

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

**CCR LANDFILL
MONTROSE GENERATING STATION
CLINTON, MISSOURI**

Presented To:

Kansas City Power & Light Company

Presented By:

SCS ENGINEERS
7311 West 130th Street, Suite 100
Overland Park, Kansas 66213
(913) 681-0030

January 30, 2018
Revision 1: December 20, 2022
File Number 27213168.17

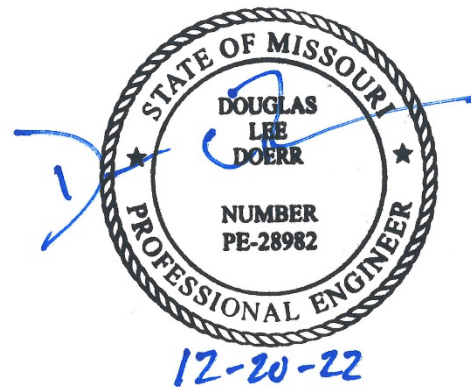
CERTIFICATIONS

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 CCR Landfill at the Montrose 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 CCR Landfill at the Montrose 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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Addendum 1 2017 Annual Groundwater Monitoring and Corrective Action Addendum 1

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 CCR Landfill at the Montrose 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 CCR Landfill and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Landfill 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 CCR Landfill 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. Statistical evaluation of the data was still in process as of the end of 2017.

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 Montrose 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 for specific application to the Montrose Generating Station CCR Landfill. No warranties, express or implied, are intended or made.

APPENDIX A

FIGURES

Figure 1: Site Map

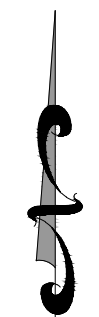
N:\KCP\PROJECTS\GROUNDWATER\DWG\MONTROSE\2017\ANNUAL CCR REPORTING\FIGURE 1_MONT LF.DWG



- LEGEND:**
- PERMITTED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
 - CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
 - ▲ MW-602 CCR GROUNDWATER MONITORING SYSTEM WELLS
 - ASH IMPOUNDMENT UNIT BOUNDARY (APPROXIMATE)

- NOTES:**
1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
 2. VERTICAL DATUM: NAVD 88

3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM



CK BY							
REV.	DATE						
SHEET TITLE		SITE MAP CCR LANDFILL CCR GROUNDWATER MONITORING SYSTEM					
PROJECT TITLE		2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT					
CLIENT		KANSAS CITY POWER & LIGHT COMPANY MONTRÖSE GENERATING STATION MONTRÖSE, MISSOURI					
SCS ENGINEERS		ENVIRONMENTAL CONSULTANTS AND CONTRACTORS 7311 W. 130th St, Ste. 100 Overland Park, Kansas 66213 PH. (913) 881-0030 FAX. (913) 881-0012					
PROJ. NO.	DRAW. BY	CHK. BY	RCW	JRR	O/A RW BY	JRR	PROJ. MGR.
27213168-17	RCW	JRR	JRR	JRR	JRR	JRR	JRR
CADD FILE:		FIGURE 1_MONT LF.DWG					
DATE:		1/12/2018					
FIGURE NO.		1					

