCi/l			
Radium-226	SM 7500 Ra B M*	0.170 +/- 0.323	0.562	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.432 +/- 0.604	0.710	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-12
Client ID : 802
Date Sampled : 2/9/2017 10:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.23 +/- 0.843	0.938	pCi/l			
Radium-226	SM 7500 Ra B M*	0.247 +/- 0.230	0.237	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	1.98 +/- 0.613	0.701	pCi/l	02/24/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170096
 Date Reported : 03/10/17
 Date Received : 02/10/17
 Page Number : 5 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170096-13
Client ID : 803
Date Sampled : 2/9/2017 11:15:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.717 +/- 0.992	1.27	pCi/l			
Radium-226	SM 7500 Ra B M*	0.543 +/- 0.476	0.602	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.174 +/- 0.516	0.668	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-14
Client ID : 804
Date Sampled : 2/9/2017 12:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.749 +/- 0.718	0.910	pCi/l			
Radium-226	SM 7500 Ra B M*	0.272 +/- 0.275	0.362	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.477 +/- 0.443	0.548	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-15
Client ID : 805
Date Sampled : 2/9/2017 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.338 +/- 0.801	0.921	pCi/l			
Radium-226	SM 7500 Ra B M*	0.338 +/- 0.315	0.325	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	-0.097 +/- 0.486	0.596	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-16
Client ID : 806R
Date Sampled : 2/9/2017 12:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.731 +/- 1.26	1.624	pCi/l			
Radium-226	SM 7500 Ra B M*	0.716 +/- 0.691	0.908	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.015 +/- 0.571	0.716	pCi/l	02/24/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170096
 Date Reported : 03/10/17
 Date Received : 02/10/17
 Page Number : 6 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170096-17
Client ID : DUPLICATE
Date Sampled : 2/8/2017 10:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.374 +/- 0.623	0.844	pCi/l				
Radium-226	SM 7500 Ra B M*	0.157 +/- 0.156	0.181	pCi/l	03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	0.217 +/- 0.467	0.663	pCi/l	02/24/17	03/07/17	JR

Lab ID : 20170096-18
Client ID : 512 MS
Date Sampled : 2/8/2017 10:40:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	97.6	% Rec		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	91.9	% Rec		02/24/17	03/07/17	JR

Lab ID : 20170096-19
Client ID : 512 MSD
Date Sampled : 2/8/2017 10:45:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	17.3	RPD		03/07/17	03/08/17	AK
Radium-228	EPA 904*/9320*	17.4	RPD		02/24/17	03/07/17	JR



Client : SCS Engineers
Client Project : 27213167.16
Lab Number : 20170096
Date Reported : 03/10/17
Date Received : 02/10/17
Page Number : 7 of 7

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.009	101.0			NC	0.460	97.6	81.9	17.3	R1197
Radium-228	-0.053	103.0			NC	0.850	91.9	110.0	17.4	R3927

Lab Approval:

Ron Eidson
Director of Radiochemistry

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks

Project **KCP/L**

Description: **Sibley Generating Station - CLR GW 66**

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

Collected by (print): **Adam Parris**

Collected by (signature):

Immediately Packed on Ice N Y

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Email To: jfranks@scsengineers.com

City/State Collected:

Lab Project #
AQUAOPKS-SIBLEY

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
Standard

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
704	Grab	NPW	-	2/8/17	1330	2
801		NPW	-	2/9/17	0940	2
802		NPW	-		1040	2
803		NPW	-		1115	2
804		NPW	-		1200	2
805		NPW	-		1240	2
806R		NPW	-		1235	2
DUPLICATE		NPW	-	2/8/17	1035	2
S12 MS		NPW	-		1040	2
S12 MSD		NPW	-		1045	2

* Matrix: SS - Soil AIR - Air GW - Groundwater WW - WasteWater DW - Drinking Water DT - Other

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

Samples returned via: UPS FedEx Courier

Relinquished by: (Signature) Date: 2/9/17 Time: 1410

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

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

Analysis / Container / Preservative

Pres Chk

RA226, RA228 1L-HDPE-Add HNO3

copy

pH Temp

Flow Other

Trip Blank Received: Yes / No

HCL / MeOH TBR

Temp °C Bottles Received:

Date: Time:

Hold:



L.A.B S.C.I.E.N.C.E.S



L # **889746**

Table #

Acctnum: **AQUAOPKS**

Template: **T115110**

PrelogIn: **P585796**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

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
 VQA Zero Headpace: Y N
 Preservation Correct/Checked: Y N

if preservation required by LogIn: Date/Time

Condition: NCF / OK

20170696

CS Engineers - KS
 311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Report to: **Simon Franks**
 Email To: jfranks@csengineers.com

Project: **Sibley Generating Station - CCR GW BG**
 Client Project # **27213167.16**

City/State Collected: **AQUAOPKS-SIBLEY**
 Lab Project # **AQUAOPKS-SIBLEY**

Site/Facility ID #

Collected by (print): **Adam Perris**

Collected by (signature): *[Signature]*
 Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Quote #

Standard

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3



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

L# **887746**

Table #

Acctnum: **AQUAOPKS**

Template: **T115110**

Prelogin: **PS85796**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

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Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

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

Matrix: S - Soil AIR - Air

GW - Groundwater

NW - Waste Water

DW - Drinking Water

OT - Other

Samples returned via: ___ UPS ___ FedEx ___ Courier

Tracking #

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Received for Lab by: (Signature) *[Signature]*

Date: **2/19/17** Time: **1410**

Date: Time:

Date: Time:

Date: Time:

Date: Time:

Date: Time:

pH _____ Temp _____

Flow _____ Other _____

Trip Blank Received: Yes / No

HCL / MeOH

TBR

Bottles Received:

Temp: **4mb** °C

Date: **2/10/17**

Time: **1004**

Date: Time:

Date: Time:

Date: Time:

Date: Time:

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Hold:

Condition: NCF / OK

Hold:

Condition: NCF / OK

20120096

RA226, RA228 1L HDPE-ADD HNO3

copy

[Signature]

[Signature]

[Signature]

[Signature]

SAMPLE LOGIN

Date Received: 2/10/2017 10:04:3

Lab Number: 20170096

Due: 3/10/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170096-01 B	504	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-01 A	504	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-02 A	505	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-02 B	505	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-03 A	506	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-03 B	506	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-04 A	510	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-04 B	510	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-05 A	512	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-05 B	512	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-06 B	601	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-06 A	601	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-07 A	701	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-07 B	701	NPW	02/08/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20170096-08 A	702	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-08 B	702	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-09 A	703	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-09 B	703	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-10 B	704	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-10 A	704	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-11 A	801	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-11 B	801	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-12 A	802	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-12 B	802	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-13 A	803	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-13 B	803	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-14 B	804	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-14 A	804	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-15 A	805	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170096-15 B	805	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170096-16 A	806R	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20170096-16 B	806R	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*9320*

20170096-17 A DUPLICATE
20170096-17 B DUPLICATE

NPW
NPW

Plastic
Plastic

1 L
1 L

HNO3, pH < 2
HNO3, pH < 2

Yes
Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*9320*

20170096-18 A 512 MS
20170096-18 B 512 MS

NPW
NPW

Plastic
Plastic

1 L
1 L

HNO3, pH < 2
HNO3, pH < 2

Yes
Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*9320*

20170096-19 B 512 MSD
20170096-19 A 512 MSD

NPW
NPW

Plastic
Plastic

1 L
1 L

HNO3, pH < 2
HNO3, pH < 2

Yes
Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*9320*

CONTAINER INSPECTION

Coolers Custody Seals Broken Temperature: Ab C Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact

Radiation Survey Complete NA

Anomalies Sample -04A broke during receiving enough volume remaining for analysis & unaltered

Inspected By: [Signature] DATE 7/10/17
QA or Designee Review: [Signature] DATE 02/10/17
Sample Custodian Review: [Signature] DATE 2/10/17

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-7
May 2017 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L907562
Samples Received: 05/06/2017
Project Number: 27213169.16
Description: Sibley Generating Station

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213


Entire Report Reviewed By:



John Hawkins
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



701 L907562-01 GW

Collected by
Alex McCornick Collected date/time
05/03/17 11:20 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978021	1	05/10/17 16:46	05/10/17 17:58	MMF
Wet Chemistry by Method 9056A	WG977533	1	05/09/17 15:52	05/09/17 15:52	KCF
Wet Chemistry by Method 9056A	WG977862	1	05/10/17 17:08	05/10/17 17:08	KCF
Wet Chemistry by Method 9056A	WG978330	1	05/11/17 15:06	05/11/17 15:06	MCG
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:10	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:02	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:16	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 11:40	JPD

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

702 L907562-02 GW

Collected by
Alex McCornick Collected date/time
05/03/17 13:25 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978021	1	05/10/17 16:46	05/10/17 17:58	MMF
Wet Chemistry by Method 9056A	WG977533	1	05/09/17 16:15	05/09/17 16:15	KCF
Wet Chemistry by Method 9056A	WG977862	1	05/10/17 22:39	05/10/17 22:39	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:12	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:05	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:19	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 11:43	JPD

6
Qc

7
Gl

8
Al

9
Sc

703 L907562-03 GW

Collected by
Alex McCornick Collected date/time
05/03/17 12:45 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978021	1	05/10/17 16:46	05/10/17 17:58	MMF
Wet Chemistry by Method 9056A	WG977533	1	05/09/17 16:27	05/09/17 16:27	KCF
Wet Chemistry by Method 9056A	WG977862	1	05/10/17 17:43	05/10/17 17:43	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:14	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:07	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:23	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 11:58	JPD

704 L907562-04 GW

Collected by
Alex McCornick Collected date/time
05/03/17 12:05 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978021	1	05/10/17 16:46	05/10/17 17:58	MMF
Wet Chemistry by Method 9056A	WG977533	1	05/09/17 16:38	05/09/17 16:38	KCF
Wet Chemistry by Method 9056A	WG977862	1	05/10/17 18:01	05/10/17 18:01	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:17	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:10	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:33	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:02	JPD

801 L907562-05 GW

Collected by
Alex McCornick Collected date/time
05/03/17 14:40 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 10:41	05/09/17 10:41	KCF

SAMPLE SUMMARY



801 L907562-05 GW

Collected by
Alex McCornick Collected date/time
05/03/17 14:40 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG977535	5	05/09/17 10:57	05/09/17 10:57	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:19	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:13	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:37	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:05	JPD



802 L907562-06 GW

Collected by
Alex McCornick Collected date/time
05/03/17 14:10 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 11:58	05/09/17 11:58	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:21	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:15	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:40	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:09	JPD



803 L907562-07 GW

Collected by
Alex McCornick Collected date/time
05/03/17 15:30 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 12:14	05/09/17 12:14	KCF
Wet Chemistry by Method 9056A	WG977535	5	05/09/17 18:08	05/09/17 18:08	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:28	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:18	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:44	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:12	JPD



804 L907562-08 GW

Collected by
Alex McCornick Collected date/time
05/03/17 16:00 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 12:29	05/09/17 12:29	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:30	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:21	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:47	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:16	JPD

805 L907562-09 GW

Collected by
Alex McCornick Collected date/time
05/03/17 16:30 Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 12:45	05/09/17 12:45	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:32	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:31	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 04:30	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 11:22	JPD

SAMPLE SUMMARY



806R L907562-10 GW

Collected by
Alex McCornick

Collected date/time
05/03/17 17:00

Received date/time
05/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG978022	1	05/10/17 16:17	05/10/17 17:11	MMF
Wet Chemistry by Method 9056A	WG977535	1	05/09/17 13:15	05/09/17 13:15	KCF
Wet Chemistry by Method 9056A	WG977535	5	05/09/17 18:24	05/09/17 18:24	KCF
Mercury by Method 7470A	WG977769	1	05/09/17 11:46	05/10/17 11:35	BRJ
Metals (ICP) by Method 6010B	WG977935	1	05/11/17 21:48	05/12/17 13:34	CCE
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 05:51	LAT
Metals (ICPMS) by Method 6020	WG977926	1	05/10/17 13:50	05/16/17 12:19	JPD

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

John Hawkins
Technical Service Representative

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	314000		10000	1	05/10/2017 17:58	WG978021

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9110		1000	1	05/09/2017 15:52	WG977533
Fluoride	116		100	1	05/10/2017 17:08	WG977862
Sulfate	15800		5000	1	05/11/2017 15:06	WG978330

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/10/2017 11:10	WG977769

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	188		5.00	1	05/12/2017 13:02	WG977935
Boron	ND		200	1	05/12/2017 13:02	WG977935
Chromium	ND		10.0	1	05/12/2017 13:02	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:02	WG977935
Lithium	ND		15.0	1	05/12/2017 13:02	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:02	WG977935

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/16/2017 11:40	WG977926
Arsenic	2.60		2.00	1	05/16/2017 05:16	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:16	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:16	WG977926
Calcium	73400		1000	1	05/16/2017 05:16	WG977926
Lead	ND		2.00	1	05/16/2017 05:16	WG977926
Selenium	ND		2.00	1	05/16/2017 05:16	WG977926
Thallium	ND		2.00	1	05/16/2017 05:16	WG977926

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	302000		10000	1	05/10/2017 17:58	WG978021

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	9110		1000	1	05/09/2017 16:15	WG977533
Fluoride	111		100	1	05/10/2017 22:39	WG977862
Sulfate	21400		5000	1	05/09/2017 16:15	WG977533

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/10/2017 11:12	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	288		5.00	1	05/12/2017 13:05	WG977935
Boron	ND		200	1	05/12/2017 13:05	WG977935
Chromium	ND		10.0	1	05/12/2017 13:05	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:05	WG977935
Lithium	ND		15.0	1	05/12/2017 13:05	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:05	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/16/2017 11:43	WG977926
Arsenic	7.34		2.00	1	05/16/2017 05:19	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:19	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:19	WG977926
Calcium	77400		1000	1	05/16/2017 05:19	WG977926
Lead	ND		2.00	1	05/16/2017 05:19	WG977926
Selenium	ND		2.00	1	05/16/2017 05:19	WG977926
Thallium	ND		2.00	1	05/16/2017 05:19	WG977926



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	517000		10000	1	05/10/2017 17:58	WG978021

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19400		1000	1	05/09/2017 16:27	WG977533
Fluoride	245		100	1	05/10/2017 17:43	WG977862
Sulfate	ND		5000	1	05/09/2017 16:27	WG977533

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/10/2017 11:14	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	326		5.00	1	05/12/2017 13:07	WG977935
Boron	979		200	1	05/12/2017 13:07	WG977935
Chromium	ND		10.0	1	05/12/2017 13:07	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:07	WG977935
Lithium	ND		15.0	1	05/12/2017 13:07	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:07	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/16/2017 11:58	WG977926
Arsenic	122		2.00	1	05/16/2017 05:23	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:23	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:23	WG977926
Calcium	114000		1000	1	05/16/2017 05:23	WG977926
Lead	ND		2.00	1	05/16/2017 05:23	WG977926
Selenium	ND		2.00	1	05/16/2017 05:23	WG977926
Thallium	ND		2.00	1	05/16/2017 05:23	WG977926



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	364000		10000	1	05/10/2017 17:58	WG978021

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13800		1000	1	05/09/2017 16:38	WG977533
Fluoride	142		100	1	05/10/2017 18:01	WG977862
Sulfate	37200		5000	1	05/09/2017 16:38	WG977533

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/10/2017 11:17	WG977769

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	155		5.00	1	05/12/2017 13:10	WG977935
Boron	ND		200	1	05/12/2017 13:10	WG977935
Chromium	ND		10.0	1	05/12/2017 13:10	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:10	WG977935
Lithium	ND		15.0	1	05/12/2017 13:10	WG977935
Molybdenum	8.64		5.00	1	05/12/2017 13:10	WG977935

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/16/2017 12:02	WG977926
Arsenic	2.06		2.00	1	05/16/2017 05:33	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:33	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:33	WG977926
Calcium	80100		1000	1	05/16/2017 05:33	WG977926
Lead	ND		2.00	1	05/16/2017 05:33	WG977926
Selenium	ND		2.00	1	05/16/2017 05:33	WG977926
Thallium	ND		2.00	1	05/16/2017 05:33	WG977926

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	622000		10000	1	05/10/2017 17:11	WG978022

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	101000		5000	5	05/09/2017 10:57	WG977535
Fluoride	150		100	1	05/09/2017 10:41	WG977535
Sulfate	67200		5000	1	05/09/2017 10:41	WG977535

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/10/2017 11:19	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	124		5.00	1	05/12/2017 13:13	WG977935
Boron	396		200	1	05/12/2017 13:13	WG977935
Chromium	ND		10.0	1	05/12/2017 13:13	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:13	WG977935
Lithium	15.9		15.0	1	05/12/2017 13:13	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:13	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/16/2017 12:05	WG977926
Arsenic	ND		2.00	1	05/16/2017 05:37	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:37	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:37	WG977926
Calcium	127000		1000	1	05/16/2017 05:37	WG977926
Lead	ND		2.00	1	05/16/2017 05:37	WG977926
Selenium	ND		2.00	1	05/16/2017 05:37	WG977926
Thallium	ND		2.00	1	05/16/2017 05:37	WG977926



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	416000		10000	1	05/10/2017 17:11	WG978022

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	53900		1000	1	05/09/2017 11:58	WG977535
Fluoride	173		100	1	05/09/2017 11:58	WG977535
Sulfate	35200		5000	1	05/09/2017 11:58	WG977535

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/10/2017 11:21	WG977769

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	304		5.00	1	05/12/2017 13:15	WG977935
Boron	ND		200	1	05/12/2017 13:15	WG977935
Chromium	ND		10.0	1	05/12/2017 13:15	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:15	WG977935
Lithium	ND		15.0	1	05/12/2017 13:15	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:15	WG977935

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/16/2017 12:09	WG977926
Arsenic	8.23		2.00	1	05/16/2017 05:40	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:40	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:40	WG977926
Calcium	71000		1000	1	05/16/2017 05:40	WG977926
Lead	4.20		2.00	1	05/16/2017 05:40	WG977926
Selenium	ND		2.00	1	05/16/2017 05:40	WG977926
Thallium	ND		2.00	1	05/16/2017 05:40	WG977926

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	552000		10000	1	05/10/2017 17:11	WG978022

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15900		1000	1	05/09/2017 12:14	WG977535
Fluoride	254		100	1	05/09/2017 12:14	WG977535
Sulfate	127000		25000	5	05/09/2017 18:08	WG977535

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/10/2017 11:28	WG977769

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	129		5.00	1	05/12/2017 13:18	WG977935
Boron	2730		200	1	05/12/2017 13:18	WG977935
Chromium	ND		10.0	1	05/12/2017 13:18	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:18	WG977935
Lithium	ND		15.0	1	05/12/2017 13:18	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:18	WG977935

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/16/2017 12:12	WG977926
Arsenic	2.92		2.00	1	05/16/2017 05:44	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:44	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:44	WG977926
Calcium	103000		1000	1	05/16/2017 05:44	WG977926
Lead	ND		2.00	1	05/16/2017 05:44	WG977926
Selenium	ND		2.00	1	05/16/2017 05:44	WG977926
Thallium	ND		2.00	1	05/16/2017 05:44	WG977926

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	609000		10000	1	05/10/2017 17:11	WG978022

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15000		1000	1	05/09/2017 12:29	WG977535
Fluoride	182		100	1	05/09/2017 12:29	WG977535
Sulfate	ND		5000	1	05/09/2017 12:29	WG977535

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/10/2017 11:30	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	411		5.00	1	05/12/2017 13:21	WG977935
Boron	3400		200	1	05/12/2017 13:21	WG977935
Chromium	ND		10.0	1	05/12/2017 13:21	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:21	WG977935
Lithium	21.0		15.0	1	05/12/2017 13:21	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:21	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/16/2017 12:16	WG977926
Arsenic	7.00		2.00	1	05/16/2017 05:47	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:47	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:47	WG977926
Calcium	134000		1000	1	05/16/2017 05:47	WG977926
Lead	2.30		2.00	1	05/16/2017 05:47	WG977926
Selenium	ND		2.00	1	05/16/2017 05:47	WG977926
Thallium	ND		2.00	1	05/16/2017 05:47	WG977926



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	388000		10000	1	05/10/2017 17:11	WG978022

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	11500		1000	1	05/09/2017 12:45	WG977535
Fluoride	161	P1	100	1	05/09/2017 12:45	WG977535
Sulfate	54400		5000	1	05/09/2017 12:45	WG977535

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/10/2017 11:32	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	170		5.00	1	05/12/2017 13:31	WG977935
Boron	ND		200	1	05/12/2017 13:31	WG977935
Chromium	ND		10.0	1	05/12/2017 13:31	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:31	WG977935
Lithium	ND		15.0	1	05/12/2017 13:31	WG977935
Molybdenum	ND		5.00	1	05/12/2017 13:31	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/16/2017 11:22	WG977926
Arsenic	ND		2.00	1	05/16/2017 04:30	WG977926
Beryllium	ND		2.00	1	05/16/2017 04:30	WG977926
Cadmium	ND		1.00	1	05/16/2017 04:30	WG977926
Calcium	86200		1000	1	05/16/2017 04:30	WG977926
Lead	ND		2.00	1	05/16/2017 04:30	WG977926
Selenium	ND		2.00	1	05/16/2017 04:30	WG977926
Thallium	ND		2.00	1	05/16/2017 04:30	WG977926



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	620000		10000	1	05/10/2017 17:11	WG978022

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	25600		1000	1	05/09/2017 13:15	WG977535
Fluoride	195		100	1	05/09/2017 13:15	WG977535
Sulfate	149000		25000	5	05/09/2017 18:24	WG977535

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/10/2017 11:35	WG977769

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	74.7		5.00	1	05/12/2017 13:34	WG977935
Boron	4760		200	1	05/12/2017 13:34	WG977935
Chromium	ND		10.0	1	05/12/2017 13:34	WG977935
Cobalt	ND		10.0	1	05/12/2017 13:34	WG977935
Lithium	16.3		15.0	1	05/12/2017 13:34	WG977935
Molybdenum	1190		5.00	1	05/12/2017 13:34	WG977935

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/16/2017 12:19	WG977926
Arsenic	2.95		2.00	1	05/16/2017 05:51	WG977926
Beryllium	ND		2.00	1	05/16/2017 05:51	WG977926
Cadmium	ND		1.00	1	05/16/2017 05:51	WG977926
Calcium	121000		1000	1	05/16/2017 05:51	WG977926
Lead	ND		2.00	1	05/16/2017 05:51	WG977926
Selenium	ND		2.00	1	05/16/2017 05:51	WG977926
Thallium	ND		2.00	1	05/16/2017 05:51	WG977926



Method Blank (MB)

(MB) R3217409-1 05/10/17 17:58

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L907286-02 Original Sample (OS) • Duplicate (DUP)

(OS) L907286-02 05/10/17 17:58 • (DUP) R3217409-4 05/10/17 17:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1520000	1450000	1	4.38		5

⁷ Gl

⁸ Al

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

(LCS) R3217409-2 05/10/17 17:58 • (LCSD) R3217409-3 05/10/17 17:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8600000	8600000	97.7	97.7	85.0-115			0.000	5

⁹ Sc



Method Blank (MB)

(MB) R3217420-1 05/10/17 17:11

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L907562-05 Original Sample (OS) • Duplicate (DUP)

(OS) L907562-05 05/10/17 17:11 • (DUP) R3217420-4 05/10/17 17:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	622000	613000	1	1.46		5

⁷ Gl

⁸ Al

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

(LCS) R3217420-2 05/10/17 17:11 • (LCSD) R3217420-3 05/10/17 17:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8710000	8700000	99.0	98.9	85.0-115			0.115	5

⁹ Sc



Method Blank (MB)

(MB) R3216854-1 05/09/17 09:33

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L907535-05 Original Sample (OS) • Duplicate (DUP)

(OS) L907535-05 05/09/17 11:47 • (DUP) R3216854-4 05/09/17 11:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	717	1	0		15
Sulfate	ND	3470	1	0		15

L907562-01 Original Sample (OS) • Duplicate (DUP)

(OS) L907562-01 05/09/17 15:52 • (DUP) R3216854-6 05/09/17 16:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	9110	8950	1	2		15
Sulfate	16700	16700	1	0		15

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

(LCS) R3216854-2 05/09/17 09:45 • (LCSD) R3216854-3 05/09/17 09:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	40000	40200	100	100	80-120			0	15
Sulfate	40000	39700	39400	99	99	80-120			1	15

L907535-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L907535-06 05/09/17 12:10 • (MS) R3216854-5 05/09/17 12:22

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	1820	52100	101	1	80-120	
Sulfate	50000	5690	54700	98	1	80-120	



L907562-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907562-04 05/09/17 16:38 • (MS) R3216854-7 05/09/17 16:50 • (MSD) R3216854-8 05/09/17 17:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	13800	64000	63900	100	100	1	80-120			0	15
Sulfate	50000	37200	82600	82400	91	90	1	80-120			0	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3216827-1 05/09/17 06:45

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L907562-09 Original Sample (OS) • Duplicate (DUP)

(OS) L907562-09 05/09/17 12:45 • (DUP) R3216827-5 05/09/17 13:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	11500	11900	1	4		15
Fluoride	161	227	1	34	P1	15
Sulfate	54400	54500	1	0		15

L907569-06 Original Sample (OS) • Duplicate (DUP)

(OS) L907569-06 05/09/17 17:37 • (DUP) R3216827-8 05/09/17 17:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3890	3670	1	6		15
Fluoride	294	289	1	2		15
Sulfate	15800	15800	1	0		15

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

(LCS) R3216827-2 05/09/17 07:00 • (LCSD) R3216827-3 05/09/17 07:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39600	39600	99	99	80-120			0	15
Fluoride	8000	8050	8050	101	101	80-120			0	15
Sulfate	40000	40200	40300	101	101	80-120			0	15

L907562-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L907562-05 05/09/17 10:41 • (MS) R3216827-4 05/09/17 11:12

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Fluoride	5000	150	5190	101	1	80-120	
Sulfate	50000	67200	114000	94	1	80-120	E



L907569-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907569-04 05/09/17 16:05 • (MS) R3216827-6 05/09/17 16:20 • (MSD) R3216827-7 05/09/17 16:36

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
Chloride	50000	3630	53900	54600	101	102	1	80-120			1	15
Sulfate	50000	15000	64500	64500	99	99	1	80-120			0	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3217208-1 05/10/17 05:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Fluoride	U		9.90	100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L907599-08 Original Sample (OS) • Duplicate (DUP)

(OS) L907599-08 05/10/17 13:39 • (DUP) R3217208-4 05/10/17 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	ND	87.4	1	0		15

L907562-01 Original Sample (OS) • Duplicate (DUP)

(OS) L907562-01 05/10/17 17:08 • (DUP) R3217208-7 05/10/17 17:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	116	113	1	2		15

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

(LCS) R3217208-2 05/10/17 06:12 • (LCSD) R3217208-3 05/10/17 06:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Fluoride	8000	8080	8070	101	101	80-120			0	15

L907599-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907599-10 05/10/17 14:32 • (MS) R3217208-5 05/10/17 14:49 • (MSD) R3217208-6 05/10/17 15:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Fluoride	5000	254	5310	5300	101	101	1	80-120			0	15

L907562-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L907562-02 05/10/17 22:39 • (MS) R3217208-8 05/10/17 22:57

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Fluoride	5000	111	5220	102	1	80-120	



Method Blank (MB)

(MB) R3217647-1 05/11/17 08:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

L907485-01 Original Sample (OS) • Duplicate (DUP)

(OS) L907485-01 05/11/17 11:07 • (DUP) R3217647-4 05/11/17 11:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	309	1	0		15

L907485-10 Original Sample (OS) • Duplicate (DUP)

(OS) L907485-10 05/11/17 13:37 • (DUP) R3217647-6 05/11/17 13:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	732000	715000	20	2		15

7 Gl

8 Al

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

(LCS) R3217647-2 05/11/17 08:27 • (LCSD) R3217647-3 05/11/17 08:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39800	39800	99	99	80-120			0	15

L907485-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L907485-03 05/11/17 12:52 • (MS) R3217647-5 05/11/17 13:07

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	34300	84500	101	1	80-120	

L907485-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907485-06 05/11/17 16:51 • (MS) R3217647-7 05/11/17 17:35 • (MSD) R3217647-8 05/11/17 17:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	59300	105000	105000	91	91	1	80-120	E	E	0	15

9 Sc



Method Blank (MB)

(MB) R3216884-1 05/10/17 10:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3216884-2 05/10/17 10:38 • (LCSD) R3216884-3 05/10/17 10:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.51	2.50	84	83	80-120			0	20

L907520-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907520-01 05/10/17 10:42 • (MS) R3216884-4 05/10/17 10:45 • (MSD) R3216884-5 05/10/17 10:47

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	2.39	2.48	80	83	1	75-125			4	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3217695-1 05/12/17 12:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3217695-2 05/12/17 12:31 • (LCSD) R3217695-3 05/12/17 12:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1030	1030	103	103	80-120			0	20
Boron	1000	964	971	96	97	80-120			1	20
Chromium	1000	990	987	99	99	80-120			0	20
Cobalt	1000	1010	1010	101	101	80-120			0	20
Lithium	1000	1000	1000	100	100	80-120			0	20
Molybdenum	1000	1010	1010	101	101	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L907719-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907719-02 05/12/17 12:36 • (MS) R3217695-5 05/12/17 12:41 • (MSD) R3217695-6 05/12/17 12:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	100	1120	1130	102	103	1	75-125			1	20
Boron	1000	ND	1060	1060	97	97	1	75-125			0	20
Chromium	1000	ND	953	957	95	96	1	75-125			0	20
Cobalt	1000	ND	980	984	98	98	1	75-125			0	20
Lithium	1000	ND	1020	1030	102	102	1	75-125			1	20
Molybdenum	1000	ND	1020	1020	102	102	1	75-125			1	20



Method Blank (MB)

(MB) R3218241-1 05/16/17 04:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Calcium	U		46.0	1000
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Method Blank (MB)

(MB) R3218359-1 05/16/17 11:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00

⁶ Qc

⁷ Gl

⁸ Al

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

(LCS) R3218241-2 05/16/17 04:23 • (LCSD) R3218241-3 05/16/17 04:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Arsenic	50.0	46.3	46.4	93	93	80-120			0	20
Beryllium	50.0	47.9	47.8	96	96	80-120			0	20
Cadmium	50.0	48.0	48.3	96	97	80-120			1	20
Calcium	5000	4670	4720	93	94	80-120			1	20
Lead	50.0	47.2	48.0	94	96	80-120			2	20
Selenium	50.0	46.4	48.3	93	97	80-120			4	20
Thallium	50.0	47.4	47.8	95	96	80-120			1	20

⁹ Sc

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

(LCS) R3218359-2 05/16/17 11:15 • (LCSD) R3218359-3 05/16/17 11:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	51.6	50.8	103	102	80-120			2	20



L907562-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907562-09 05/16/17 04:30 • (MS) R3218241-5 05/16/17 04:37 • (MSD) R3218241-6 05/16/17 04:41

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 %
Arsenic	50.0	ND	47.3	47.0	92	92	1	75-125			1	20
Beryllium	50.0	ND	46.6	46.1	93	92	1	75-125			1	20
Cadmium	50.0	ND	49.2	49.0	97	97	1	75-125			0	20
Calcium	5000	86200	90800	91300	92	103	1	75-125			1	20
Lead	50.0	ND	47.4	47.5	94	94	1	75-125			0	20
Selenium	50.0	ND	47.6	48.9	92	95	1	75-125			3	20
Thallium	50.0	ND	47.3	47.6	95	95	1	75-125			1	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L907562-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L907562-09 05/16/17 11:22 • (MS) R3218359-5 05/16/17 11:29 • (MSD) R3218359-6 05/16/17 11:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	50.9	51.0	102	102	1	75-125			0	20

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

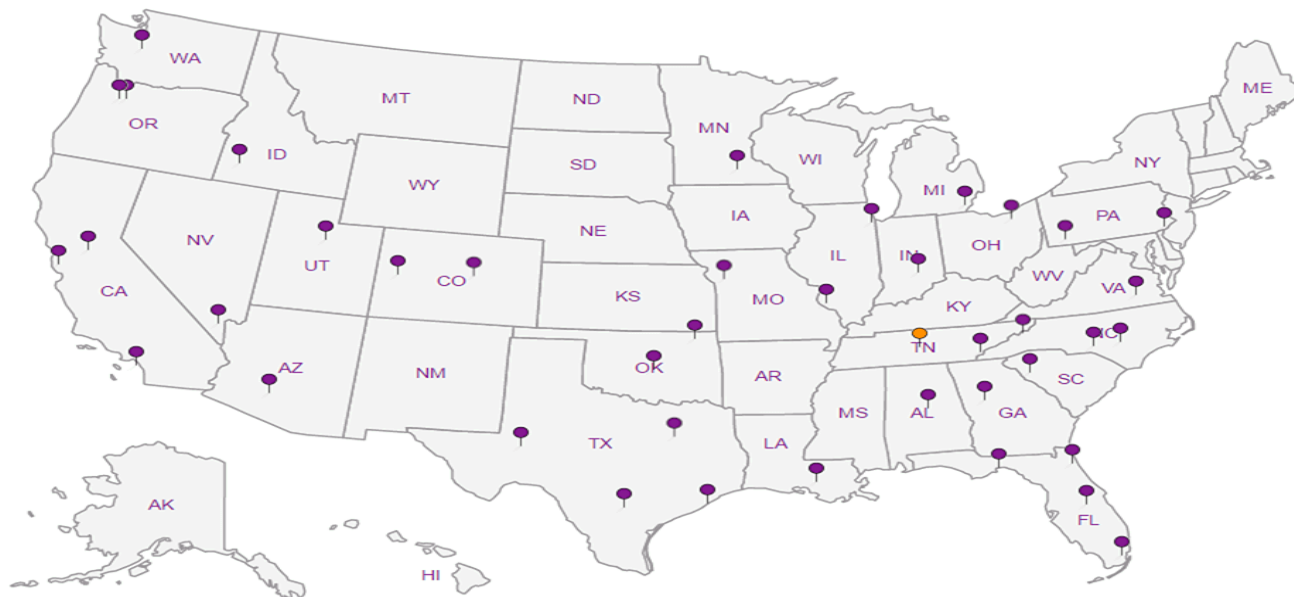
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SCS Engineers - KS
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Billing Information:
Accounts Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213

Pres
 Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



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



Report to:
Jason Franks

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

Project
 Description: **Sibley Generating Station**

City/State
 Collected:

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

Client Project #
27213169.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Alex McCarroll

Site/Facility ID #

P.O. #

Collected by (signature):
Alex McCarroll

Rush? (Lab MUST Be Notified)

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

Quote #

Date Results Needed

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

No.
 of
 Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Anions - Cl, F, SO4 125mlHDPE-NoPres			Metals 250mlHDPE-HNO3			TDS 250mlHDPE-NoPres			Remarks	Sample # (lab only)
-----------	-----------	----------	-------	------	------	--------------------------------------	--	--	-----------------------	--	--	----------------------	--	--	---------	---------------------

701		GW		5/3/17	1120	3	X	X	X							-01
702		GW			1325	3	X	X	X							02
703		GW			1245	3	X	X	X							03
704		GW			1205	3	X	X	X							04
801		GW			1440	3	X	X	X							05
802		GW			1410	3	X	X	X							06
803		GW			1530	3	X	X	X							07
804		GW			1600	3	X	X	X							08

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

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

pH _____ Temp _____
 Flow _____ Other _____

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

Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Tracking #

Relinquished by: (Signature) <i>JM</i>	Date: 5/4/17	Time: 1200	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes / No HCL / MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/5/17	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: °C 3.1M 30
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 5-6-17 Time: 845

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

Case Narrative

Lab No: 20170405

This report contains the analytical results for the 19 sample(s) received under chain of custody by ESC Lab Sciences on 5/8/2017 2:29:18 PM. These samples are associated with your 27213167.16 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

DL for Radiochemistry = MDA

DL for Metals and Wet Chemistry = MDL

DL for Drinking Water = SDWA

Observations / Nonconformances

L907770

The following QC parameters are outside method control limits:

MSD Radium-226 SDG R1233



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170405
 Date Reported : 06/08/17
 Date Received : 05/08/17
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20170405-01
Client ID : 504
Date Sampled : 5/4/2017 10:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.965 +/- 0.555	0.677	pCi/l				
Radium-226	SM 7500 Ra B M*	0.120 +/- 0.111	0.151	pCi/l	06/01/17	06/03/17	SD
Radium-228	EPA 904*	0.845 +/- 0.444	0.526	pCi/l	05/23/17	05/26/17	JR

Lab ID : 20170405-02
Client ID : 505
Date Sampled : 5/4/2017 11:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.292 +/- 0.693	0.845	pCi/l				
Radium-226	SM 7500 Ra B M*	0.059 +/- 0.128	0.217	pCi/l	06/01/17	06/03/17	SD
Radium-228	EPA 904*	0.233 +/- 0.565	0.628	pCi/l	05/23/17	05/26/17	JR

Lab ID : 20170405-03
Client ID : 506
Date Sampled : 5/4/2017 11:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.841 +/- 0.512	0.679	pCi/l				
Radium-226	SM 7500 Ra B M*	0.164 +/- 0.107	0.131	pCi/l	06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.677 +/- 0.405	0.548	pCi/l	05/23/17	05/26/17	JR

Lab ID : 20170405-04
Client ID : 510
Date Sampled : 5/3/2017 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.711 +/- 0.651	0.979	pCi/l				
Radium-226	SM 7500 Ra B M*	0.155 +/- 0.172	0.252	pCi/l	06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.556 +/- 0.479	0.727	pCi/l	05/23/17	05/26/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170405
 Date Reported : 06/08/17
 Date Received : 05/08/17
 Page Number : 3 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20170405-05
Client ID : 510 MS
Date Sampled : 5/3/2017 12:00:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	86.1		% Rec		06/01/17	06/05/17	AK
Radium-228	EPA 904*	71.3		% REC		05/23/17	05/26/17	JR

Lab ID : 20170405-06
Client ID : 510 MSD
Date Sampled : 5/3/2017 12:05:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	12.3		RPD		06/01/17	06/05/17	AK
Radium-228	EPA 904*	9.31		RPD		05/23/17	05/26/17	JR

Lab ID : 20170405-07
Client ID : 512
Date Sampled : 5/3/2017 3:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.13 +/- 0.717	0.833	pCi/l				
Radium-226	SM 7500 Ra B M*	0.176 +/- 0.116	0.135	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.951 +/- 0.601	0.698	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-08
Client ID : 601
Date Sampled : 5/3/2017 9:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.14 +/- 0.755	0.939	pCi/l				
Radium-226	SM 7500 Ra B M*	0.081 +/- 0.139	0.222	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	1.06 +/- 0.616	0.717	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-09
Client ID : 701
Date Sampled : 5/3/2017 11:20:00 AM
Matrix : NPW

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170405
 Date Reported : 06/08/17
 Date Received : 05/08/17
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses							
Combined Radium	0.391 +/- 0.600	0.698	pCi/l				
Radium-226 SM 7500 Ra B M*	0.153 +/- 0.111	0.141	pCi/l		06/01/17	06/05/17	AK
Radium-228 EPA 904*	0.238 +/- 0.489	0.557	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-10
Client ID : 702
Date Sampled : 5/3/2017 1:25:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.596 +/- 0.591	0.679	pCi/l				
Radium-226 SM 7500 Ra B M*	0.090 +/- 0.091	0.128	pCi/l		06/01/17	06/05/17	AK
Radium-228 EPA 904*	0.506 +/- 0.500	0.551	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-11
Client ID : 703
Date Sampled : 5/3/2017 12:45:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.16 +/- 0.743	0.919	pCi/l				
Radium-226 SM 7500 Ra B M*	0.282 +/- 0.215	0.298	pCi/l		06/01/17	06/05/17	AK
Radium-228 EPA 904*	0.878 +/- 0.528	0.621	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-12
Client ID : 704
Date Sampled : 5/3/2017 12:05:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.307 +/- 0.709	0.958	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.053 +/- 0.178	0.309	pCi/l		06/01/17	06/05/17	AK
Radium-228 EPA 904*	0.307 +/- 0.531	0.649	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-13
Client ID : 801
Date Sampled : 5/3/2017 2:40:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.582 +/- 0.612	0.862	pCi/l				

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170405
 Date Reported : 06/08/17
 Date Received : 05/08/17
 Page Number : 5 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.062 +/- 0.156	0.248	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.520 +/- 0.456	0.614	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-14
Client ID : 802
Date Sampled : 5/3/2017 2:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.48 +/- 0.556	0.685	pCi/l				
Radium-226	SM 7500 Ra B M*	0.126 +/- 0.143	0.211	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	1.35 +/- 0.413	0.474	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-15
Client ID : 803
Date Sampled : 5/3/2017 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.000 +/- 0.660	0.876	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.014 +/- 0.187	0.317	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	-0.327 +/- 0.473	0.559	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-16
Client ID : 804
Date Sampled : 5/3/2017 4:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.822 +/- 0.599	0.752	pCi/l				
Radium-226	SM 7500 Ra B M*	0.216 +/- 0.154	0.206	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.606 +/- 0.445	0.546	pCi/l		05/23/17	05/26/17	JR

Lab ID : 20170405-17
Client ID : 805
Date Sampled : 5/3/2017 4:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.20 +/- 0.620	0.706	pCi/l				
Radium-226	SM 7500 Ra B M*	0.245 +/- 0.154	0.195	pCi/l		06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.954 +/- 0.466	0.511	pCi/l		05/23/17	05/26/17	JR