APPENDIX B

TABLES

Table 1: Appendix III and Appendix IV Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 2
CCR Landfill
Detection Monitoring Field Measurements
KCP&L Montrose 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-506	12/16/2015	5.11	4140	13.12	14.5	4.01	757.89
MW-506	2/16/2016	5.56	4040	10.88	25.9	4.20	757.70
MW-506	5/23/2016	5.47	3460	19.00	0.0	3.83	758.07
MW-506	8/22/2016	5.57	3580	18.90	0.0	6.30	755.60
MW-506	11/8/2016	6.04	3290	18.39	28.7	6.69	755.21
MW-506	2/7/2017	9.26	3650	13.90	13.7	4.91	756.99
MW-506	5/1/2017	5.51	3350	12.24	0.8	2.94	758.96
MW-506	7/31/2017	5.51	3050	17.97	2.0	5.52	756.38
MW-506	10/2/2017	5.59	2810	18.69	10.9	6.74	755.16
MW-506	11/15/2017	**5.58	2900	17.81	4.8	6.61	754.96
MW-601	12/16/2015	5.12	4830	13.65	74.0	10.22	754.89
MW-601	2/16/2016	5.73	4960	11.49	39.2	9.56	755.55
MW-601	5/23/2016	5.58	4260	22.74	0.0	9.64	755.47
MW-601	8/22/2016	5.44	4550	19.30	0.0	11.27	753.84
MW-601	11/8/2016	5.26	4990	17.48	1.6	11.51	753.60
MW-601	2/7/2017	5.41	4630	14.30	21.9	11.16	753.95
MW-601	5/2/2017	5.45	4750	15.98	46.1	9.00	756.11
MW-601	7/31/2017	5.44	4670	18.05	11.3	10.85	754.26
MW-601	10/2/2017	5.61	4520	17.13	11.0	11.91	753.20
MW-601	11/15/2017	**5.49	4190	16.56	4.4	11.91	753.20
MW-602	12/16/2015	5.93	2530	12.47	4.1	5.63	750.23
MW-602	2/16/2016	5.78	2540	12.33	9.8	5.85	750.01
MW-602	5/23/2016	7.05	2040	18.64	7.8	5.34	750.52
MW-602	8/22/2016	5.74	2180	17.65	2.2	5.17	750.69
MW-602	11/7/2016	5.99	2360	17.55	3.0	3.83	752.03
MW-602	2/7/2017	6.62	2470	14.44	3.7	3.86	752.00
MW-602	5/2/2017	5.81	2270	14.92	1.9	3.62	752.24
MW-602	7/31/2017	5.87	2200	17.64	0.2	3.96	751.90
MW-602	10/2/2017	5.86	2230	19.18	5.1	4.42	751.44
MW-602	11/15/2017	5.87	2050	16.55	1.5	4.20	751.66
MW-602	12/29/2017	**5.74	1920	14.28	9.3	4.29	751.57
MW-603	12/16/2015	4.58	3750	13.04	10.1	13.97	749.67
MW-603	2/16/2016	4.29	3770	12.92	25.0	14.10	749.54
MW-603	5/23/2016	4.98	3160	19.18	0.0	13.50	750.14
MW-603	8/22/2016	4.65	3620	16.97	0.0	13.26	750.38
MW-603	11/7/2016	4.48	3650	18.55	0.0	11.84	751.80
MW-603	2/7/2017	4.44	3410	14.08	0.3	11.78	751.86
MW-603	5/2/2017	4.60	3510	14.76	0.0	11.42	752.22
MW-603	7/31/2017	5.13	3140	19.26	1.4	11.83	751.81
MW-603	10/2/2017	4.48	3350	19.01	3.0	12.05	751.59
MW-603	11/15/2017	4.44	3140	16.77	3.2	11.91	751.73
MW-603	12/29/2017	**4.43	3000	15.19	7.1	12.01	751.63
MW-604	12/16/2015	5.79	3430	12.20	5.6	14.14	749.25
MW-604	2/16/2016	5.51	3460	12.99	13.2	14.05	749.34
MW-604	5/23/2016	6.30	2820	20.18	1.0	13.45	749.94
MW-604	8/22/2016	5.67	2870	16.71	4.4	13.13	750.26
MW-604	11/7/2016	6.04	3110	19.02	0.0	11.61	751.78
MW-604	2/7/2017	6.10	2810	14.98	4.1	11.59	751.80
MW-604	5/2/2017	5.72	3000	15.25	1.0	11.55	751.84
MW-604	7/31/2017	5.82	2590	18.01	0.0	11.55	751.84
MW-604	10/2/2017	5.72	2720	20.86	0.9	11.84	751.55
MW-604	11/15/2017	**5.73	2540	17.08	0.5	11.75	751.64
MW-605	12/17/2015	5.57	3560	11.26	21.6	14.10	750.01
MW-605	2/16/2016	5.34	3510	12.95	12.2	14.10	750.01
MW-605	5/23/2016	6.11	2800	20.18	0.0	13.42	750.69
MW-605	8/22/2016	5.42	3110	17.32	0.0	13.25	750.86
MW-605	11/7/2016	5.49	3340	19.43	0.0	11.93	752.18
MW-605	2/7/2017	5.58	3190	13.77	0.3	11.98	752.13
MW-605	5/2/2017	5.58	3260	15.38	0.0	11.96	752.15
MW-605	7/31/2017	5.55	3080	18.04	0.0	11.84	752.27
MW-605	10/2/2017	5.58	3110	21.39	0.8	12.10	752.01
MW-605	11/15/2017	**5.55	2930	17.29	0.0	12.05	752.06