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170405
 Date Reported : 06/08/17
 Date Received : 05/08/17
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170405-18
Client ID : 806R
Date Sampled : 5/3/2017 5:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.131 +/- 0.634	0.767	pCi/l			
Radium-226	SM 7500 Ra B M*	0.058 +/- 0.136	0.231	pCi/l	06/01/17	06/05/17	AK
Radium-228	EPA 904*	0.073 +/- 0.498	0.536	% Rec	05/23/17	05/26/17	JR

Lab ID : 20170405-19
Client ID : DUPLICATE
Date Sampled : 5/3/2017 11:55:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.824 +/- 0.637	0.802	pCi/l			
Radium-226	SM 7500 Ra B M*	0.100 +/- 0.142	0.215	pCi/l	06/01/17	06/06/17	AK
Radium-228	EPA 904*	0.724 +/- 0.495	0.587	RPD	05/23/17	05/30/17	JR

QC Report

Parameter	Blank	LCS		LCSD		DUP RPD	RER, NAD or DER	MSD		Batch ID
		%REC		%REC	RPD			%REC	RPD	
Radium-226	-0.018	80.7				NC	0.539	86.1	97.5 12.3	R1234
Radium-226	-0.029	107.0				NC	0.731	112.0	132.0 15.9	R1233
Radium-228	-0.133	84.8				NC	0.022	71.3	79.1 9.3	R3963

Lab Approval:

Ron Eidson
 Director of Radiochemistry

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks

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

Project
Description: **Sibley Generating Station**

Client Project #
27213167.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Alex McFarland

City/State
Collected:

Collected by (signature):
Alex McFarland

Quote #

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

Sample ID

Comp/Grab Matrix * Depth

Date

Time

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
504	Geo	NPW		5/4/17	1045	2
505		NPW			1140	2
506		NPW			1135	2
510		NPW		5/3/17	1150	2
512		NPW			1505	2
601		NPW		5/3/17	935	2
602		NPW				2
701		NPW			1120	2
702		NPW			1325	2
703		NPW			1245	2

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

Samples returned via:
 UPS FedEx Courier

Relinquished by: (Signature)
[Signature]

Date: 5/4/17

Time: 1700

Relinquished by: (Signature)
[Signature]

Date: 5/5/17

Time: 1700

Relinquished by: (Signature)
[Signature]

Date:

Time:

Analysis / Container / Preservative

Chain of Custody

Page 1 of 2



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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

L # **907770**

Table #

Acctnum: **AQUAOPKS**

Template: **T115110**

Prelogin: **P598754**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Remarks

Sample # (lab only)

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 Headpace: Y N
 Preservation Correct/Checked: Y N

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Temp: **Ab** °C

Date: **5/8/17**

Time: **1425**

Time: **1700**

Time: **1700**

Hold:

Time: **1425**

Time: **1700**

Time: **1700**

Time: **1700**

20170405



KESC
LABORATORY SERVICES
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5859
Fax: 615-758-5859

L # **907790**
Table #
Acctnum: **AQUAOPKS**
Template: **T115110**
Prelogin: **P598754**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:
Remarks
Sample # (lab only)

Analysis / Container / Preservative

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks
Email To: jfranks@sceengineers.com;
jay.martin@kcpi.com; jrockhold@sceengineers.com

Project Description: **Sibley Generating Station**
City/State Collected:

Client Project # **27213167.16**
Lab Project # **AQUAOPKS-SIBLEY**

Site/Facility ID #
P.O. #

Quote #
Date Results Needed

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
704	Grab	NPW		5/5/17	1205	2 X
801		NPW			1440	2 X
802		NPW			1410	2 X
803		NPW			1530	2 X
804		NPW			1600	2 X
805		NPW			1630	2 X
806R		NPW			1700	2 X
DUPLICATE		NPW			1155	2 X
510 MS		NPW			1200	2 X
510 MSD		NPW			1205	2 X

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

Temp _____ pH _____
Flow _____ Other _____

Sample Receipt Checklist:
COC Seal Present/Intact: ___ NP ___ Y ___ N ___
COC Signed/Accurate: ___ NP ___ 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 ___

Tracking #
Received by: (Signature) _____
Time: _____
Received by: (Signature) _____
Time: _____
Received for lab by: (Signature) _____
Time: _____

Condition: NCF / OK

[Handwritten Signature]

RA226, RA228 1L-HDPE-Add HNO3

2020404

SAMPLE LOGIN

Date Received: 5/8/2017 2:29:18

Lab Number: 20170405

Due:

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170405-01 B	504	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-01 A	504	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-02 A	505	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-02 B	505	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-03 A	506	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-03 B	506	NPW	05/04/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-04 A	510	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-04 B	510	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-05 A	510 MS	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-05 B	510 MS	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-06 B	510 MSD	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-06 A	510 MSD	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170405-07 A	512	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170405-07 B	512	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						



20170405-08 A	601	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-08 B	601	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-09 A	701	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-09 B	701	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-10 B	702	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-10 A	702	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-11 A	703	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-11 B	703	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-12 A	704	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-12 B	704	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-13 A	801	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-13 B	801	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-14 B	802	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-14 A	802	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-15 A	803	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-15 B	803	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*					
20170405-16 A	804	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes
20170405-16 B	804	NPW	05/03/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

20170405-17 A	805	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes
20170405-17 B	805	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

20170405-18 A	806R	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes
20170405-18 B	806R	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

20170405-19 B	DUPLICATE	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes
20170405-19 A	DUPLICATE	NPW	Plastic	I L	HNO ₃ , pH < 2	✓	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

CONTAINER INSPECTION

Coolers 4 Custody Seals Broken 0 Temperature: 46 C Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record ✓ Labels in Tact

Radiation Survey Complete MA

Anomalies Sample to discrepancy for -16 and 17. Labels bag 1400 and 1430 while Col shows 1600 and 1630.
times from Col used

Inspected By: [Signature] DATE 5/8/17

QA or Designee Review: [Signature] DATE 05/08/17

Sample Custodian Review: [Signature] DATE 5/8/17

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-8
August 2017 Sampling Event Laboratory Report

Case Narrative

Lab No: 20170728

This report contains the analytical results for the 18 sample(s) received under chain of custody by ESC Lab Sciences on 8/3/2017 2:22:51 PM. These samples are associated with your 27213167.16 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

DL for Radiochemistry = MDA

DL for Metals and Wet Chemistry = MDL

DL for Drinking Water = SDWA

Observations / Nonconformances

L926674



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170728
 Date Reported : 08/31/17
 Date Received : 08/03/17
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170728-01							
Client ID : 504							
Date Sampled : 8/1/2017 4:10:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.08 +/- 0.672	1.09	pCi/l				
Radium-226 SM 7500 Ra B M*	0.118 +/- 0.159	0.230	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.965 +/- 0.513	0.858	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-02							
Client ID : 505							
Date Sampled : 8/1/2017 4:25:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0 +/- 0.702	1.07	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.013 +/- 0.159	0.309	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	-0.471 +/- 0.543	0.765	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-03							
Client ID : 510							
Date Sampled : 8/1/2017 10:35:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.862 +/- 0.621	0.981	pCi/l				
Radium-226 SM 7500 Ra B M*	0.105 +/- 0.140	0.203	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.757 +/- 0.481	0.778	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-04							
Client ID : 510 MS							
Date Sampled : 8/1/2017 10:45:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Radium-226 SM 7500 Ra B M*	103		% Rec		08/14/17	08/18/17	RE
Radium-228 EPA 904*	76.3		% Rec		08/24/17	08/30/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170728
 Date Reported : 08/31/17
 Date Received : 08/03/17
 Page Number : 3 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170728-05
Client ID : 510 MSD
Date Sampled : 8/1/2017 10:50:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	11.5	RPD		08/14/17	08/18/17	RE
Radium-228	EPA 904*	2.2	RPD		08/24/17	08/30/17	JR

Lab ID : 20170728-06
Client ID : 512
Date Sampled : 8/2/2017 2:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.31 +/- 0.528	0.797	pCi/l			
Radium-226	SM 7500 Ra B M*	0.040 +/- 0.109	0.208	pCi/l	08/14/17	08/18/17	RE
Radium-228	EPA 904*	1.27 +/- 0.419	0.589	pCi/l	08/24/17	08/30/17	JR

Lab ID : 20170728-07
Client ID : 601
Date Sampled : 8/2/2017 12:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.38 +/- 0.598	0.957	pCi/l			
Radium-226	SM 7500 Ra B M*	0.065 +/- 0.176	0.300	pCi/l	08/14/17	08/18/17	RE
Radium-228	EPA 904*	1.31 +/- 0.422	0.657	pCi/l	08/24/17	08/30/17	JR

Lab ID : 20170728-08
Client ID : 701
Date Sampled : 8/1/2017 10:25:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.997 +/- 0.708	1.01	pCi/l			
Radium-226	SM 7500 Ra B M*	0.000 +/- 0.215	0.357	pCi/l	08/14/17	08/18/17	RE
Radium-228	EPA 904*	0.997 +/- 0.493	0.651	pCi/l	08/24/17	08/30/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170728
 Date Reported : 08/31/17
 Date Received : 08/03/17
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170728-09							
Client ID : 702							
Date Sampled : 8/1/2017 11:10:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.02 +/- 0.608	0.762	pCi/l				
Radium-226 SM 7500 Ra B M*	0.337 +/- 0.242	0.255	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.686 +/- 0.366	0.507	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-10							
Client ID : 703							
Date Sampled : 8/1/2017 11:50:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.36 +/- 0.675	0.990	pCi/l				
Radium-226 SM 7500 Ra B M*	0.158 +/- 0.189	0.260	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	1.20 +/- 0.486	0.730	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-11							
Client ID : 704							
Date Sampled : 8/1/2017 1:00:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.598 +/- 0.734	0.937	pCi/l				
Radium-226 SM 7500 Ra B M*	0.199 +/- 0.202	0.258	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.399 +/- 0.532	0.679	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-12							
Client ID : 801							
Date Sampled : 8/1/2017 2:50:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.681 +/- 0.682	0.796	pCi/l				
Radium-226 SM 7500 Ra B M*	0.292 +/- 0.211	0.201	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.389 +/- 0.471	0.595	pCi/l		08/24/17	08/30/17	JR

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170728
 Date Reported : 08/31/17
 Date Received : 08/03/17
 Page Number : 5 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170728-13							
Client ID : 802							
Date Sampled : 8/1/2017 2:10:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.650 +/- 0.653	0.951	pCi/l				
Radium-226 SM 7500 Ra B M*	0.041 +/- 0.259	0.412	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.609 +/- 0.394	0.539	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-14							
Client ID : 803							
Date Sampled : 8/1/2017 1:55:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.73 +/- 0.750	1.04	pCi/l				
Radium-226 SM 7500 Ra B M*	0.380 +/- 0.278	0.324	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	1.35 +/- 0.472	0.713	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-15							
Client ID : 804							
Date Sampled : 8/1/2017 2:35:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.28 +/- 0.672	0.922	pCi/l				
Radium-226 SM 7500 Ra B M*	0.171 +/- 0.169	0.196	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	1.11 +/- 0.503	0.726	pCi/l		08/24/17	08/30/17	JR
Lab ID : 20170728-16							
Client ID : 805							
Date Sampled : 8/1/2017 3:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.387 +/- 0.745	0.935	pCi/l				
Radium-226 SM 7500 Ra B M*	0.364 +/- 0.224	0.240	pCi/l		08/14/17	08/18/17	RE
Radium-228 EPA 904*	0.023 +/- 0.521	0.695	pCi/l		08/24/17	08/30/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170728
 Date Reported : 08/31/17
 Date Received : 08/03/17
 Page Number : 6 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170728-17							
Client ID : 806R							
Date Sampled : 8/1/2017 3:30:00 PM							
Matrix : NPW							

Radiochemical Analyses

Combined Radium		0.494 +/- 0.564	0.963	pCi/l			
Radium-226	SM 7500 Ra B M*	0.083 +/- 0.146	0.233	pCi/l	08/14/17	08/18/17	RE
Radium-228	EPA 904*	0.411 +/- 0.418	0.730	pCi/l	08/24/17	08/30/17	JR

Lab ID : 20170728-18
Client ID : DUPLICATE
Date Sampled : 8/1/2017 10:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.21 +/- 0.662	0.907	pCi/l			
Radium-226	SM 7500 Ra B M*	0.162 +/- 0.160	0.186	pCi/l	08/14/17	08/18/17	RE
Radium-228	EPA 904*	1.05 +/- 0.502	0.721	pCi/l	08/24/17	08/30/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.000	116.0			NC	1.070	103.0	116.0	11.5	R1267
Radium-228	0.279	84.6			27.2	0.611	76.3	74.4	0.1	R3994

Lab Approval:

Ron Eidson
 Director of Radiochemistry

Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks

Project
Description: **Sibley Generating Station**

Client Project #
27213167.16

Site/Facility ID #

Collected by (print):
Adam Perris

Collected by (signature):
[Signature]

Immediately Packed on Ice N ___ Y *2*

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
Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Nc. of Cntrs	Remarks	Sample # (lab only)
504	Grab	NPW	-	8/1/17	1610	2		
505		NPW	-	8/1/17	1625	2		
506		NPW	-	8/2/17	0940	2		
510		NPW	-	8/1/17	1035	2		
512		NPW	-	8/2/17	1400	2		
601		NPW	-	↓	1635	2		
602		NPW	-			2		
701	Grab	NPW	-	8/1/17	1025	2		
702	Grab	NPW	-	8/1/17	1110	2		
703	Grab	NPW	-	8/1/17	1150	2		

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

ESX KC

Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Relinquished by: (Signature)	Date:	Time:	Tracking #	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	8/2/2017	5:00		<i>[Signature]</i>	8/3/17	1422
<i>[Signature]</i>	8/2/17	1700		<i>[Signature]</i>	8/3/17	1422
<i>[Signature]</i>				<i>[Signature]</i>		

Chain of Custody Page 1 of 2

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-754-5858
Fax: 615-754-5859

L# **976674**

Table#

Acctnum: **AQUAOPKS**
 Template: **T115110**
 Prelogin: **P610583**
 TSR: 206 - Jeff Carr
 PB:

Shipped Via:

Remarks

Sample Receipt Checklist

COC Seal Present/Intact: Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

If Applicable

VOA Zero Headpace: Y N

Preservation Correct/Checked: Y N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Analysis / Container / Preservative

Pres Chk

RA226, RA228 1L-HDPE-ADD HNO3

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Email To: jfranks@sceengineers.com;
jay.martin@kcpl.com; jrockhold@sceengineers.com

City/State Collected:

Lab Project #
AQUAOPKS-SIBLEY

P.O. #

Quote #



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

L # **926674**
Table #
Acctnum: **AQUAOPKS**
Template: **T115110**
Prelogin: **P610583**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:
Remarks
Sample # (lab only)

SCS Engineers - KS
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks
Email To: jfranks@scsengineers.com
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project Description: **Sibley Generating Station**
Client Project # **27213167.16**
Lab Project # **AQUAOPKS-SIBLEY**
P.O. #
Quote #

City/State Collected:
Date Results Needed: **Standard**

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Immediately Packed on Ice N ___ Y **X**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
704	Grab	NPW	-	8/11/17	1300	2
801	Grab	NPW	-	8/11/17	1450	2
802		NPW	-		1410	2
803		NPW	-		1355	2
804		NPW	-		1435	2
805		NPW	-		1520	2
806R		NPW	-		1530	2
DUPLICATE		NPW	-		1040	2
510 MS		NPW	-		1045	2
510 MSD		NPW	-		1050	2

Billing Information:
Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Analysis / Container / Preservative

Pres Chk
RA226, RA228 1L-HDPE-Add HNO3

Remarks: RA 226/228 - Report separately and combined.
FSC KC
Samples returned via: ___ UPS ___ FedEx ___ Courier ___
Tracking #
Received by: (Signature) _____
Date: 8/2/17 Time: 1700

Sample Receipt Checklist:
COC Seal Present/Intact: ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
If Applicable
VOA Zero Headspace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N
pH _____ Temp _____
Flow _____ Other _____
Trip Blank Received: Yes / No
HCL / MeOH TBR
Temp: **78** °C Bottles Received: **8**
Date: **8/3/17** Time: **1422**
Condition: NCF / OK

Relinquished by: (Signature) _____
Date: _____ Time: _____
Relinquished by: (Signature) _____
Date: _____ Time: _____
Relinquished by: (Signature) _____
Date: _____ Time: _____

20170723

SAMPLE LOGIN

Date Received: 8/3/2017 2:22:51

Lab Number: 20170728

Due: 8/31/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170728-01 B	504	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-01 A	504	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-02 A	505	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-02 B	505	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-03 A	510	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-03 B	510	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-04 A	510 MS	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-04 B	510 MS	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-05 A	510 MSD	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-05 B	510 MSD	NPW	08/01/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-06 B	512	NPW	08/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-06 A	512	NPW	08/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-07 A	601	NPW	08/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170728-07 B	601	NPW	08/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170728-08 A	701	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-08 B	701	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-09 A	702	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-09 B	702	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-10 B	703	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-10 A	703	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-11 A	704	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-11 B	704	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-12 A	801	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-12 B	801	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-13 A	802	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-13 B	802	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-14 A	803	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-14 B	803	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-15 B	804	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-15 A	804	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170728-16 A	805	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes
20170728-16 B	805	NPW	08/01/17	Plastic	1 L	HNO ₃ , pH < 2	✓	Yes	Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

20170728-17 A 806R

NPW

08/01/17 Plastic

1 L

HNO₃, pH < 2
HNO₃, pH < 2

Yes Yes
Yes Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

20170728-18 B DUPLICATE

NPW

08/01/17 Plastic

1 L

HNO₃, pH < 2
HNO₃, pH < 2

Yes Yes
Yes Yes

Radium-226
Radium-228

SM 7500 Ra B M*
EPA 904*

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken Temperature: 16 C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete AMA

Anomalies

Inspected By: [Signature] DATE 8/3/17
QA or Designee Review: [Signature] DATE 08/03/17
Sample Custodian Review: [Signature] DATE 8/3/17

Project Notes:

SCS Engineers - KS

Sample Delivery Group: L926752
Samples Received: 08/03/2017
Project Number: 27213169.16
Description: Sibley Generating Station

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213


Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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505 L926752-02	9	
510 L926752-03	10	
512 L926752-04	11	
601 L926752-05	12	
701 L926752-06	13	
702 L926752-07	14	
703 L926752-08	15	
704 L926752-09	16	
801 L926752-10	17	
802 L926752-11	18	
803 L926752-12	19	
804 L926752-13	20	
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SAMPLE SUMMARY



504 L926752-01 GW

Collected by Adam Parris
Collected date/time 08/01/17 16:10
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 20:15	08/04/17 20:15	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:13	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:10	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:01	LAT



505 L926752-02 GW

Collected by Adam Parris
Collected date/time 08/01/17 16:25
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 20:29	08/04/17 20:29	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:15	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:13	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:04	LAT



510 L926752-03 GW

Collected by Adam Parris
Collected date/time 08/01/17 10:35
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 20:44	08/04/17 20:44	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 12:31	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:00	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 18:46	LAT



512 L926752-04 GW

Collected by Adam Parris
Collected date/time 08/01/17 14:00
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 22:10	08/04/17 22:10	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:17	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:15	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:08	LAT

601 L926752-05 GW

Collected by Adam Parris
Collected date/time 08/01/17 12:55
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 22:25	08/04/17 22:25	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:19	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:23	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:19	LAT

SAMPLE SUMMARY



701 L926752-06 GW

Collected by Adam Parris
Collected date/time 08/01/17 10:25
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 22:39	08/04/17 22:39	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:30	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:26	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:22	LAT

1
Cp

2
Tc

3
Ss

4
Cn

702 L926752-07 GW

Collected by Adam Parris
Collected date/time 08/01/17 11:10
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 22:54	08/04/17 22:54	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:32	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:29	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:26	LAT

5
Sr

6
Qc

7
Gl

8
Al

703 L926752-08 GW

Collected by Adam Parris
Collected date/time 08/01/17 11:50
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 23:08	08/04/17 23:08	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:35	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:31	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:30	LAT

9
Sc

704 L926752-09 GW

Collected by Adam Parris
Collected date/time 08/01/17 13:00
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 23:22	08/04/17 23:22	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:39	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:34	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:33	LAT

801 L926752-10 GW

Collected by Adam Parris
Collected date/time 08/01/17 14:50
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 23:37	08/04/17 23:37	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:41	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:37	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:37	LAT

SAMPLE SUMMARY



802 L926752-11 GW

Collected by Adam Parris
Collected date/time 08/01/17 14:10
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/04/17 23:51	08/04/17 23:51	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:44	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:39	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:40	LAT



803 L926752-12 GW

Collected by Adam Parris
Collected date/time 08/01/17 13:55
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/05/17 01:03	08/05/17 01:03	SAM
Wet Chemistry by Method 9056A	WG1006400	5	08/07/17 22:26	08/07/17 22:26	NJM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:46	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:42	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:44	LAT