* 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
--- Not Sampled

Addendum 1

2017 Annual Groundwater Monitoring and Corrective Action Addendum 1

December 20, 2022
File No. 27213168.17

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 Metro, Inc.
CCR Landfill
Montrose Generating Station – Clinton, Missouri



The CCR Landfill at the Montrose 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 CCR Landfill 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 2016, the Appendix III and Appendix IV background data collected in 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.
- July 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 and data validation re-analysis report.
- November 2017 – First verification sampling for the Fall 2017 detection monitoring sampling event.
- December 2017 – Second 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.
- July 2017 - Eighth background sampling event.
- October 2017 – Ninth background sampling event and Fall semiannual detection monitoring sampling event.
- November 2017 – First verification sampling 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: L808118
Samples Received: 12/19/2015
Project Number: 27213168.15
Description: KCPL - Montrose 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.



¹Cp: Cover Page	1	
²Tc: Table of Contents	2	
³Ss: Sample Summary	3	
⁴Cn: Case Narrative	6	
⁵Sr: Sample Results	7	
506 L808118-06	7	
DUPLICATE L808118-10	8	
601 L808118-11	9	
602 L808118-12	10	
603 L808118-13	11	
604 L808118-14	12	
605 L808118-15	13	
701 L808118-16	14	
702 L808118-17	15	
703 L808118-18	16	
704 L808118-19	17	
705 L808118-20	18	
706 L808118-21	19	
⁶Qc: Quality Control Summary	20	
Gravimetric Analysis by Method 2540 C-2011	20	
Wet Chemistry by Method 9056A	24	
Mercury by Method 7470A	26	
Metals (ICP) by Method 6010B	28	
Metals (ICPMS) by Method 6020	30	
⁷Gl: Glossary of Terms	32	
⁸Al: Accreditations & Locations	33	
⁹Sc: Chain of Custody	34	

SAMPLE SUMMARY



506 L808118-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837791	1	12/23/15 12:46	12/23/15 13:09	JER
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:05	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:04	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 18:44	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/23/15 21:42	12/23/15 21:42	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 07:58	12/24/15 07:58	DJD

Collected by
Whit Martin

Collected date/time
12/16/15 14:30

Received date/time
12/19/15 09:00

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

DUPLICATE L808118-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837791	1	12/23/15 12:46	12/23/15 13:09	JER
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:20	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:16	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 18:53	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/23/15 22:38	12/23/15 22:38	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 20:08	12/24/15 20:08	DJD

Collected by
Whit Martin

Collected date/time
12/16/15 14:20

Received date/time
12/19/15 09:00

601 L808118-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837791	1	12/23/15 12:46	12/23/15 13:09	JER
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:22	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:19	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 18:55	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/23/15 22:52	12/23/15 22:52	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 20:22	12/24/15 20:22	DJD

Collected by
Whit Martin

Collected date/time
12/16/15 13:30

Received date/time
12/19/15 09:00

602 L808118-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837791	1	12/23/15 12:46	12/23/15 13:09	JER
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:25	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:23	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 18:58	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/23/15 23:34	12/23/15 23:34	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 21:04	12/24/15 21:04	DJD

Collected by
Whit Martin

Collected date/time
12/16/15 11:50

Received date/time
12/19/15 09:00

603 L808118-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG837792	1	12/23/15 05:09	12/23/15 05:27	JM
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:27	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:26	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:00	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/23/15 23:48	12/23/15 23:48	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 21:18	12/24/15 21:18	DJD