804 L926752-13 GW

Collected by Adam Parris
Collected date/time 08/01/17 14:35
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005851	1	08/05/17 01:18	08/05/17 01:18	SAM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:48	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:44	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:47	LAT

805 L926752-14 GW

Collected by Adam Parris
Collected date/time 08/01/17 15:20
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005852	1	08/05/17 15:06	08/05/17 15:06	DR
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:50	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:47	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 19:58	LAT

806R L926752-15 GW

Collected by Adam Parris
Collected date/time 08/01/17 15:30
Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005835	1	08/04/17 15:18	08/04/17 15:54	EG
Wet Chemistry by Method 9056A	WG1005852	1	08/05/17 15:21	08/05/17 15:21	DR
Wet Chemistry by Method 9056A	WG1006943	5	08/08/17 19:20	08/08/17 19:20	NJM
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 13:57	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:55	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 20:02	LAT



DUPLICATE L926752-16 GW

Collected by: Adam Parris
 Collected date/time: 08/01/17 10:40
 Received date/time: 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005836	1	08/04/17 17:51	08/04/17 18:23	EG
Wet Chemistry by Method 9056A	WG1005852	1	08/05/17 15:35	08/05/17 15:35	DR
Mercury by Method 7470A	WG1005785	1	08/04/17 10:18	08/07/17 14:00	ABL
Metals (ICP) by Method 6010B	WG1007110	1	08/09/17 15:20	08/10/17 02:57	CCE
Metals (ICPMS) by Method 6020	WG1007208	1	08/09/17 09:12	08/12/17 20:05	LAT





All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	156000		10000	1	08/04/2017 15:54	WG1005835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	ND		1000	1	08/04/2017 20:15	WG1005851
Fluoride	189		100	1	08/04/2017 20:15	WG1005851
Sulfate	23300		5000	1	08/04/2017 20:15	WG1005851

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:13	WG1005785

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	116		5.00	1	08/10/2017 02:10	WG1007110
Boron	ND		200	1	08/10/2017 02:10	WG1007110
Calcium	30500		1000	1	08/10/2017 02:10	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:10	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:10	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:10	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:10	WG1007110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:01	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:01	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:01	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:01	WG1007208
Lead	ND		2.00	1	08/12/2017 19:01	WG1007208
Selenium	3.42		2.00	1	08/12/2017 19:01	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:01	WG1007208

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	156000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	1180	B	1000	1	08/04/2017 20:29	WG1005851
Fluoride	206		100	1	08/04/2017 20:29	WG1005851
Sulfate	14400		5000	1	08/04/2017 20:29	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:15	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	93.7		5.00	1	08/10/2017 02:13	WG1007110
Boron	ND		200	1	08/10/2017 02:13	WG1007110
Calcium	25100		1000	1	08/10/2017 02:13	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:13	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:13	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:13	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:13	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:04	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:04	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:04	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:04	WG1007208
Lead	ND		2.00	1	08/12/2017 19:04	WG1007208
Selenium	2.30		2.00	1	08/12/2017 19:04	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:04	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	456000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3530		1000	1	08/04/2017 20:44	WG1005851
Fluoride	315		100	1	08/04/2017 20:44	WG1005851
Sulfate	16800		5000	1	08/04/2017 20:44	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 12:31	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	362		5.00	1	08/10/2017 02:00	WG1007110
Boron	ND		200	1	08/10/2017 02:00	WG1007110
Calcium	120000	V	1000	1	08/10/2017 02:00	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:00	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:00	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:00	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:00	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 18:46	WG1007208
Arsenic	ND		2.00	1	08/12/2017 18:46	WG1007208
Beryllium	ND		2.00	1	08/12/2017 18:46	WG1007208
Cadmium	ND		1.00	1	08/12/2017 18:46	WG1007208
Lead	ND		2.00	1	08/12/2017 18:46	WG1007208
Selenium	3.50		2.00	1	08/12/2017 18:46	WG1007208
Thallium	ND		2.00	1	08/12/2017 18:46	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	414000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3530		1000	1	08/04/2017 22:10	WG1005851
Fluoride	301		100	1	08/04/2017 22:10	WG1005851
Sulfate	28100		5000	1	08/04/2017 22:10	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:17	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	409		5.00	1	08/10/2017 02:15	WG1007110
Boron	ND		200	1	08/10/2017 02:15	WG1007110
Calcium	102000		1000	1	08/10/2017 02:15	WG1007110
Chromium	13.4		10.0	1	08/10/2017 02:15	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:15	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:15	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:15	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:08	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:08	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:08	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:08	WG1007208
Lead	2.73	<u>B</u>	2.00	1	08/12/2017 19:08	WG1007208
Selenium	5.48		2.00	1	08/12/2017 19:08	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:08	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	393000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3370		1000	1	08/04/2017 22:25	WG1005851
Fluoride	257		100	1	08/04/2017 22:25	WG1005851
Sulfate	9330		5000	1	08/04/2017 22:25	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:19	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	345		5.00	1	08/10/2017 02:23	WG1007110
Boron	ND		200	1	08/10/2017 02:23	WG1007110
Calcium	102000		1000	1	08/10/2017 02:23	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:23	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:23	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:23	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:23	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:19	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:19	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:19	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:19	WG1007208
Lead	ND		2.00	1	08/12/2017 19:19	WG1007208
Selenium	5.00		2.00	1	08/12/2017 19:19	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:19	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	298000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8260		1000	1	08/04/2017 22:39	WG1005851
Fluoride	130		100	1	08/04/2017 22:39	WG1005851
Sulfate	15100		5000	1	08/04/2017 22:39	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:30	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	186		5.00	1	08/10/2017 02:26	WG1007110
Boron	ND		200	1	08/10/2017 02:26	WG1007110
Calcium	85600		1000	1	08/10/2017 02:26	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:26	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:26	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:26	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:26	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:22	WG1007208
Arsenic	4.83		2.00	1	08/12/2017 19:22	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:22	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:22	WG1007208
Lead	ND		2.00	1	08/12/2017 19:22	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:22	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:22	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	298000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8830		1000	1	08/04/2017 22:54	WG1005851
Fluoride	127		100	1	08/04/2017 22:54	WG1005851
Sulfate	20200		5000	1	08/04/2017 22:54	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:32	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	348		5.00	1	08/10/2017 02:29	WG1007110
Boron	ND		200	1	08/10/2017 02:29	WG1007110
Calcium	90000		1000	1	08/10/2017 02:29	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:29	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:29	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:29	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:29	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:26	WG1007208
Arsenic	24.1		2.00	1	08/12/2017 19:26	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:26	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:26	WG1007208
Lead	ND		2.00	1	08/12/2017 19:26	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:26	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:26	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	564000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	22500		1000	1	08/04/2017 23:08	WG1005851
Fluoride	373		100	1	08/04/2017 23:08	WG1005851
Sulfate	ND		5000	1	08/04/2017 23:08	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:35	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	281		5.00	1	08/10/2017 02:31	WG1007110
Boron	596		200	1	08/10/2017 02:31	WG1007110
Calcium	138000		1000	1	08/10/2017 02:31	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:31	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:31	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:31	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:31	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:30	WG1007208
Arsenic	250		2.00	1	08/12/2017 19:30	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:30	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:30	WG1007208
Lead	ND		2.00	1	08/12/2017 19:30	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:30	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:30	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	346000		10000	1	08/04/2017 15:54	WG1005835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13600		1000	1	08/04/2017 23:22	WG1005851
Fluoride	162		100	1	08/04/2017 23:22	WG1005851
Sulfate	33400		5000	1	08/04/2017 23:22	WG1005851

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:39	WG1005785

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	147		5.00	1	08/10/2017 02:34	WG1007110
Boron	ND		200	1	08/10/2017 02:34	WG1007110
Calcium	92000		1000	1	08/10/2017 02:34	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:34	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:34	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:34	WG1007110
Molybdenum	9.22		5.00	1	08/10/2017 02:34	WG1007110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:33	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:33	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:33	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:33	WG1007208
Lead	3.38	B	2.00	1	08/12/2017 19:33	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:33	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:33	WG1007208

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	527000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	91800		1000	1	08/04/2017 23:37	WG1005851
Fluoride	174		100	1	08/04/2017 23:37	WG1005851
Sulfate	56500		5000	1	08/04/2017 23:37	WG1005851

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:41	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	111		5.00	1	08/10/2017 02:37	WG1007110
Boron	307		200	1	08/10/2017 02:37	WG1007110
Calcium	138000		1000	1	08/10/2017 02:37	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:37	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:37	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:37	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:37	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:37	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:37	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:37	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:37	WG1007208
Lead	ND		2.00	1	08/12/2017 19:37	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:37	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:37	WG1007208



Collected date/time: 08/01/17 14:10

L926752

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	357000		10000	1	08/04/2017 15:54	WG1005835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	43500		1000	1	08/04/2017 23:51	WG1005851
Fluoride	174		100	1	08/04/2017 23:51	WG1005851
Sulfate	54200		5000	1	08/04/2017 23:51	WG1005851

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:44	WG1005785

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	162		5.00	1	08/10/2017 02:39	WG1007110
Boron	ND		200	1	08/10/2017 02:39	WG1007110
Calcium	78900		1000	1	08/10/2017 02:39	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:39	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:39	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:39	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:39	WG1007110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:40	WG1007208
Arsenic	2.06		2.00	1	08/12/2017 19:40	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:40	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:40	WG1007208
Lead	ND		2.00	1	08/12/2017 19:40	WG1007208
Selenium	2.37		2.00	1	08/12/2017 19:40	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:40	WG1007208

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	500000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	16300		1000	1	08/05/2017 01:03	WG1005851
Fluoride	281		100	1	08/05/2017 01:03	WG1005851
Sulfate	124000		25000	5	08/07/2017 22:26	WG1006400

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:46	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	125		5.00	1	08/10/2017 02:42	WG1007110
Boron	2690		200	1	08/10/2017 02:42	WG1007110
Calcium	117000		1000	1	08/10/2017 02:42	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:42	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:42	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:42	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:42	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:44	WG1007208
Arsenic	2.57		2.00	1	08/12/2017 19:44	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:44	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:44	WG1007208
Lead	ND		2.00	1	08/12/2017 19:44	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:44	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:44	WG1007208



Collected date/time: 08/01/17 14:35

L926752

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	602000		10000	1	08/04/2017 15:54	WG1005835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	17100		1000	1	08/05/2017 01:18	WG1005851
Fluoride	206		100	1	08/05/2017 01:18	WG1005851
Sulfate	ND		5000	1	08/05/2017 01:18	WG1005851

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:48	WG1005785

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	365		5.00	1	08/10/2017 02:44	WG1007110
Boron	5080		200	1	08/10/2017 02:44	WG1007110
Calcium	153000		1000	1	08/10/2017 02:44	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:44	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:44	WG1007110
Lithium	23.2		15.0	1	08/10/2017 02:44	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:44	WG1007110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:47	WG1007208
Arsenic	4.18		2.00	1	08/12/2017 19:47	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:47	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:47	WG1007208
Lead	ND		2.00	1	08/12/2017 19:47	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:47	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:47	WG1007208

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	347000		10000	1	08/04/2017 15:54	WG1005835

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	10800		1000	1	08/05/2017 15:06	WG1005852
Fluoride	194		100	1	08/05/2017 15:06	WG1005852
Sulfate	54200		5000	1	08/05/2017 15:06	WG1005852

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:50	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	163		5.00	1	08/10/2017 02:47	WG1007110
Boron	ND		200	1	08/10/2017 02:47	WG1007110
Calcium	100000		1000	1	08/10/2017 02:47	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:47	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:47	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:47	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:47	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 19:58	WG1007208
Arsenic	ND		2.00	1	08/12/2017 19:58	WG1007208
Beryllium	ND		2.00	1	08/12/2017 19:58	WG1007208
Cadmium	ND		1.00	1	08/12/2017 19:58	WG1007208
Lead	ND		2.00	1	08/12/2017 19:58	WG1007208
Selenium	ND		2.00	1	08/12/2017 19:58	WG1007208
Thallium	ND		2.00	1	08/12/2017 19:58	WG1007208



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	599000		10000	1	08/04/2017 15:54	WG1005835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	27300		1000	1	08/05/2017 15:21	WG1005852
Fluoride	223		100	1	08/05/2017 15:21	WG1005852
Sulfate	181000		25000	5	08/08/2017 19:20	WG1006943

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 13:57	WG1005785

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	93.0		5.00	1	08/10/2017 02:55	WG1007110
Boron	4610		200	1	08/10/2017 02:55	WG1007110
Calcium	149000		1000	1	08/10/2017 02:55	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:55	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:55	WG1007110
Lithium	17.5		15.0	1	08/10/2017 02:55	WG1007110
Molybdenum	1330		5.00	1	08/10/2017 02:55	WG1007110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 20:02	WG1007208
Arsenic	6.85		2.00	1	08/12/2017 20:02	WG1007208
Beryllium	ND		2.00	1	08/12/2017 20:02	WG1007208
Cadmium	ND		1.00	1	08/12/2017 20:02	WG1007208
Lead	ND		2.00	1	08/12/2017 20:02	WG1007208
Selenium	ND		2.00	1	08/12/2017 20:02	WG1007208
Thallium	ND		2.00	1	08/12/2017 20:02	WG1007208

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	476000		10000	1	08/04/2017 18:23	WG1005836

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3420		1000	1	08/05/2017 15:35	WG1005852
Fluoride	319		100	1	08/05/2017 15:35	WG1005852
Sulfate	16800		5000	1	08/05/2017 15:35	WG1005852

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/07/2017 14:00	WG1005785

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	362		5.00	1	08/10/2017 02:57	WG1007110
Boron	ND		200	1	08/10/2017 02:57	WG1007110
Calcium	120000		1000	1	08/10/2017 02:57	WG1007110
Chromium	ND		10.0	1	08/10/2017 02:57	WG1007110
Cobalt	ND		10.0	1	08/10/2017 02:57	WG1007110
Lithium	ND		15.0	1	08/10/2017 02:57	WG1007110
Molybdenum	ND		5.00	1	08/10/2017 02:57	WG1007110

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/12/2017 20:05	WG1007208
Arsenic	ND		2.00	1	08/12/2017 20:05	WG1007208
Beryllium	ND		2.00	1	08/12/2017 20:05	WG1007208
Cadmium	ND		1.00	1	08/12/2017 20:05	WG1007208
Lead	ND		2.00	1	08/12/2017 20:05	WG1007208
Selenium	4.05		2.00	1	08/12/2017 20:05	WG1007208
Thallium	ND		2.00	1	08/12/2017 20:05	WG1007208



Method Blank (MB)

(MB) R3239794-1 08/04/17 15:54

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L926752-03 Original Sample (OS) • Duplicate (DUP)

(OS) L926752-03 08/04/17 15:54 • (DUP) R3239794-4 08/04/17 15:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	456000	458000	1	0.438		5

L926752-10 Original Sample (OS) • Duplicate (DUP)

(OS) L926752-10 08/04/17 15:54 • (DUP) R3239794-5 08/04/17 15:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	527000	535000	1	1.51		5

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

(LCS) R3239794-2 08/04/17 15:54 • (LCSD) R3239794-3 08/04/17 15:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8450000	8550000	96.0	97.2	85.0-115			1.18	5



Method Blank (MB)

(MB) R3239734-1 08/04/17 18:23

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926569-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926569-01 08/04/17 18:23 • (DUP) R3239734-4 08/04/17 18:23

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	643000	625000	1	2.73		5

L926756-04 Original Sample (OS) • Duplicate (DUP)

(OS) L926756-04 08/04/17 18:23 • (DUP) R3239734-5 08/04/17 18:23

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2130000	2100000	1	1.42		5

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

(LCS) R3239734-2 08/04/17 18:23 • (LCSD) R3239734-3 08/04/17 18:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8570000	8580000	97.4	97.5	85.0-115			0.117	5



Method Blank (MB)

(MB) R3238769-1 08/04/17 10:27

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	120	↓	51.9	1000
Fluoride	10.3	↓	9.90	100
Sulfate	U		77.4	5000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926752-03 Original Sample (OS) • Duplicate (DUP)

(OS) L926752-03 08/04/17 20:44 • (DUP) R3238769-4 08/04/17 20:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3530	3400	1	4		15
Sulfate	16800	16700	1	0		15

L926752-11 Original Sample (OS) • Duplicate (DUP)

(OS) L926752-11 08/04/17 23:51 • (DUP) R3238769-7 08/05/17 00:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	43500	43600	1	0		15
Sulfate	54200	54200	1	0		15

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

(LCS) R3238769-2 08/04/17 10:41 • (LCSD) R3238769-3 08/04/17 10:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39500	39500	99	99	80-120			0	15
Fluoride	8000	8080	8060	101	101	80-120			0	15
Sulfate	40000	39800	39700	100	99	80-120			0	15

L926752-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926752-03 08/04/17 20:44 • (MS) R3238769-5 08/04/17 21:13 • (MSD) R3238769-6 08/04/17 21:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	3530	51100	51000	95	95	1	80-120			0	15
Sulfate	50000	16800	63100	63000	93	92	1	80-120			0	15



L926752-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L926752-11 08/04/17 23:51 • (MS) R3238769-8 08/05/17 00:49

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	43500	86400	86	1	80-120	
Sulfate	50000	54200	96000	84	1	80-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3239097-1 08/05/17 12:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	131	↓	51.9	1000
Fluoride	12.9	↓	9.90	100
Sulfate	U		77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L926704-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926704-01 08/05/17 14:38 • (DUP) R3239097-4 08/05/17 14:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	9240	9270	1	0		15
Fluoride	731	765	1	5		15
Sulfate	ND	3600	1	0		15

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

(LCS) R3239097-2 08/05/17 13:11 • (LCSD) R3239097-3 08/05/17 13:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39600	39600	99	99	80-120			0	15
Fluoride	8000	8090	8080	101	101	80-120			0	15
Sulfate	40000	39800	39700	99	99	80-120			0	15

L926752-16 Original Sample (OS) • Matrix Spike (MS)

(OS) L926752-16 08/05/17 15:35 • (MS) R3239097-5 08/05/17 16:19

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	3420	58900	111	1	80-120	
Fluoride	5000	319	5660	107	1	80-120	
Sulfate	50000	16800	71300	109	1	80-120	

L926794-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926794-10 08/05/17 19:55 • (MS) R3239097-6 08/05/17 20:09 • (MSD) R3239097-7 08/05/17 20:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	47400	104000	104000	114	112	1	80-120	E	E	1	15
Fluoride	5000	375	6080	5990	114	112	1	80-120			1	15



[L926752-14,15,16](#)

L926794-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926794-10 08/05/17 19:55 • (MS) R3239097-6 08/05/17 20:09 • (MSD) R3239097-7 08/05/17 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 %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Sulfate	50000	17300	73900	73200	113	112	1	80-120			1	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3239201-1 08/07/17 21:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	88.8	J	77.4	5000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L926984-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926984-01 08/07/17 22:40 • (DUP) R3239201-4 08/07/17 22:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	202	1	0		15

L926984-14 Original Sample (OS) • Duplicate (DUP)

(OS) L926984-14 08/08/17 03:24 • (DUP) R3239201-6 08/08/17 03:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	0.000	1	0		15

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

(LCS) R3239201-2 08/07/17 21:26 • (LCSD) R3239201-3 08/07/17 21:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	40000	40100	100	100	80-120			0	15

L926984-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926984-01 08/07/17 22:40 • (MS) R3239201-5 08/07/17 23:10

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	ND	43200	86	1	80-120	

L927108-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L927108-03 08/08/17 04:38 • (MS) R3239201-7 08/08/17 04:53 • (MSD) R3239201-8 08/08/17 05:08

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Sulfate	50000	41200	85300	85200	88	88	1	80-120			0	15



Method Blank (MB)

(MB) R3239615-1 08/08/17 06:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Sulfate	U		77.4	5000

¹Cp

²Tc

³Ss

⁴Cn

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

(LCS) R3239615-2 08/08/17 07:12 • (LCSD) R3239615-3 08/08/17 07:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	40300	40100	101	100	80-120			1	15

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3239005-4 08/07/17 12:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3239005-5 08/07/17 12:22 • (LCSD) R3239005-6 08/07/17 12:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.90	2.74	97	91	80-120			6	20