Collected by
Whit Martin

Collected date/time
12/16/15 13:25

Received date/time
12/19/15 09:00

SAMPLE SUMMARY



604 L808118-14 GW

						Collected by	Collected date/time	Received date/time
						Whit Martin	12/16/15 15:45	12/19/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG837792	1	12/23/15 05:09	12/23/15 05:27	JM			
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:30	TRB			
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:29	WBD			
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:02	LAT			
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 00:02	12/24/15 00:02	DJD			
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 21:32	12/24/15 21:32	DJD			

1
Cp

2
Tc

3
Ss

4
Cn

605 L808118-15 GW

						Collected by	Collected date/time	Received date/time
						Whit Martin	12/17/15 11:30	12/19/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG837804	1	12/23/15 13:02	12/23/15 13:49	MF			
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:32	TRB			
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:38	WBD			
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:10	LAT			
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 00:15	12/24/15 00:15	DJD			
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 21:46	12/24/15 21:46	DJD			

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

701 L808118-16 GW

						Collected by	Collected date/time	Received date/time
						Whit Martin	12/16/15 16:35	12/19/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG837792	1	12/23/15 05:09	12/23/15 05:27	JM			
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:35	TRB			
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:42	WBD			
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:12	LAT			
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 00:29	12/24/15 00:29	DJD			
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 08:11	12/24/15 08:11	DJD			

702 L808118-17 GW

						Collected by	Collected date/time	Received date/time
						Whit Martin	12/17/15 10:15	12/19/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG838121	1	12/24/15 09:16	12/24/15 09:48	MF			
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:37	TRB			
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:45	WBD			
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:15	LAT			
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 00:43	12/24/15 00:43	DJD			
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 08:25	12/24/15 08:25	DJD			

703 L808118-18 GW

						Collected by	Collected date/time	Received date/time
						Whit Martin	12/17/15 12:25	12/19/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG838121	1	12/24/15 09:16	12/24/15 09:48	MF			
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:39	TRB			
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:48	WBD			
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:17	LAT			
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 00:57	12/24/15 00:57	DJD			
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 21:59	12/24/15 21:59	DJD			

SAMPLE SUMMARY



704 L808118-19 GW

Collected by
Whit Martin Collected date/time
12/17/15 13:15 Received date/time
12/19/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG838121	1	12/24/15 09:16	12/24/15 09:48	MF
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:47	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:51	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:20	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 01:11	12/24/15 01:11	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 22:13	12/24/15 22:13	DJD

1
Cp

2
Tc

3
Ss

4
Cn

705 L808118-20 GW

Collected by
Whit Martin Collected date/time
12/17/15 12:25 Received date/time
12/19/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG838121	1	12/24/15 09:16	12/24/15 09:48	MF
Mercury by Method 7470A	WG837859	1	12/23/15 08:43	12/23/15 17:49	TRB
Metals (ICP) by Method 6010B	WG837609	1	12/23/15 11:40	12/24/15 17:54	WBD
Metals (ICPMS) by Method 6020	WG837589	1	12/23/15 11:04	12/29/15 19:22	LAT
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 01:25	12/24/15 01:25	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 22:27	12/24/15 22:27	DJD

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

706 L808118-21 GW

Collected by
Whit Martin Collected date/time
12/17/15 14:10 Received date/time
12/19/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG838121	1	12/24/15 09:16	12/24/15 09:48	MF
Mercury by Method 7470A	WG837884	1	12/23/15 08:40	12/23/15 16:23	TRB
Metals (ICP) by Method 6010B	WG838266	1	12/24/15 13:09	12/27/15 21:07	LTB
Metals (ICPMS) by Method 6020	WG837891	5	12/23/15 12:33	12/29/15 22:07	ST
Wet Chemistry by Method 9056A	WG837786	1	12/24/15 02:07	12/24/15 02:07	DJD
Wet Chemistry by Method 9056A	WG837786	50	12/24/15 23:09	12/24/15 23:09	DJD



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	3540000		10000	1	12/23/2015 13:09	WG837791