L926752-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926752-03 08/07/17 12:31 • (MS) R3239005-7 08/07/17 12:34 • (MSD) R3239005-8 08/07/17 12:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	ND	2.99	2.74	100	91	1	75-125			9	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3239925-1 08/10/17 01:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Boron	U		12.6	200
Calcium	U		46.3	1000
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3239925-2 08/10/17 01:55 • (LCSD) R3239925-3 08/10/17 01:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1020	999	102	100	80-120			2	20
Boron	1000	925	918	93	92	80-120			1	20
Calcium	10000	9670	9530	97	95	80-120			1	20
Chromium	1000	969	955	97	95	80-120			1	20
Cobalt	1000	996	986	100	99	80-120			1	20
Lithium	1000	1040	1020	104	102	80-120			1	20
Molybdenum	1000	1010	999	101	100	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926752-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926752-03 08/10/17 02:00 • (MS) R3239925-5 08/10/17 02:05 • (MSD) R3239925-6 08/10/17 02:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	362	1370	1370	101	101	1	75-125			0	20
Boron	1000	ND	986	984	91	91	1	75-125			0	20
Calcium	10000	120000	128000	127000	79	69	1	75-125		V	1	20
Chromium	1000	ND	967	965	96	96	1	75-125			0	20
Cobalt	1000	ND	981	975	98	97	1	75-125			1	20
Lithium	1000	ND	1040	1030	103	102	1	75-125			0	20
Molybdenum	1000	ND	1020	1020	102	102	1	75-125			0	20



Method Blank (MB)

(MB) R3240736-1 08/12/17 18:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	1.26	J	0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3240736-2 08/12/17 18:39 • (LCSD) R3240736-3 08/12/17 18:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	52.4	52.3	105	105	80-120			0	20
Arsenic	50.0	50.8	49.6	102	99	80-120			2	20
Beryllium	50.0	52.7	52.6	105	105	80-120			0	20
Cadmium	50.0	52.5	53.0	105	106	80-120			1	20
Lead	50.0	50.8	50.1	102	100	80-120			1	20
Selenium	50.0	51.0	51.2	102	102	80-120			0	20
Thallium	50.0	49.2	48.4	98	97	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926752-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926752-03 08/12/17 18:46 • (MS) R3240736-5 08/12/17 18:54 • (MSD) R3240736-6 08/12/17 18:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	54.2	53.5	108	107	1	75-125			1	20
Arsenic	50.0	ND	49.5	49.8	99	100	1	75-125			1	20
Beryllium	50.0	ND	51.6	52.3	103	105	1	75-125			1	20
Cadmium	50.0	ND	53.6	52.9	107	106	1	75-125			1	20
Lead	50.0	ND	50.3	50.8	99	100	1	75-125			1	20
Selenium	50.0	3.50	55.8	54.7	105	102	1	75-125			2	20
Thallium	50.0	ND	49.3	49.6	99	99	1	75-125			1	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

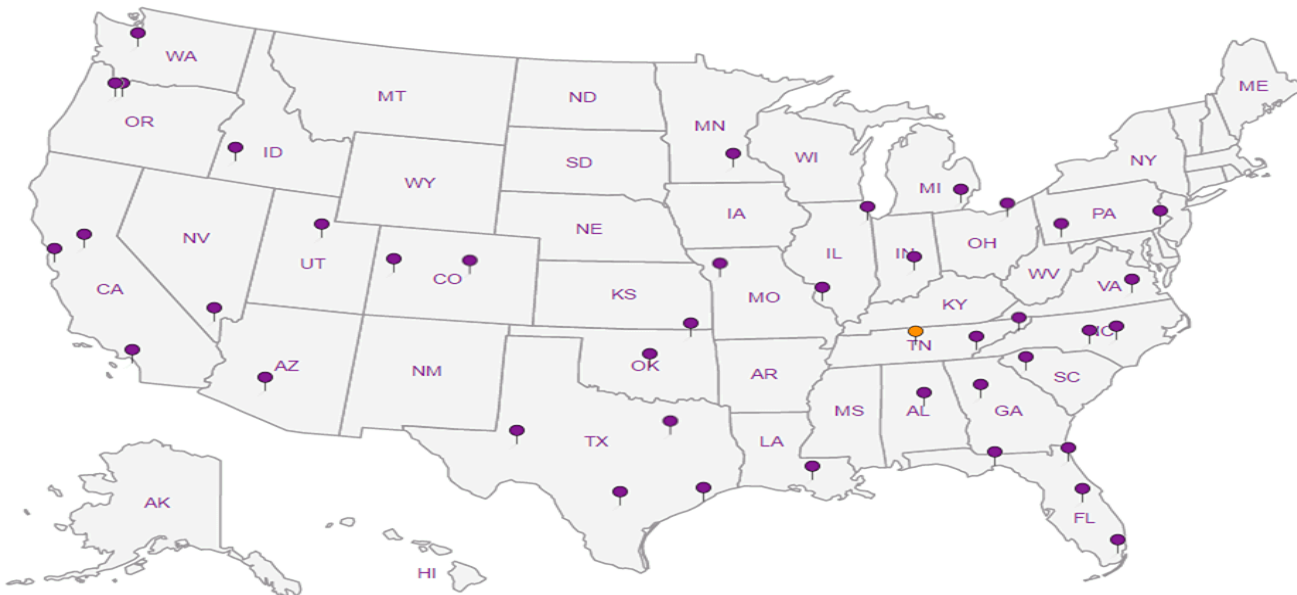
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



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



Report to:
Jason Franks

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

Project
Description: **Sibley Generating Station**

City/State
Collected:

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

Client Project #
27213169.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Adam Parris

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

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

Quote #

Date Results Needed
Standard

Immediately Packed on Ice N Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres										
504	Grab	GW	-	8/1/17	1610	3	X	X	X										
505		GW	-	↓	1625	3	X	X	X										
506		GW	-	8/2/17	0940	3	X	X	X										
510		GW	-	8/1/17	1035	3	X	X	X										
512		GW	-	8/2/17	1400	3	X	X	X										
510 MS		GW	-	8/1/17	1045	3	X	X	X										
510 MSD		GW	-	↓	1050	3	X	X	X										
601		GW	-	8/2/17	1255	3	X	X	X										
602		GW	-	↓		3	X	X	X										
701	Grab	GW	-	8/1/17	1025	3	X	X	X										

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

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

ESC KC

Samples returned via:
 UPS FedEx Courier

Tracking # **7384 4200 1051**

Relinquished by: (Signature) <i>[Signature]</i>	Date: 8/2/2017	Time: 1530	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No HCL / MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 8/2/17	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: 1.43°C Bottles Received: 0654
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 8/3/17 Time: 0845

Sample Receipt Checklist

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

L# **L926752**
E023
Acctnum: AQUAurn
Template: T115107
Prelogin: P610597
TSR: 206 - Jeff Carr
PB:

Shipped Via:
Remarks: Sample # (lab only)

-01
02
03
04
03
03
03
08

Condition:
NCF OK

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing Information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



1206S Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:
Jason Franks

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

Project
Description: **Sibley Generating Station**

City/State
Collected:

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

Client Project #
27213169.16

Lab Project #
AQUAOPKS-SIBLEY

Collected by (print):
Adam Parris

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

Quote #

Date Results Needed

Standard

No.
of
Cnt's

Immediately
Packed on Ice N Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnt's	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres									
702	Grab	GW	-	8/1/17	1110	3	X	X	X									
703	Grab	GW	-	8/1/17	1150	3	X	X	X									
704	Grab	GW	-	8/1/17	1300	3	X	X	X									
801	Grab	GW	-	8/1/17	1450	3	X	X	X									
802	Grab	GW	-	8/1/17	1410	3	X	X	X									
803	↓	GW	-	↓	1355	3	X	X	X									
804	↓	GW	-	↓	1435	3	X	X	X									
805	↓	GW	-	↓	1520	3	X	X	X									
806R	↓	GW	-	↓	1530	3	X	X	X									
DUPLICATE	↓	GW	-	↓	1040	3	X	X	X									

L# **L926752**

Table #

Acctnum: **AQUAOPKS**

Template: **T115107**

Preflogin: **P610597**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Remarks

Sample # (lab only)

-09
08
09
10
11
12
13
14
15
16

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

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

ESCC

Samples returned via:

UPS FedEx Courier

Tracking # **7384 4200 1051**

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
IF Applicable
VOA Zero Headpace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature) *[Signature]*

Date: **8/2/2017**
Time: **1530**

Received by: (Signature) *[Signature]*

Trip Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature) *[Signature]*

Date: **8/2/17**
Time: **1700**

Received by: (Signature) *[Signature]*

Temp: **1.4°C**
Bottles Received: **26 SL**

If preservation required by Login: Date/Time

Relinquished by: (Signature) *[Signature]*

Date: **8/13/17**
Time: **0845**

Received for lab by: (Signature) *[Signature]*

Date: **8/13/17**
Time: **0845**

Hold:

Condition:
NCF **10K**

Jared Morrison
December 20, 2022

ATTACHMENT 1-9
October 2017 Background Sampling Event Laboratory Report

October 31, 2017

SCS Engineers - KS

Sample Delivery Group: L941488
Samples Received: 10/05/2017
Project Number: 27213168.17
Description: Sibley Generating Station

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213










Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



701 L941488-01 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:05
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:30	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 22:44	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 17:26	LAT

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

9
Sc

703 L941488-02 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 14:55
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:32	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 22:47	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 17:40	LAT

702 L941488-03 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 14:20
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:34	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 22:50	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 17:44	LAT

704 L941488-04 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:45
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:36	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 22:59	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 17:47	LAT

801 L941488-05 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 10:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:39	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:02	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 17:58	LAT

802 L941488-06 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:40
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:46	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:05	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 18:01	LAT

SAMPLE SUMMARY



803 L941488-07 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 10:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:48	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:09	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 18:05	LAT

1
Cp

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Tc

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Sr

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Qc

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Gl

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Al

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Sc

804 L941488-08 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:45
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:50	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:12	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 18:08	LAT

805 L941488-09 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:52	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:15	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 18:12	LAT

806R L941488-10 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 12:25
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1029252	1	10/09/17 14:44	10/10/17 20:55	EL
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:18	TRB
Metals (ICPMS) by Method 6020	WG1029556	1	10/11/17 17:38	10/17/17 18:15	LAT

504 L941488-11 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:00
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:21	TRB

505 L941488-12 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:24	TRB

506 L941488-13 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 15:25
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:27	TRB

SAMPLE SUMMARY



510 L941488-14 GW

Collected by Jason R. Franks
Collected date/time 10/03/17 14:10
Received date/time 10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 22:31	TRB

¹Cp

²Tc

³Ss

512 L941488-15 GW

Collected by Jason R. Franks
Collected date/time 10/04/17 10:05
Received date/time 10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:37	TRB

⁴Cn

⁵Sr

601 L941488-16 GW

Collected by Jason R. Franks
Collected date/time 10/03/17 15:50
Received date/time 10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:40	TRB

⁶Qc

⁷Gl

⁸Al

DUPLICATE L941488-17 GW

Collected by Jason R. Franks
Collected date/time 10/03/17 00:00
Received date/time 10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029567	1	10/11/17 10:54	10/11/17 23:43	TRB

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

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



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:30	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	184		5.00	1	10/11/2017 22:44	WG1029567
Chromium	ND		10.0	1	10/11/2017 22:44	WG1029567
Cobalt	ND		10.0	1	10/11/2017 22:44	WG1029567
Lithium	ND		15.0	1	10/11/2017 22:44	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 22:44	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 17:26	WG1029556
Arsenic	2.49		2.00	1	10/17/2017 17:26	WG1029556
Beryllium	ND		2.00	1	10/17/2017 17:26	WG1029556
Cadmium	ND		1.00	1	10/17/2017 17:26	WG1029556
Lead	ND		2.00	1	10/17/2017 17:26	WG1029556
Selenium	ND		2.00	1	10/17/2017 17:26	WG1029556
Thallium	ND		2.00	1	10/17/2017 17:26	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:32	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	266		5.00	1	10/11/2017 22:47	WG1029567
Chromium	ND		10.0	1	10/11/2017 22:47	WG1029567
Cobalt	ND		10.0	1	10/11/2017 22:47	WG1029567
Lithium	ND		15.0	1	10/11/2017 22:47	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 22:47	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 17:40	WG1029556
Arsenic	199		2.00	1	10/17/2017 17:40	WG1029556
Beryllium	ND		2.00	1	10/17/2017 17:40	WG1029556
Cadmium	ND		1.00	1	10/17/2017 17:40	WG1029556
Lead	ND		2.00	1	10/17/2017 17:40	WG1029556
Selenium	ND		2.00	1	10/17/2017 17:40	WG1029556
Thallium	ND		2.00	1	10/17/2017 17:40	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:34	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	276		5.00	1	10/11/2017 22:50	WG1029567
Chromium	ND		10.0	1	10/11/2017 22:50	WG1029567
Cobalt	ND		10.0	1	10/11/2017 22:50	WG1029567
Lithium	ND		15.0	1	10/11/2017 22:50	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 22:50	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 17:44	WG1029556
Arsenic	8.52		2.00	1	10/17/2017 17:44	WG1029556
Beryllium	ND		2.00	1	10/17/2017 17:44	WG1029556
Cadmium	ND		1.00	1	10/17/2017 17:44	WG1029556
Lead	ND		2.00	1	10/17/2017 17:44	WG1029556
Selenium	ND		2.00	1	10/17/2017 17:44	WG1029556
Thallium	ND		2.00	1	10/17/2017 17:44	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:36	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	152		5.00	1	10/11/2017 22:59	WG1029567
Chromium	ND		10.0	1	10/11/2017 22:59	WG1029567
Cobalt	ND		10.0	1	10/11/2017 22:59	WG1029567
Lithium	ND		15.0	1	10/11/2017 22:59	WG1029567
Molybdenum	7.73		5.00	1	10/11/2017 22:59	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 17:47	WG1029556
Arsenic	2.00		2.00	1	10/17/2017 17:47	WG1029556
Beryllium	ND		2.00	1	10/17/2017 17:47	WG1029556
Cadmium	ND		1.00	1	10/17/2017 17:47	WG1029556
Lead	ND		2.00	1	10/17/2017 17:47	WG1029556
Selenium	ND		2.00	1	10/17/2017 17:47	WG1029556
Thallium	ND		2.00	1	10/17/2017 17:47	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:39	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	127		5.00	1	10/11/2017 23:02	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:02	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:02	WG1029567
Lithium	ND		15.0	1	10/11/2017 23:02	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:02	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 17:58	WG1029556
Arsenic	ND		2.00	1	10/17/2017 17:58	WG1029556
Beryllium	ND		2.00	1	10/17/2017 17:58	WG1029556
Cadmium	ND		1.00	1	10/17/2017 17:58	WG1029556
Lead	ND		2.00	1	10/17/2017 17:58	WG1029556
Selenium	ND		2.00	1	10/17/2017 17:58	WG1029556
Thallium	ND		2.00	1	10/17/2017 17:58	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:46	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	154		5.00	1	10/11/2017 23:05	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:05	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:05	WG1029567
Lithium	ND		15.0	1	10/11/2017 23:05	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:05	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 18:01	WG1029556
Arsenic	ND		2.00	1	10/17/2017 18:01	WG1029556
Beryllium	ND		2.00	1	10/17/2017 18:01	WG1029556
Cadmium	ND		1.00	1	10/17/2017 18:01	WG1029556
Lead	ND		2.00	1	10/17/2017 18:01	WG1029556
Selenium	2.66		2.00	1	10/17/2017 18:01	WG1029556
Thallium	ND		2.00	1	10/17/2017 18:01	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:48	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	131		5.00	1	10/11/2017 23:09	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:09	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:09	WG1029567
Lithium	ND		15.0	1	10/11/2017 23:09	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:09	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 18:05	WG1029556
Arsenic	2.70		2.00	1	10/17/2017 18:05	WG1029556
Beryllium	ND		2.00	1	10/17/2017 18:05	WG1029556
Cadmium	ND		1.00	1	10/17/2017 18:05	WG1029556
Lead	ND		2.00	1	10/17/2017 18:05	WG1029556
Selenium	ND		2.00	1	10/17/2017 18:05	WG1029556
Thallium	ND		2.00	1	10/17/2017 18:05	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:50	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	406		5.00	1	10/11/2017 23:12	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:12	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:12	WG1029567
Lithium	22.0		15.0	1	10/11/2017 23:12	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:12	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 18:08	WG1029556
Arsenic	5.45		2.00	1	10/17/2017 18:08	WG1029556
Beryllium	ND		2.00	1	10/17/2017 18:08	WG1029556
Cadmium	ND		1.00	1	10/17/2017 18:08	WG1029556
Lead	ND		2.00	1	10/17/2017 18:08	WG1029556
Selenium	ND		2.00	1	10/17/2017 18:08	WG1029556
Thallium	ND		2.00	1	10/17/2017 18:08	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:52	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	168		5.00	1	10/11/2017 23:15	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:15	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:15	WG1029567
Lithium	ND		15.0	1	10/11/2017 23:15	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:15	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 18:12	WG1029556
Arsenic	ND		2.00	1	10/17/2017 18:12	WG1029556
Beryllium	ND		2.00	1	10/17/2017 18:12	WG1029556
Cadmium	ND		1.00	1	10/17/2017 18:12	WG1029556
Lead	ND		2.00	1	10/17/2017 18:12	WG1029556
Selenium	ND		2.00	1	10/17/2017 18:12	WG1029556
Thallium	ND		2.00	1	10/17/2017 18:12	WG1029556

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/10/2017 20:55	WG1029252

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	90.1		5.00	1	10/11/2017 23:18	WG1029567
Chromium	ND		10.0	1	10/11/2017 23:18	WG1029567
Cobalt	ND		10.0	1	10/11/2017 23:18	WG1029567
Lithium	18.2		15.0	1	10/11/2017 23:18	WG1029567
Molybdenum	1330		5.00	1	10/11/2017 23:18	WG1029567

3 Ss

4 Cn

5 Sr

6 Qc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/17/2017 18:15	WG1029556
Arsenic	5.55		2.00	1	10/17/2017 18:15	WG1029556
Beryllium	ND		2.00	1	10/17/2017 18:15	WG1029556
Cadmium	ND		1.00	1	10/17/2017 18:15	WG1029556
Lead	ND		2.00	1	10/17/2017 18:15	WG1029556
Selenium	ND		2.00	1	10/17/2017 18:15	WG1029556
Thallium	ND		2.00	1	10/17/2017 18:15	WG1029556

7 Gl

8 Al

9 Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:21	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:21	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:24	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:24	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:27	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:27	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 22:31	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 22:31	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:37	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:37	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:40	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:40	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	ND		15.0	1	10/11/2017 23:43	WG1029567
Molybdenum	ND		5.00	1	10/11/2017 23:43	WG1029567

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3256340-1 10/10/17 20:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3256340-2 10/10/17 20:05 • (LCSD) R3256340-3 10/10/17 20:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	3.09	3.04	103	101	80-120			2	20

L941483-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941483-01 10/10/17 20:09 • (MS) R3256340-4 10/10/17 20:11 • (MSD) R3256340-5 10/10/17 20:18

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	3.18	3.14	106	105	1	75-125			1	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3256712-1 10/11/17 22:22

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Chromium	U		1.40	10.0
Cobalt	U		2.30	10.0
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

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

(LCS) R3256712-2 10/11/17 22:25 • (LCSD) R3256712-3 10/11/17 22:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	1000	1060	1060	106	106	80-120			0	20
Chromium	1000	997	1000	100	100	80-120			1	20
Cobalt	1000	1020	1010	102	101	80-120			1	20
Lithium	1000	965	970	96	97	80-120			0	20
Molybdenum	1000	1060	1050	106	105	80-120			1	20

⁶Qc

⁷Gl

⁸Al

⁹Sc

L941488-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941488-14 10/11/17 22:31 • (MS) R3256712-5 10/11/17 22:37 • (MSD) R3256712-6 10/11/17 22:40

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	377	1430	1420	105	104	1	75-125			1	20
Chromium	1000	ND	1000	993	100	99	1	75-125			1	20
Cobalt	1000	ND	1020	1010	102	101	1	75-125			1	20
Lithium	1000	ND	987	976	98	97	1	75-125			1	20
Molybdenum	1000	ND	1070	1060	107	106	1	75-125			1	20



Method Blank (MB)

(MB) R3258252-1 10/17/17 17:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3258252-2 10/17/17 17:19 • (LCSD) R3258252-3 10/17/17 17:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	53.7	54.8	107	110	80-120			2	20
Arsenic	50.0	48.6	50.0	97	100	80-120			3	20
Beryllium	50.0	48.3	49.7	97	99	80-120			3	20
Cadmium	50.0	47.1	48.7	94	97	80-120			3	20
Lead	50.0	47.9	47.6	96	95	80-120			1	20
Selenium	50.0	44.7	46.2	89	92	80-120			3	20
Thallium	50.0	47.3	47.5	95	95	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L941488-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941488-01 10/17/17 17:26 • (MS) R3258252-5 10/17/17 17:33 • (MSD) R3258252-6 10/17/17 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 %
Antimony	50.0	ND	54.3	56.5	109	113	1	75-125			4	20
Arsenic	50.0	2.49	52.9	53.3	101	102	1	75-125			1	20
Beryllium	50.0	ND	50.0	51.2	100	102	1	75-125			2	20
Cadmium	50.0	ND	48.9	50.6	98	101	1	75-125			3	20
Lead	50.0	ND	47.8	48.9	96	98	1	75-125			2	20
Selenium	50.0	ND	46.9	49.6	92	97	1	75-125			6	20
Thallium	50.0	ND	47.6	49.0	95	98	1	75-125			3	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.