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	92400		1000	1	12/23/2015 21:42	WG837786
Fluoride	120		100	1	12/23/2015 21:42	WG837786
Sulfate	2290000		250000	50	12/24/2015 07:58	WG837786

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 17:05	WG837859

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	14.2		5.00	1	12/24/2015 17:04	WG837609
Boron	ND		200	1	12/24/2015 17:04	WG837609
Calcium	479000		1000	1	12/24/2015 17:04	WG837609
Chromium	ND		10.0	1	12/24/2015 17:04	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:04	WG837609

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	12/29/2015 18:44	WG837589
Arsenic	ND		2.00	1	12/29/2015 18:44	WG837589
Beryllium	ND		2.00	1	12/29/2015 18:44	WG837589
Cadmium	ND		1.00	1	12/29/2015 18:44	WG837589
Lead	ND		2.00	1	12/29/2015 18:44	WG837589
Selenium	9.76		2.00	1	12/29/2015 18:44	WG837589
Thallium	ND		2.00	1	12/29/2015 18:44	WG837589



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2640000		10000	1	12/23/2015 13:09	WG837791

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	10800		1000	1	12/23/2015 22:38	WG837786
Fluoride	427		100	1	12/23/2015 22:38	WG837786
Sulfate	2020000		250000	50	12/24/2015 20:08	WG837786

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 17:20	WG837859

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	13.7		5.00	1	12/24/2015 17:16	WG837609
Boron	4660		200	1	12/24/2015 17:16	WG837609
Calcium	422000		1000	1	12/24/2015 17:16	WG837609
Chromium	ND		10.0	1	12/24/2015 17:16	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:16	WG837609

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 18:53	WG837589
Arsenic	ND		2.00	1	12/29/2015 18:53	WG837589
Beryllium	ND		2.00	1	12/29/2015 18:53	WG837589
Cadmium	1.19		1.00	1	12/29/2015 18:53	WG837589
Lead	ND		2.00	1	12/29/2015 18:53	WG837589
Selenium	ND		2.00	1	12/29/2015 18:53	WG837589
Thallium	ND		2.00	1	12/29/2015 18:53	WG837589



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	4470000		10000	1	12/23/2015 13:09	WG837791

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	52500		1000	1	12/23/2015 22:52	WG837786
Fluoride	450		100	1	12/23/2015 22:52	WG837786
Sulfate	3430000		250000	50	12/24/2015 20:22	WG837786

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 17:22	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	20.1		5.00	1	12/24/2015 17:19	WG837609
Boron	ND		200	1	12/24/2015 17:19	WG837609
Calcium	469000		1000	1	12/24/2015 17:19	WG837609
Chromium	ND		10.0	1	12/24/2015 17:19	WG837609
Cobalt	16.6		10.0	1	12/24/2015 17:19	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 18:55	WG837589
Arsenic	ND		2.00	1	12/29/2015 18:55	WG837589
Beryllium	ND		2.00	1	12/29/2015 18:55	WG837589
Cadmium	1.55		1.00	1	12/29/2015 18:55	WG837589
Lead	ND		2.00	1	12/29/2015 18:55	WG837589
Selenium	5.07		2.00	1	12/29/2015 18:55	WG837589
Thallium	ND		2.00	1	12/29/2015 18:55	WG837589

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	2100000		10000	1	12/23/2015 13:09	WG837791

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4480		1000	1	12/23/2015 23:34	WG837786
Fluoride	148		100	1	12/23/2015 23:34	WG837786
Sulfate	1540000		250000	50	12/24/2015 21:04	WG837786

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 17:25	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	23.3		5.00	1	12/24/2015 17:23	WG837609
Boron	5080		200	1	12/24/2015 17:23	WG837609
Calcium	373000		1000	1	12/24/2015 17:23	WG837609
Chromium	ND		10.0	1	12/24/2015 17:23	WG837609
Cobalt	114		10.0	1	12/24/2015 17:23	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 18:58	WG837589
Arsenic	5.56		2.00	1	12/29/2015 18:58	WG837589
Beryllium	ND		2.00	1	12/29/2015 18:58	WG837589
Cadmium	ND		1.00	1	12/29/2015 18:58	WG837589
Lead	ND		2.00	1	12/29/2015 18:58	WG837589
Selenium	ND		2.00	1	12/29/2015 18:58	WG837589
Thallium	ND		2.00	1	12/29/2015 18:58	WG837589