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, 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.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier Description

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



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

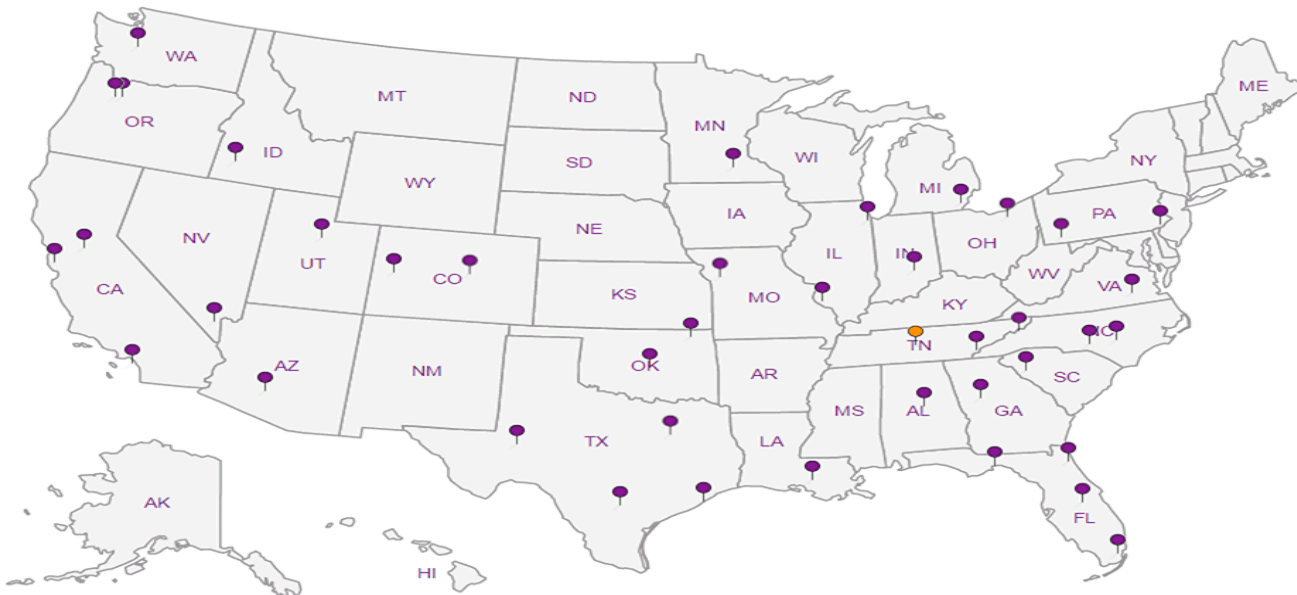
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
 SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Groundwater

City/State Collected:
Sibley, Mo

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

Client Project #
27213169.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Andrew Martin
 Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Date Results Needed
STD

Email? ___ No Yes
 FAX? ___ No ___ Yes

No. of Cntrs

Analysis / Container / Preservative

L2

*CCR Metals 250mlHDPE-HNO3



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



L# **94148**

A142

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs															
701	Grab	GW	NA	10/3/17	1305	1	X														01
702	Grab	GW	NA	10/3/17	1455	1	X														-03
703	Grab	GW	NA	10/3/17	1420	1	X														-02
704	Grab	GW	NA	10/3/17	1345	1	X														04
801	Grab	GW	NA	10/4/17	1050	1	X														05
802	Grab	GW	NA	10/4/17	1140	1	X														06
803	Grab	GW	NA	10/4/17	1050	1	X														07
804	Grab	GW	NA	10/4/17	1145	1	X														08
805	Grab	Other	NA	10/4/17	1150	1	X														09
806R	Grab	Other	NA	10/4/17	1225	1	X														10

TD 10/30

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: *CCR App IV Metals (6010): Ba,Cr,Co,Li,Mo - (6020): Pb,As,Be,Cd,Sb,Se,Tl - (7470): Hg

Relinquished by: (Signature)
Andrew Martin
 Relinquished by: (Signature)
 Relinquished by: (Signature)

Date: 10/4/17
 Time: 1545

Received by: (Signature)
Jeff Carr
 Received by: (Signature)
 Received for lab by: (Signature)
M...

pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS
 FedEx Courier _____
 Temp: 14 °C Bottles Received: 19 BR
 Date: 10-5-17 Time: 0845

Hold # _____
 Condition: (lab use only) *ok*
 COC Seal Intact: ___ Y ___ N NA
 pH Checked: L2 NCF: _____

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>ABJGOPKS</u>	SDG#		
Cooler Received/Opened On: <u>10/ 5 /17</u>	Temperature:	<u>1-6</u>	
Received by : Michael Witherspoon			
Signature: <u>[Signature]</u>			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		/	

Case Narrative

Lab No: 20170940

This report contains the analytical results for the 19 sample(s) received under chain of custody by ESC Lab Sciences on 10/5/2017 11:11:01 AM. These samples are associated with your 27213167.17 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

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.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

DL for Radiochemistry = MDA

DL for Metals and Wet Chemistry = MDL

DL for Drinking Water = SDWA

Observations / Nonconformances

L941852



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 2 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20170940-01
Client ID : 504
Date Sampled : 10/3/2017 1:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.94 +/- 0.853	0.680	pCi/l			
Radium-226	SM 7500 Ra B M*	0.518 +/- 0.240	0.147	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	1.42 +/- 0.613	0.533	pCi/l	10/31/17	11/15/17	JR

Lab ID : 20170940-02
Client ID : 505
Date Sampled : 10/3/2017 1:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.063 +/- 0.730	0.851	pCi/l			
Radium-226	SM 7500 Ra B M*	0.063 +/- 0.140	0.242	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	-0.053 +/- 0.590	0.609	pCi/l	10/31/17	11/15/17	JR

Lab ID : 20170940-03
Client ID : 506
Date Sampled : 10/3/2017 3:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.693 +/- 0.834	0.549	pCi/l			
Radium-226	SM 7500 Ra B M*	0.627 +/- 0.257	0.140	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	0.066 +/- 0.577	0.409	pCi/l	10/31/17	11/15/17	JR

Lab ID : 20170940-04
Client ID : 510
Date Sampled : 10/3/2017 2:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.08 +/- 0.746	0.758	pCi/l			
Radium-226	SM 7500 Ra B M*	0.111 +/- 0.165	0.248	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	0.964 +/- 0.581	0.510	pCi/l	10/31/17	11/15/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 3 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170940-05							
Client ID : 510MS							
Date Sampled : 10/3/2017 2:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Radium-226	SM 7500 Ra B M*	125		% Rec			RE
Radium-228	EPA 904*	78.4		% Rec			JR
Lab ID : 20170940-06							
Client ID : 510MSD							
Date Sampled : 10/3/2017 2:25:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Radium-226	SM 7500 Ra B M*	1.9		RPD			RE
Radium-228	EPA 904*	2.4		RPD			JR
Lab ID : 20170940-07							
Client ID : 512							
Date Sampled : 10/4/2017 10:05:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium		1.23 +/- 0.726	0.864	pCi/l			
Radium-226	SM 7500 Ra B M*	0.625 +/- 0.300	0.244	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	0.605 +/- 0.426	0.620	pCi/l	10/31/17	11/15/17	JR
Lab ID : 20170940-08							
Client ID : 601							
Date Sampled : 10/3/2017 3:50:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium		0.718 +/- 0.645	0.783	pCi/l			
Radium-226	SM 7500 Ra B M*	0.178 +/- 0.175	0.213	pCi/l	10/17/17	11/03/17	RE
Radium-228	EPA 904*	0.540 +/- 0.470	0.570	pCi/l	10/31/17	11/15/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 4 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170940-09							
Client ID : 701							
Date Sampled : 10/3/2017 1:05:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.073 +/- 0.715	1.02	pCi/l				
Radium-226 SM 7500 Ra B M*	0.073 +/- 0.175	0.296	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	-0.305 +/- 0.540	0.727	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-10							
Client ID : 702							
Date Sampled : 10/3/2017 2:55:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.000 +/- 0.794	1.42	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.114 +/- 0.240	0.449	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	-0.448 +/- 0.554	0.970	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-11							
Client ID : 703							
Date Sampled : 10/3/2017 2:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.385 +/- 0.755	1.21	pCi/l				
Radium-226 SM 7500 Ra B M*	0.385 +/- 0.294	0.341	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	-0.196 +/- 0.461	0.865	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-12							
Client ID : 704							
Date Sampled : 10/3/2017 1:45:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.30 +/- 0.770	0.836	pCi/l				
Radium-226 SM 7500 Ra B M*	0.785 +/- 0.292	0.145	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	0.519 +/- 0.478	0.691	pCi/l		10/31/17	11/15/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 5 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170940-13							
Client ID : 801							
Date Sampled : 10/4/2017 10:50:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.22 +/- 0.590	1.09	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.055 +/- 0.086	0.261	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	1.22 +/- 0.504	0.831	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-14							
Client ID : 802							
Date Sampled : 10/4/2017 11:40:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.066 +/- 0.667	1.04	pCi/l				
Radium-226 SM 7500 Ra B M*	0.066 +/- 0.126	0.219	pCi/l		10/17/17	11/03/17	RE
Radium-228 EPA 904*	-0.429 +/- 0.541	0.816	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-15							
Client ID : 803							
Date Sampled : 10/4/2017 10:50:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.826 +/- 0.749	1.12	pCi/l				
Radium-226 SM 7500 Ra B M*	0.266 +/- 0.214	0.237	pCi/l		10/18/17	10/20/17	RT
Radium-228 EPA 904*	0.560 +/- 0.535	0.878	pCi/l		10/31/17	11/15/17	JR
Lab ID : 20170940-16							
Client ID : 804							
Date Sampled : 10/4/2017 11:45:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.511 +/- 0.668	1.06	pCi/l				
Radium-226 SM 7500 Ra B M*	0.152 +/- 0.208	0.299	pCi/l		10/18/17	10/20/17	RT
Radium-228 EPA 904*	0.359 +/- 0.460	0.759	pCi/l		10/31/17	11/15/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 6 of 7

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20170940-17
Client ID : 805
Date Sampled : 10/4/2017 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.605 +/- 0.723	1.03	pCi/l			
Radium-226	SM 7500 Ra B M*	0.378 +/- 0.261	0.278	pCi/l	10/18/17	10/20/17	RT
Radium-228	EPA 904*	0.227 +/- 0.462	0.747	pCi/l	10/31/17	11/15/17	JR

Lab ID : 20170940-18
Client ID : 806R
Date Sampled : 10/4/2017 12:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.35 +/- 0.694	0.905	pCi/l			
Radium-226	SM 7500 Ra B M*	0.262 +/- 0.253	0.332	pCi/l	10/18/17	10/20/17	RT
Radium-228	EPA 904*	2.09 +/- 0.441	0.573	pCi/l	10/31/17	11/15/17	JR

Lab ID : 20170940-19
Client ID : DUPLICATE
Date Sampled : 10/3/2017
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.214 +/- 0.671	1.04	pCi/l			
Radium-226	SM 7500 Ra B M*	0.214 +/- 0.232	0.311	pCi/l	10/18/17	10/20/17	RT
Radium-228	EPA 904*	-0.367 +/- 0.439	0.731	pCi/l	10/31/17	11/15/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170940
 Date Reported : 11/20/17
 Date Received : 10/05/17
 Page Number : 7 of 7

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.013	119.0			NC	0.342	125.0	122.0	1.9	R1289
Radium-226	0.028	119.0			NC	0.101	121.0	121.0	0.0	R1290
Radium-228	-0.703	83.1			NC	0.436	78.4	76.1	2.4	R4014

Lab Approval:

 Ron Eidson
 Director of Radiochemistry

CS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to: **Jason Franks**
Email To: jfranks@sccsengineers.com;
jay.martin@kcpl.com; jrockhold@sccsengineers.com

Project Description: **Sibley Generating Station**
City/State Collected: **SPRLEY, MD**

Client Project # **27213167.12**
Lab Project # **AQUAOPKS-SIBLEY**

Site/Facility ID #
P.O. #

Quote #
Date Results Needed **SAD**

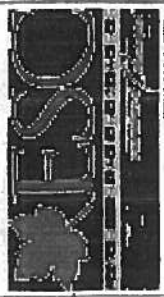
Rush? (Lab MUST Be Notified)
Same Day ___ Five Day ___
Next Day ___ 5 Day (Rad Only) ___
Two Day ___ 10 Day (Rad Only) ___
Three Day ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
504	604	NPW	-	10/3/17	1300	2
505		NPW	-	10/3/17	1350	2
506		NPW	-	10/3/17	1525	2
510		NPW	-	10/3/17	1410	2
512		NPW	-	10/4/17	1005	2
601		NPW	-	10/3/17	1550	2
701		NPW	-	10/3/17	1305	2
702		NPW	-	10/3/17	1455	2
703		NPW	-	10/3/17	1400	2
704		NPW	-	10/3/17	1345	2

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

Samples returned via: ___ UPS ___ FedEx ___ Courier ___

Relinquished by: (Signature) **Jason R. Franks** Date: **10/4/17** Time: **1545**
Relinquished by: (Signature) Date: Time:
Relinquished by: (Signature) Date: Time:



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

L # **941852**

Table #

Acctnum: **AQUAOPKS**

Template: **RA15110**

Prelogin: **P620052**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Remarks

Sample # (lab only)

Sample Receipt Checklist
COC Seal Present/Intact: ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
If Applicable
VOA Zero Headspace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N

if preservation required by Login: Date/Time

Hold: Condition: NCF / OK

pH _____ Temp _____
Flow _____ Other _____

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Temp: **48** °C Bottles Received: **38**
Date: **10/5/17** Time: **114**

Hold: Condition: NCF / OK

20120940

SCS Engineers - KS

7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Billing information:

Accounts Payable
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Report to:
Jason Franks

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

Project

Description: **Sibley Generating Station**

Client Project #
27213167.17

City/State Collected: **Staley MO**
Lab Project #
AQUAOPKS-SIBLEY

Collected by (print): **JASON R. FRANKS**

P.O. #

Collected by (signature): *[Signature]*

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
801	GRAB	NPW	-	10/4/17	1050	2
802		NPW	-	10/4/17	1140	2
803		NPW	-	10/4/17	1050	2
804		NPW	-	10/4/17	1145	2
805		NPW	-	10/4/17	1150	2
806R		NPW	-	10/4/17	1225	2
DUPLICATE		NPW	-	10/2/17	-	2
510 MS		NPW	-	10/3/17	1470	2
510 MSD		NPW	-	10/3/17	1425	2

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

Samples returned via:
UPS ___ FedEx ___ Courier ___

Relinquished by: (Signature) *[Signature]* Date: **10/4/17** Time: **1545**
Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____
Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____

Received by: (Signature) *[Signature]*
Received by: (Signature) *[Signature]*

Received for job by: (Signature) *[Signature]*

Analysis / Container / Preservative

Chain of Custody Page **22** of **22**

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

L# **941852**

Table #

Acctnum: **AQUAOPKS**
Template: **T115110**
Prelogin: **P620052**
TSR: **206 - Jeff Carr**
PB:

Shipped Via: _____

Remarks

Sample # (tab only)

Sample #	Remarks	Sample # (tab only)
801		
802		
803		
804		
805		
806R		
DUPLICATE		
510 MS		
510 MSD		

Sample Receipt Checklist

COC Seal Present/Intact: ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
If Applicable
VOA Zero Headpace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N

If preservation required by LogIn: Date/Time

Hold: _____ Condition: NCF / OK

pH _____ Temp _____
Flow _____ Other _____

Trip Blank Received: Yes / No
HCL / MeOH TBR
Temp: **45** °C Bottles Received: **37**
Date: **10/5/17** Time: **11:11**
20170611

SAMPLE LOGIN

Date Received: 10/5/2017 11:11:0

Lab Number: 20170940

Due: 11/2/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170940-01 B	504	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-01 A	504	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-02 A	505	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-02 B	505	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-03 A	506	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-03 B	506	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-04 A	510	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-04 B	510	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-05 A	510MS	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-05 B	510MS	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-06 B	510MSD	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-06 A	510MSD	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									
20170940-07 A	512	NPW	SM 7500 Ra B M* EPA 904*	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170940-07 B	512	NPW		Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226									
Radium-228									

20170940-08 A	601	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-08 B	601	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-09 A	701	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-09 B	701	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-10 B	702	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-10 A	702	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-11 A	703	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-11 B	703	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-12 A	704	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-12 B	704	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-13 A	801	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-13 B	801	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-14 B	802	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-14 A	802	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-15 A	803	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-15 B	803	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*				
20170940-16 A	804	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes
20170940-16 B	804	NPW	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes

SM 7500 Ra B M*
EPA 904*

Yes
Yes

HNO3, pH < 2
HNO3, pH < 2

1 L
1 L

Plastic
Plastic

NPW
NPW

SM 7500 Ra B M*
EPA 904*

Yes
Yes

HNO3, pH < 2
HNO3, pH < 2

1 L
1 L

Plastic
Plastic

NPW
NPW

SM 7500 Ra B M*
EPA 904*

Yes
Yes

HNO3, pH < 2
HNO3, pH < 2

1 L
1 L

Plastic
Plastic

NPW
NPW

SM 7500 Ra B M*
EPA 904*

CONTAINER INSPECTION

Coolers 4 Custody Seals Broken Temperature: ABC Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete

Anomalies

Inspected By: [Signature] DATE 10/5/17
 QA or Designee Review: [Signature] DATE 10/5/17
 Sample Custodian Review: [Signature] DATE 10/5/17

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-10
October 2017 Detection Sampling Event Laboratory Report

October 19, 2017

SCS Engineers - KS

Sample Delivery Group: L941496
Samples Received: 10/05/2017
Project Number: 27213169.17
Description: Sibley Generating Station

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



701 L941496-01 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:05
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028970	1	10/09/17 09:51	10/09/17 10:39	BS
Wet Chemistry by Method 9056A	WG1029612	1	10/10/17 23:58	10/10/17 23:58	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 16:50	CCE

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

702 L941496-02 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 14:55
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028970	1	10/09/17 09:51	10/09/17 10:39	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 09:27	10/11/17 09:27	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:03	CCE

703 L941496-03 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 14:20
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028970	1	10/09/17 09:51	10/09/17 10:39	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 09:37	10/11/17 09:37	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:06	CCE

704 L941496-04 GW

Collected by
Jason R. Franks
Collected date/time
10/03/17 13:45
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028970	1	10/09/17 09:51	10/09/17 10:39	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 09:47	10/11/17 09:47	KCF
Wet Chemistry by Method 9056A	WG1030412	1	10/12/17 06:38	10/12/17 06:38	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:10	CCE

801 L941496-05 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 10:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029928	1	10/11/17 14:13	10/11/17 14:52	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 10:18	10/11/17 10:18	KCF
Wet Chemistry by Method 9056A	WG1029613	5	10/11/17 10:28	10/11/17 10:28	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:19	TRB

802 L941496-06 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:40
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029928	1	10/11/17 14:13	10/11/17 14:52	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 10:58	10/11/17 10:58	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:23	TRB

SAMPLE SUMMARY



803 L941496-07 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 10:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029928	1	10/11/17 14:13	10/11/17 14:52	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 11:08	10/11/17 11:08	KCF
Wet Chemistry by Method 9056A	WG1030412	5	10/12/17 06:48	10/12/17 06:48	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:26	TRB

1
Cp

2
Tc

3
Ss

4
Cn

804 L941496-08 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:45
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029928	1	10/11/17 14:13	10/11/17 14:52	BS
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 11:19	10/11/17 11:19	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:29	TRB

5
Sr

6
Qc

7
Gl

805 L941496-09 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 11:50
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029929	1	10/11/17 14:35	10/11/17 15:10	MMF
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 11:29	10/11/17 11:29	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:32	TRB

8
Al

9
Sc

806R L941496-10 GW

Collected by
Jason R. Franks
Collected date/time
10/04/17 12:25
Received date/time
10/05/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029929	1	10/11/17 14:35	10/11/17 15:10	MMF
Wet Chemistry by Method 9056A	WG1029613	1	10/11/17 11:39	10/11/17 11:39	KCF
Wet Chemistry by Method 9056A	WG1030412	5	10/12/17 06:58	10/12/17 06:58	KCF
Metals (ICP) by Method 6010B	WG1029568	1	10/11/17 11:34	10/12/17 17:36	TRB



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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
Technical Service Representative

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



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	306000		10000	1	10/09/2017 10:39	WG1028970

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11000		1000	1	10/10/2017 23:58	WG1029612
Fluoride	ND		100	1	10/10/2017 23:58	WG1029612
Sulfate	13700		5000	1	10/10/2017 23:58	WG1029612

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	10/12/2017 16:50	WG1029568
Calcium	86300		1000	1	10/12/2017 16:50	WG1029568

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	301000		10000	1	10/09/2017 10:39	WG1028970

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	11100		1000	1	10/11/2017 09:27	WG1029613
Fluoride	ND		100	1	10/11/2017 09:27	WG1029613
Sulfate	20200		5000	1	10/11/2017 09:27	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/12/2017 17:03	WG1029568
Calcium	91300		1000	1	10/12/2017 17:03	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	509000		10000	1	10/09/2017 10:39	WG1028970

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	21500		1000	1	10/11/2017 09:37	WG1029613
Fluoride	245		100	1	10/11/2017 09:37	WG1029613
Sulfate	ND		5000	1	10/11/2017 09:37	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	752		200	1	10/12/2017 17:06	WG1029568
Calcium	127000		1000	1	10/12/2017 17:06	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	348000		10000	1	10/09/2017 10:39	WG1028970

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15000		1000	1	10/12/2017 06:38	WG1030412
Fluoride	160	J6	100	1	10/11/2017 09:47	WG1029613
Sulfate	35000		5000	1	10/11/2017 09:47	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/12/2017 17:10	WG1029568
Calcium	94800		1000	1	10/12/2017 17:10	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	677000		10000	1	10/11/2017 14:52	WG1029928

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	119000		5000	5	10/11/2017 10:28	WG1029613
Fluoride	104		100	1	10/11/2017 10:18	WG1029613
Sulfate	57500		5000	1	10/11/2017 10:18	WG1029613

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	318		200	1	10/12/2017 17:19	WG1029568
Calcium	148000		1000	1	10/12/2017 17:19	WG1029568

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	384000		10000	1	10/11/2017 14:52	WG1029928

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	43100		1000	1	10/11/2017 10:58	WG1029613
Fluoride	ND		100	1	10/11/2017 10:58	WG1029613
Sulfate	69400		5000	1	10/11/2017 10:58	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	10/12/2017 17:23	WG1029568
Calcium	72000		1000	1	10/12/2017 17:23	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	532000		10000	1	10/11/2017 14:52	WG1029928

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	17500		1000	1	10/11/2017 11:08	WG1029613
Fluoride	230		100	1	10/11/2017 11:08	WG1029613
Sulfate	116000		25000	5	10/12/2017 06:48	WG1030412

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	2790		200	1	10/12/2017 17:26	WG1029568
Calcium	122000		1000	1	10/12/2017 17:26	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	594000		10000	1	10/11/2017 14:52	WG1029928

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15800		1000	1	10/11/2017 11:19	WG1029613
Fluoride	118		100	1	10/11/2017 11:19	WG1029613
Sulfate	ND		5000	1	10/11/2017 11:19	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	3640		200	1	10/12/2017 17:29	WG1029568
Calcium	155000		1000	1	10/12/2017 17:29	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	375000		10000	1	10/11/2017 15:10	WG1029929

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	12800		1000	1	10/11/2017 11:29	WG1029613
Fluoride	121		100	1	10/11/2017 11:29	WG1029613
Sulfate	56000		5000	1	10/11/2017 11:29	WG1029613

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/12/2017 17:32	WG1029568
Calcium	104000		1000	1	10/12/2017 17:32	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	621000		10000	1	10/11/2017 15:10	WG1029929

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	29900		1000	1	10/11/2017 11:39	WG1029613
Fluoride	129		100	1	10/11/2017 11:39	WG1029613
Sulfate	148000		25000	5	10/12/2017 06:58	WG1030412

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	4770		200	1	10/12/2017 17:36	WG1029568
Calcium	148000		1000	1	10/12/2017 17:36	WG1029568

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3256614-1 10/09/17 10:39

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L941493-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941493-04 10/09/17 10:39 • (DUP) R3256614-4 10/09/17 10:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	485000	477000	1	1.66		5

L941496-03 Original Sample (OS) • Duplicate (DUP)

(OS) L941496-03 10/09/17 10:39 • (DUP) R3256614-5 10/09/17 10:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	509000	516000	1	1.37		5

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

(LCS) R3256614-2 10/09/17 10:39 • (LCSD) R3256614-3 10/09/17 10:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8650000	8550000	98.3	97.2	85.0-115			1.16	5



Method Blank (MB)

(MB) R3256913-1 10/11/17 14:52

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

1 Cp

2 Tc

3 Ss

L941480-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941480-04 10/11/17 14:52 • (DUP) R3256913-4 10/11/17 14:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2310000	2320000	1	0.216		5

4 Cn

5 Sr

6 Qc

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

(LCS) R3256913-2 10/11/17 14:52 • (LCSD) R3256913-3 10/11/17 14:52

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8550000	8580000	97.2	97.5	85.0-115			0.350	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3256929-1 10/11/17 15:10

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

L941719-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941719-01 10/11/17 15:10 • (DUP) R3256929-4 10/11/17 15:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	87000	87000	1	0.000		5

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

(LCS) R3256929-2 10/11/17 15:10 • (LCSD) R3256929-3 10/11/17 15:10

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8580000	8560000	97.5	97.3	85.0-115			0.233	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3256451-1 10/10/17 18:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L941412-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941412-01 10/10/17 19:03 • (DUP) R3256451-5 10/10/17 19:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	2670	5000	1	61	J3	15
Fluoride	124	87.4	1	35	P1	15
Sulfate	ND	2360	1	0		15

L941493-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941493-04 10/10/17 22:47 • (DUP) R3256451-9 10/10/17 22:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	3360	6290	1	61	J3	15
Fluoride	271	174	1	43	P1	15
Sulfate	16900	16900	1	0		15

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

(LCS) R3256451-2 10/10/17 18:10 • (LCSD) R3256451-3 10/10/17 18:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	39100	39100	98	98	80-120			0	15
Fluoride	8000	8090	8090	101	101	80-120			0	15
Sulfate	40000	39800	39600	100	99	80-120			1	15



L941412-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L941412-01 10/10/17 19:03 • (MS) R3256451-8 10/10/17 19:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	2670	44000	83	1	80-120	
Fluoride	5000	124	4270	83	1	80-120	
Sulfate	50000	ND	44800	84	1	80-120	

L941493-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941493-04 10/10/17 22:47 • (MS) R3256451-10 10/10/17 23:07 • (MSD) R3256451-11 10/10/17 23:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50000	3360	45200	52100	84	97	1	80-120			14	15
Fluoride	5000	271	4460	3990	84	74	1	80-120		<u>J6</u>	11	15
Sulfate	50000	16900	59000	58600	84	83	1	80-120			1	15

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



Method Blank (MB)

(MB) R3256615-1 10/11/17 08:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L941496-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941496-04 10/11/17 09:47 • (DUP) R3256615-4 10/11/17 09:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	13100	21700	1	49	J3	15
Fluoride	160	155	1	3		15
Sulfate	35000	32500	1	8		15

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

(LCS) R3256615-2 10/11/17 08:46 • (LCSD) R3256615-3 10/11/17 08:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39000	39000	98	97	80-120			0	15
Fluoride	8000	8070	8060	101	101	80-120			0	15
Sulfate	40000	39300	39300	98	98	80-120			0	15

L941496-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L941496-04 10/11/17 09:47 • (MS) R3256615-5 10/11/17 10:07

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	13100	57900	89	1	80-120	
Fluoride	5000	160	3870	74	1	80-120	J6
Sulfate	50000	35000	75400	81	1	80-120	



Method Blank (MB)

(MB) R3257085-1 10/12/17 04:05

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L940877-01 Original Sample (OS) • Duplicate (DUP)

(OS) L940877-01 10/12/17 04:56 • (DUP) R3257085-4 10/12/17 05:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	5050	11900	1	81	J3	15
Sulfate	ND	4160	1	0		15

L941502-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941502-01 10/12/17 07:08 • (DUP) R3257085-6 10/12/17 07:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	17300	20700	1	18	J3	15

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

(LCS) R3257085-2 10/12/17 04:15 • (LCSD) R3257085-3 10/12/17 04:26

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	38800	38800	97	97	80-120			0	15
Sulfate	40000	39000	39000	97	97	80-120			0	15

L940877-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L940877-01 10/12/17 04:56 • (MS) R3257085-5 10/12/17 05:16

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	5050	55400	101	1	80-120	
Sulfate	50000	ND	47500	85	1	80-120	



L941502-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941502-01 10/12/17 07:08 • (MS) R3257085-7 10/12/17 07:29 • (MSD) R3257085-8 10/12/17 07:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50000	17300	60100	62500	86	90	1	80-120			4	15

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



Method Blank (MB)

(MB) R3257057-1 10/12/17 16:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Boron	U		12.6	200
Calcium	U		46.3	1000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3257057-2 10/12/17 16:44 • (LCSD) R3257057-3 10/12/17 16:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Boron	1000	982	985	98	99	80-120			0	20
Calcium	10000	9950	9990	100	100	80-120			0	20

L941496-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941496-01 10/12/17 16:50 • (MS) R3257057-5 10/12/17 16:57 • (MSD) R3257057-6 10/12/17 17:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Boron	1000	ND	1040	1050	99	100	1	75-125			1	20
Calcium	10000	86300	95800	96300	95	100	1	75-125			0	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.

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, 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.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

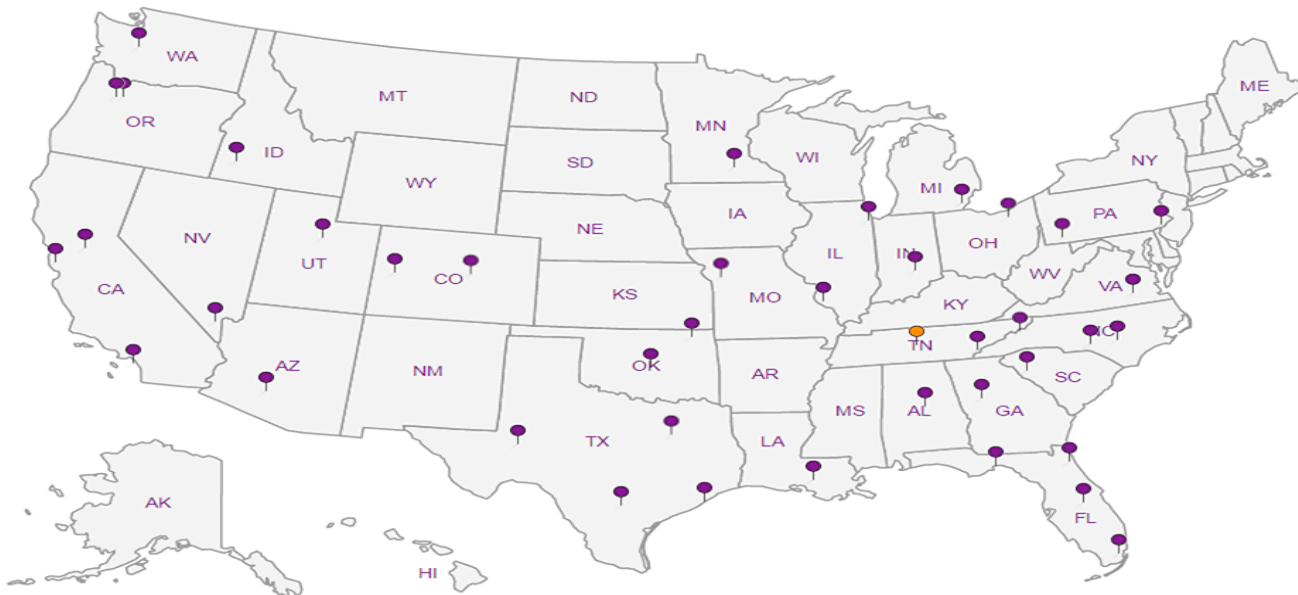
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Groundwater

City/State Collected:
Sibley, Mo

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

Client Project #
27213169.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks
 Immediately Packed on ice: N ___ Y

Rush? (Lab MUST Be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Date Results Needed
STD
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Analysis / Container / Preservative		
CCR Anions (Cl-, F-, SO4) 125mlHDPE-NoPres	CCR Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres

Chain of Custody Page 1 of 1



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



L# **941496**
A140
 Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:

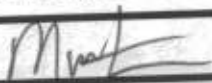
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Anions (Cl-, F-, SO4) 125mlHDPE-NoPres	CCR Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
701	Grab	GW	NA	10/3/17	1305	3	X	X	X		01
702	Grab	GW	NA	10/3/17	1455	3	X	X	X		02
703	Grab	GW	NA	10/3/17	1420	3	X	X	X		03
704	Grab	GW	NA	10/3/17	1345	3	X	X	X		04
801	Grab	GW	NA	10/4/17	1050	3	X	X	X		05
802	Grab	GW	NA	10/4/17	1140	3	X	X	X		07
803	Grab	GW	NA	10/4/17	1050	3	X	X	X		07
804	Grab	GW	NA	10/4/17	1145	3	X	X	X		06
805	Grab	Other	NA	10/4/17	1150	3	X	X	X		09
806R	Grab	Other	NA	10/4/17	1225	3	X	X	X		10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: ***CCR App III Metals (6010): B and Ca**

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 10/4/17	Time: 1545	Received by: (Signature) <i>Jeff Carr</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Hold #
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4 °C Bottles Received: 30	Condition: (lab use only) 02
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Mark</i>	Date: 10-5-17 Time: 0845	COC Seal Intact: ___ Y ___ N ___ NA pH Checked: 02 NCF:

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>AQUADICS</u>	SDG#	<u>941496</u>	
Cooler Received/Opened On: <u>10/ 5 /17</u>	Temperature:	<u>1.6</u>	
Received by : Michael Witherspoon			
Signature: 			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?			
If Applicable			
VOA Zero headspace?		/	
Preservation Correct / Checked?			

Jared Morrison
December 20, 2022

ATTACHMENT 1-11
November 2017 Sampling Event Laboratory Report

November 28, 2017

SCS Engineers - KS

Sample Delivery Group: L952199
Samples Received: 11/18/2017
Project Number: 27213169.17
Description: Sibley Generating Station

Report To: Jason Franks
7311 West 130th Street, Ste. 100
Overland Park, KS 66213

Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



701 L952199-01 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 09:15
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 21:54	11/18/17 21:54	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:21	JDG

1
Cp

2
Tc

3
Ss

702 L952199-02 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 09:50
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 22:07	11/18/17 22:07	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:24	JDG

4
Cn

5
Sr

6
Qc

703 L952199-03 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 10:25
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 22:21	11/18/17 22:21	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:26	JDG

7
Gl

8
Al

9
Sc

704 L952199-04 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 10:55
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 22:34	11/18/17 22:34	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:29	JDG

801 L952199-05 GW

Collected by
Jason R. Franks
Collected date/time
11/16/17 14:15
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	5	11/18/17 22:47	11/18/17 22:47	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:37	JDG

802 L952199-06 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 11:40
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044418	1	11/18/17 16:55	11/18/17 16:55	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 13:42	JDG

803 L952199-07 GW

Collected by
Jason R. Franks
Collected date/time
11/16/17 13:45
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044418	1	11/18/17 17:51	11/18/17 17:51	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:39	JDG

SAMPLE SUMMARY



804 L952199-08 GW

Collected by
Jason R. Franks
Collected date/time
11/16/17 13:45
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044418	1	11/18/17 18:05	11/18/17 18:05	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:42	JDG

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

805 L952199-09 GW

Collected by
Jason R. Franks
Collected date/time
11/16/17 14:05
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044418	1	11/18/17 18:18	11/18/17 18:18	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:45	JDG

806R L952199-10 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 12:20
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 23:01	11/18/17 23:01	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:47	JDG

DUPLICATE 2 L952199-11 GW

Collected by
Jason R. Franks
Collected date/time
11/17/17 00:00
Received date/time
11/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044470	1	11/18/17 23:14	11/18/17 23:14	KCF
Metals (ICP) by Method 6010B	WG1044591	1	11/20/17 09:46	11/20/17 14:50	JDG



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. 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
Technical Service Representative

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



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8890		1000	1	11/18/2017 21:54	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	87400		1000	1	11/20/2017 14:21	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	9060		1000	1	11/18/2017 22:07	WG1044470

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	91600		1000	1	11/20/2017 14:24	WG1044591

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19000		1000	1	11/18/2017 22:21	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	130000		1000	1	11/20/2017 14:26	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	12000		1000	1	11/18/2017 22:34	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	93300		1000	1	11/20/2017 14:29	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	125000		5000	5	11/18/2017 22:47	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	156000		1000	1	11/20/2017 14:37	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	46700		1000	1	11/18/2017 16:55	WG1044418

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	80300	<u>O1</u>	1000	1	11/20/2017 13:42	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	16100		1000	1	11/18/2017 17:51	WG1044418

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	123000		1000	1	11/20/2017 14:39	WG1044591

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	14700		1000	1	11/18/2017 18:05	WG1044418

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	155000		1000	1	11/20/2017 14:42	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	11300		1000	1	11/18/2017 18:18	WG1044418

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	104000		1000	1	11/20/2017 14:45	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	26300		1000	1	11/18/2017 23:01	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	151000		1000	1	11/20/2017 14:47	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	44200		1000	1	11/18/2017 23:14	WG1044470

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	80100		1000	1	11/20/2017 14:50	WG1044591

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3266908-1 11/18/17 06:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L952124-01 Original Sample (OS) • Duplicate (DUP)

(OS) L952124-01 11/18/17 14:08 • (DUP) R3266908-4 11/18/17 14:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	2120	1700	1	22	P1	15

L952199-06 Original Sample (OS) • Duplicate (DUP)

(OS) L952199-06 11/18/17 16:55 • (DUP) R3266908-7 11/18/17 17:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	46700	46500	1	0		15

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

(LCS) R3266908-2 11/18/17 06:51 • (LCSD) R3266908-3 11/18/17 07:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39300	39200	98	98	80-120			0	15

L952124-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L952124-01 11/18/17 14:08 • (MS) R3266908-5 11/18/17 14:36 • (MSD) R3266908-6 11/18/17 14:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	2120	53900	52900	104	102	1	80-120			2	15

L952199-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L952199-06 11/18/17 16:55 • (MS) R3266908-8 11/18/17 17:23 • (MSD) R3266908-9 11/18/17 17:37

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	46700	96000	96000	99	99	1	80-120			0	15



Method Blank (MB)

(MB) R3266904-1 11/18/17 11:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L952194-04 Original Sample (OS) • Duplicate (DUP)

(OS) L952194-04 11/18/17 18:06 • (DUP) R3266904-4 11/18/17 18:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3910	3110	1	23	P1	15

L952199-11 Original Sample (OS) • Duplicate (DUP)

(OS) L952199-11 11/18/17 23:14 • (DUP) R3266904-7 11/18/17 23:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	44200	43700	1	1		15

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

(LCS) R3266904-2 11/18/17 11:50 • (LCSD) R3266904-3 11/18/17 12:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	36800	36800	92	92	80-120			0	15

L952194-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L952194-04 11/18/17 18:06 • (MS) R3266904-5 11/18/17 18:33 • (MSD) R3266904-6 11/18/17 19:13

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	3910	52200	51700	96	96	1	80-120			1	15

L952199-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L952199-11 11/18/17 23:14 • (MS) R3266904-8 11/18/17 23:41

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	44200	90600	93	1	80-120	



Method Blank (MB)

(MB) R3267158-1 11/20/17 13:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Calcium	U		46.3	1000

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3267158-2 11/20/17 13:37 • (LCSD) R3267158-3 11/20/17 13:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Calcium	10000	10000	10000	100	100	80-120			0	20

L952199-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L952199-06 11/20/17 13:42 • (MS) R3267158-5 11/20/17 13:47 • (MSD) R3267158-6 11/20/17 13:49

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Calcium	10000	80300	90300	89700	100	94	1	75-125			1	20

⁷Gl

⁸Al

⁹Sc



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.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, 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.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier Description

O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.



ESC Lab Sciences 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

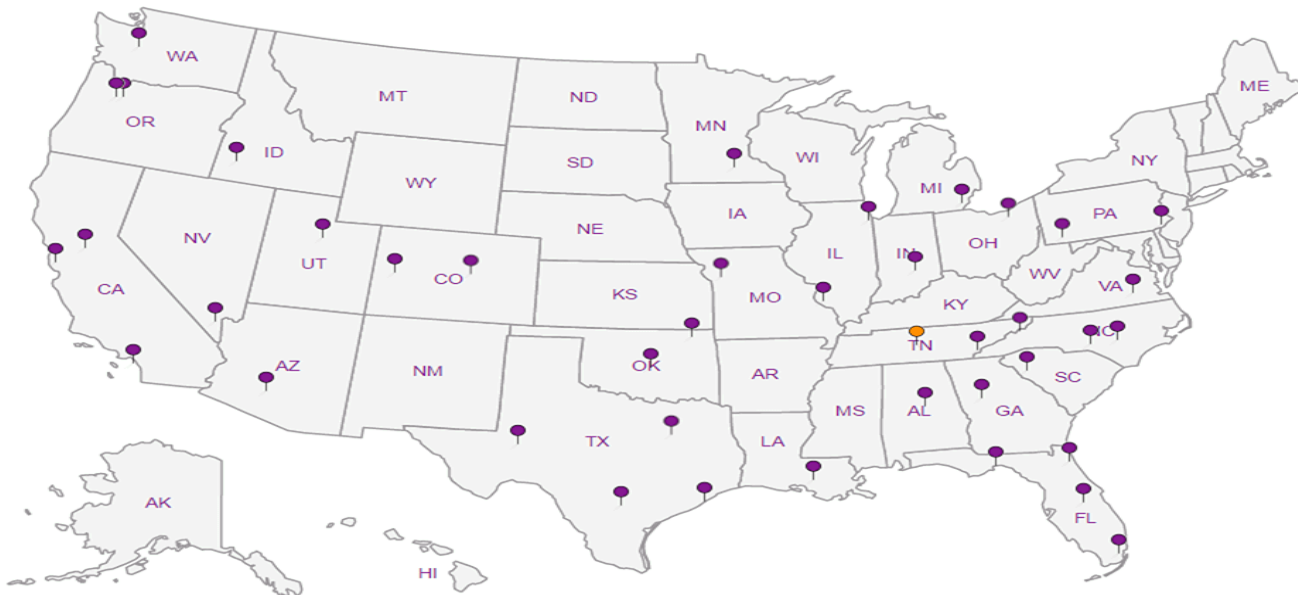
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Billing Information:
Jason Franks
SCS Engineers
 7311 West 130th Street
 Suite 100
 Overland Park, Kansas 66213

Analysis / Container / Preservative



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



Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Sibley Gen Station - Groundwater

City/State Collected:
Sibley, Mo

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

Client Project #
27213169.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
Andrew Martin

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
3 Day
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride - 9056 125mlHDPE-NoPres	Calcium - 6010 250mlHDPE-HNO3
701	Grab	GW	NA	11/17/17	0915	2	X	X
702	Grab	GW	NA	11/17/17	0950	2	X	X
703	Grab	GW	NA	11/17/17	1025	2	X	X
704	Grab	GW	NA	11/17/17	1055	2	X	X
801	Grab	GW	NA	11/16/17	1415	2	X	X
802	Grab	GW	NA	11/17/17	1140	2	X	X
803	Grab	GW	NA	11/16/17	1345	2	X	X
804	Grab	GW	NA	11/16/17	1345	2	X	X
805	Grab	GW	NA	11/16/17	1405	2	X	X
806R	Grab	GW	NA	11/17/17	1220	2	X	X

Chloride - 9056 125mlHDPE-NoPres

Calcium - 6010 250mlHDPE-HNO3

L# **L952199**
 Tabl **E004**
 Acctnum: **AQUAOPRS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:

Item/Contaminant	Sample # (lab only)
	-01
	02
	03
	04
	05
	06
	07
	08
	09
	10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks:

Relinquished by: (Signature)
Andrew Martin

Relinquished by: (Signature)

Relinquished by: (Signature)

Date: **11/17/17**
 Time: **1415**

Received by: (Signature)
Brandon K. Hargrett

Received by: (Signature)

Received for lab by: (Signature)
Andrew Martin

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS
 FedEx Courier _____

Temp: **3.8** °C Bottles Received: **26**

Date: **11/18/17** Time: **8:45**

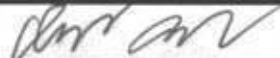
Hold #

Condition: (lab use only) **OK**

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: _____ NCF: _____

ESC LAB SCIENCES Cooler Receipt Form

Client:	AGUAOPKS	SDG#	L952199
Cooler Received/Opened On:	11/18/17	Temperature:	3.8
Received by:	Christian Kacar		
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		/	

Jared Morrison
December 20, 2022

ATTACHMENT 2

Statistical Analyses

Statistical analyses were not completed in 2017. Statistical analyses of the background sampling events were completed following data verification in 2018.

ATTACHMENT 3

Groundwater Potentiometric Surface Maps

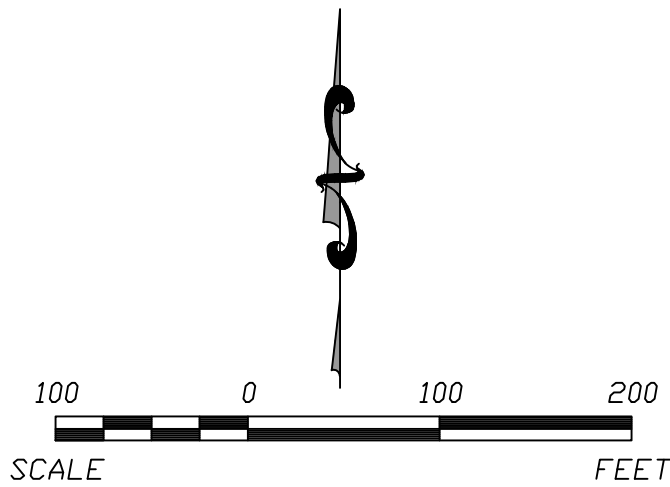
- December 2015 – First background sampling event.
- February 2016 – Second background sampling event.
- May 2016 - Third background sampling event.
- August 2016 - Fourth background sampling event.
- November 2016 - Fifth background sampling event.
- February 2017 - Sixth background sampling event.
- May 2017 - Seventh background sampling event.
- August 2017 - Eighth background sampling event.
- October 2017 – Ninth background sampling event and Fall semiannual detection monitoring sampling event.
- November 2017 – First verification sampling event for the Fall 2017 detection monitoring sampling event.

N:\KCPL\PROJECTS\GROUNDWATER\DWG\SIBLEY\2017\2017 ADDENDUM\SIBLEY POTENTIOMETRIC MAP 2016-2.DWG



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 (869.52) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
 - 875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - ← 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON FEBRUARY 18, 2016



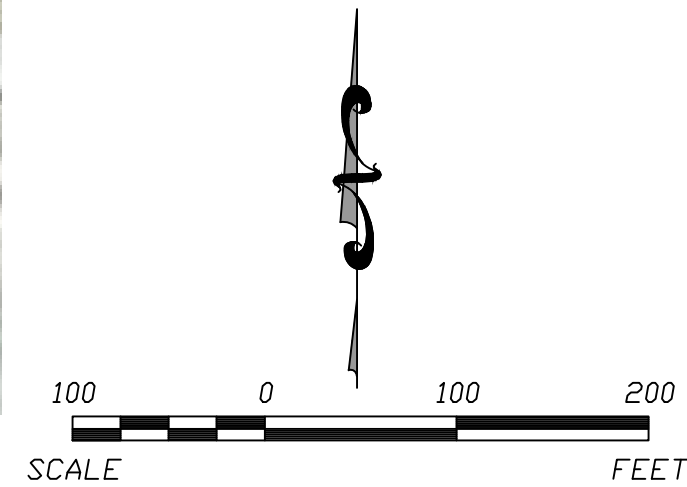
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<p>CLIENT</p> <p>EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI</p>							
<p>SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012</p>				<p>DRAWN BY: RCW</p> <p>CHECKED BY: JRF</p>	<p>Q/A BY: JRF</p> <p>PROJ. MGR: JRF</p>		
CADD FILE:							
DATE: 12/13/22							
DRAWING NO. 2							

N:\KCPL\PROJECTS\GROUNDWATER\DWG\SIBLEY\2017\2017 ADDENDUM\SIBLEY POTENTIOMETRIC MAP 2016-5.DWG



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 (869.52) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
 - 875 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - ← 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 25 & 26, 2016



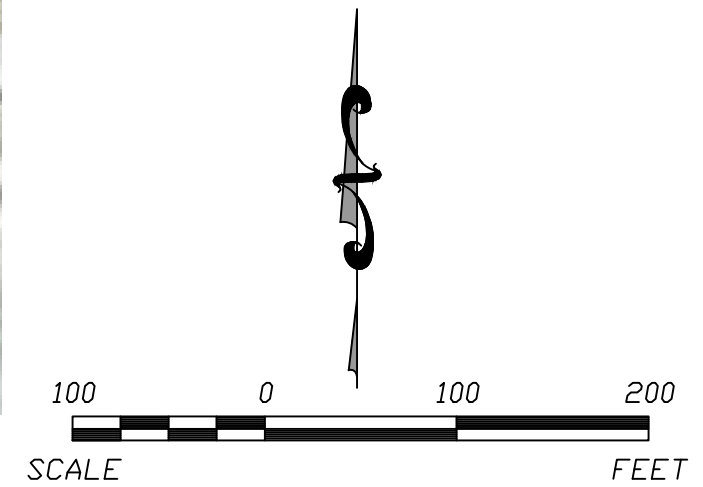
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		POTENTIOMETRIC SURFACE MAP		2017 GROUNDWATER MONITORING AND			
		SLAG SETTLING IMPOUNDMENT (MAY 2016)		CORRECTIVE ACTION REPORT ADDENDUM			
CLIENT							
EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI							
SCS ENGINEERS							
7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012							
PROJ. NO. 27213169.15	DWN. BY RCW	CHK. BY JRF	Q/A BY JRF	PROJ. MGR JRF			
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DATE: 12/13/22							
DRAWING NO. 3							

N:\KCPL\PROJECTS\GROUNDWATER\DWG\SIBLEY\2017\2017 ADDENDUM\SIBLEY POTENTIOMETRIC MAP 2016-8.DWG



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
 - 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON AUGUST 23, 2016

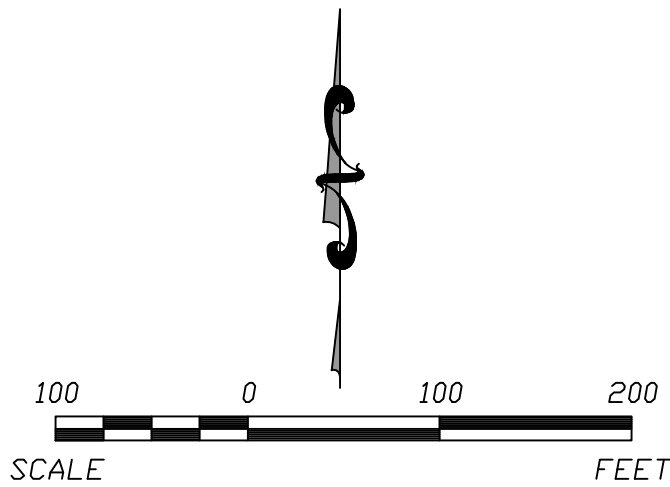


REV.	DATE
SHEET TITLE POTENTIOMETRIC SURFACE MAP	
PROJECT TITLE SLAG SETTLING IMPOUNDMENT (AUGUST 2016)	
CLIENT EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI	
CADD FILE: SIBLEY POTENTIOMETRIC MAP 2016-8.DWG	
DATE: 12/13/22	
DRAWING NO. 4	
PROJ. NO. 27213169.15	Q/A BY: JRF
DRW. BY: RCW	PROJ. MGR: JRF
CHK. BY: JRF	
DES. BY: RCW	



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
 - 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 11, 2016



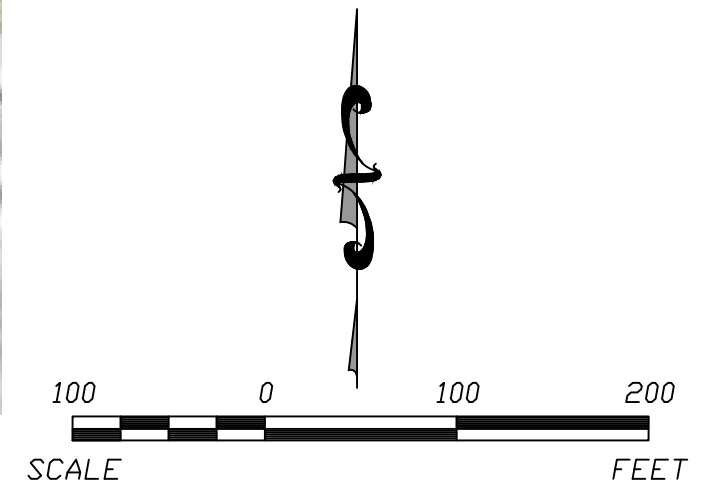
REV.	DATE
SHEET TITLE POTENTIOMETRIC SURFACE MAP	
PROJECT TITLE SLAG SETTLING IMPOUNDMENT (NOVEMBER 2016)	
CLIENT EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI	
PROJECT TITLE 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM	
SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012 PROJ. NO. 27213169.15 DSK. BY: RCW DWG. BY: RCW CHK. BY: JRF Q/A BY: JRF PROJ. MGR: JRF	
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DATE: 12/13/22	
DRAWING NO. 5	

N:\KCPL\PROJECTS\GROUNDWATER\DWG\SIBLEY\2017\2017 ADDENDUM\SIBLEY POTENTIOMETRIC MAP 2017-2.DWG



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
 - 875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - ← 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON FEBRUARY 8, 2017



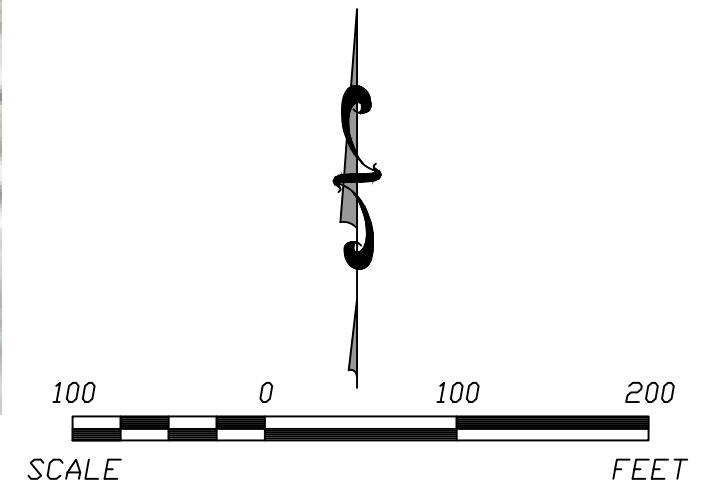
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CLIENT EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI								
SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012		DWG. BY: RCW CHK. BY: JRF	Q/A BY: JRF PROJ. MGR: JRF	CADD FILE: SIBLEY POTENTIOMETRIC MAP 2017-2.DWG				DATE: 12/13/22
PROJ. NO. 27213169.15		DRAWING NO. <div style="font-size: 2em; font-weight: bold; text-align: center;">6</div>						

N:\KCPL\PROJECTS\GROUNDWATER\DWG\SIBLEY\2017\2017 ADDENDUM\SIBLEY POTENTIOMETRIC MAP 2017-5.DWG



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 (869.52) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
 - 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
 - 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

- NOTES:**
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 2. VERTICAL DATUM: NAVD 83
 3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 3, 2017



REV.		DATE	
SHEET TITLE		PROJECT TITLE	
POTENTIOMETRIC SURFACE MAP		2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM	
SLAG SETTLING IMPOUNDMENT (MAY 2017)			
CLIENT			
EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI			
SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012			
PROJ. NO. 27213169.15	DRAW. BY RCW	CHK. BY JRF	Q/A BY JRF
CADD FILE: SIBLEY POTENTIOMETRIC MAP 2017-5.DWG			
DATE: 12/13/22			
DRAWING NO. 7			

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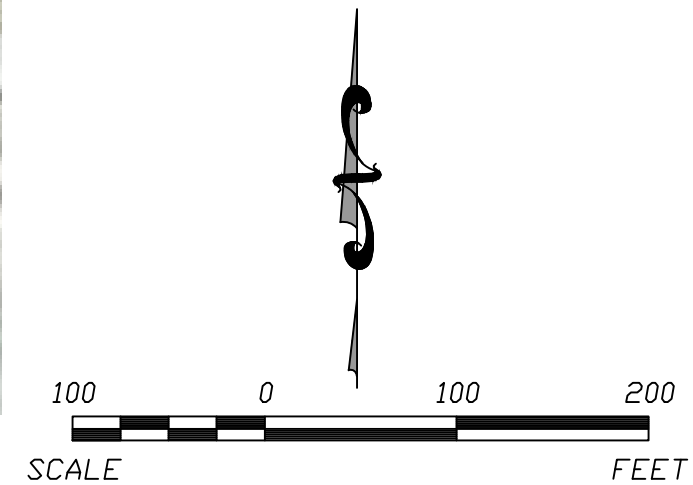


LEGEND:

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
- 875- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
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NOTES:

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3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
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SHEET TITLE POTENTIOMETRIC SURFACE MAP SLAG SETTLING IMPOUNDMENT (AUGUST 2017)		REV.	DATE
PROJECT TITLE 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM			
CLIENT EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI			
SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012		DWG. BY: RCW CHK. BY: JRF	Q/A BY: JRF PROJ. MGR: JRF
CADD FILE: SIBLEY POTENTIOMETRIC MAP 2017-8.DWG			
DATE: 12/13/22			
DRAWING NO. 8			

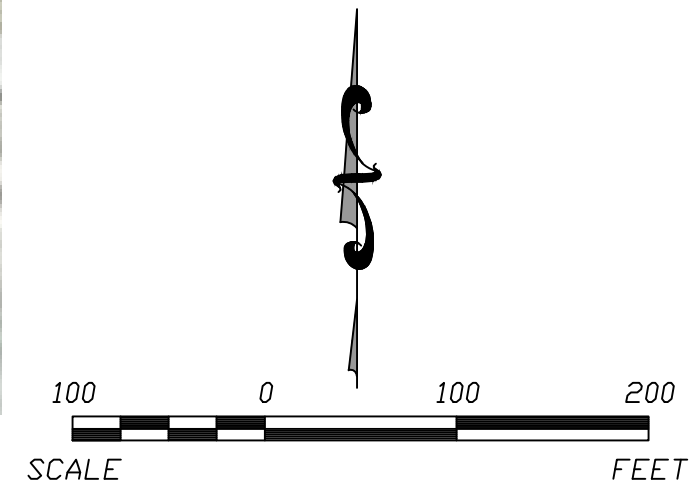


LEGEND:

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
- 875 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

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2. VERTICAL DATUM: NAVD 83
3. BING AERIAL IMAGE DATED 2017. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON OCTOBER 3, 2017

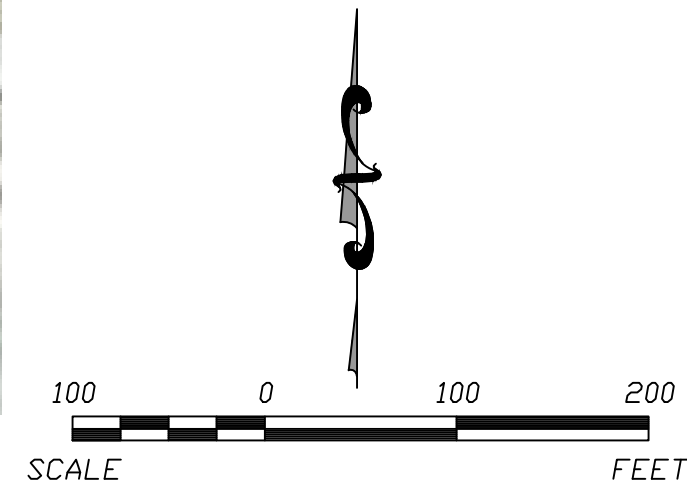


REV.	DATE	SHEET TITLE		PROJECT TITLE			
		POTENTIOMETRIC SURFACE MAP		2017 GROUNDWATER MONITORING AND			
		SLAG SETTLING IMPOUNDMENT (OCTOBER 2017)		CORRECTIVE ACTION REPORT ADDENDUM			
CLIENT							
EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI							
SCS ENGINEERS							
7311 W. 130th St. Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012							
PROJ. NO. 27213169.15	DWG. BY RCW	CHK. BY JRF	Q/A BY JRF	PROJ. MGR. JRF			
CADD FILE: SIBLEY POTENTIOMETRIC MAP 2017-10.DWG							
DATE: 12/13/22							
DRAWING NO. 9							



- LEGEND:**
- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
 - MW-704 CCR GROUNDWATER MONITORING SYSTEM WELLS (869.52) (GROUNDWATER ELEVATION)
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- NOTES:**
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 4. BOUNDARY AND MONITOR LOCATIONS PROVIDED BY AECOM
 5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 17, 2017



REV.	DATE
SHEET TITLE POTENTIOMETRIC SURFACE MAP SLAG SETTLING IMPOUNDMENT (NOVEMBER 2017)	
PROJECT TITLE 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM	
CLIENT EVERGY MISSOURI WEST, INC. SIBLEY UTILITY WASTE LANDFILL SIBLEY, MISSOURI	
SCS ENGINEERS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 681-0030 FAX. (913) 681-0012 PROJ. NO. 27213169.15 DSK. BY: RCW DWG. BY: RCW CHK. BY: JRF Q/A BY: JRF PROJ. MGR: JRF	
CADD FILE: SIBLEY POTENTIOMETRIC MAP 2017-11.DWG	
DATE: 12/13/22	
DRAWING NO. 10	