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 12/16/15 13:25

L808118

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2940000		10000	1	12/23/2015 05:27	WG837792

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7330		1000	1	12/23/2015 23:48	WG837786
Fluoride	673		100	1	12/23/2015 23:48	WG837786
Sulfate	2440000		250000	50	12/24/2015 21:18	WG837786

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 17:27	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	17.0		5.00	1	12/24/2015 17:26	WG837609
Boron	6280		200	1	12/24/2015 17:26	WG837609
Calcium	444000		1000	1	12/24/2015 17:26	WG837609
Chromium	ND		10.0	1	12/24/2015 17:26	WG837609
Cobalt	46.7		10.0	1	12/24/2015 17:26	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 19:00	WG837589
Arsenic	ND		2.00	1	12/29/2015 19:00	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:00	WG837589
Cadmium	3.85		1.00	1	12/29/2015 19:00	WG837589
Lead	ND		2.00	1	12/29/2015 19:00	WG837589
Selenium	10.4		2.00	1	12/29/2015 19:00	WG837589
Thallium	ND		2.00	1	12/29/2015 19:00	WG837589

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	2820000		10000	1	12/23/2015 05:27	WG837792

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15600		1000	1	12/24/2015 00:02	WG837786
Fluoride	515		100	1	12/24/2015 00:02	WG837786
Sulfate	2060000		250000	50	12/24/2015 21:32	WG837786

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 17:30	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	17.1		5.00	1	12/24/2015 17:29	WG837609
Boron	4620		200	1	12/24/2015 17:29	WG837609
Calcium	454000		1000	1	12/24/2015 17:29	WG837609
Chromium	ND		10.0	1	12/24/2015 17:29	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:29	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 19:02	WG837589
Arsenic	ND		2.00	1	12/29/2015 19:02	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:02	WG837589
Cadmium	1.16		1.00	1	12/29/2015 19:02	WG837589
Lead	ND		2.00	1	12/29/2015 19:02	WG837589
Selenium	ND		2.00	1	12/29/2015 19:02	WG837589
Thallium	ND		2.00	1	12/29/2015 19:02	WG837589

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	2800000		10000	1	12/23/2015 13:49	WG837804

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	43900		1000	1	12/24/2015 00:15	WG837786
Fluoride	246		100	1	12/24/2015 00:15	WG837786
Sulfate	2180000		250000	50	12/24/2015 21:46	WG837786

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 17:32	WG837859

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	12.7		5.00	1	12/24/2015 17:38	WG837609
Boron	2020		200	1	12/24/2015 17:38	WG837609
Calcium	427000		1000	1	12/24/2015 17:38	WG837609
Chromium	ND		10.0	1	12/24/2015 17:38	WG837609
Cobalt	40.1		10.0	1	12/24/2015 17:38	WG837609

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 19:10	WG837589
Arsenic	ND		2.00	1	12/29/2015 19:10	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:10	WG837589
Cadmium	1.89		1.00	1	12/29/2015 19:10	WG837589
Lead	ND		2.00	1	12/29/2015 19:10	WG837589
Selenium	ND		2.00	1	12/29/2015 19:10	WG837589
Thallium	ND		2.00	1	12/29/2015 19:10	WG837589



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	3830000		10000	1	12/23/2015 05:27	WG837792

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	687000		50000	50	12/24/2015 08:11	WG837786
Fluoride	1400		100	1	12/24/2015 00:29	WG837786
Sulfate	2060000		250000	50	12/24/2015 08:11	WG837786

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	12/23/2015 17:35	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	17.4		5.00	1	12/24/2015 17:42	WG837609
Boron	ND		200	1	12/24/2015 17:42	WG837609
Calcium	498000		1000	1	12/24/2015 17:42	WG837609
Chromium	ND		10.0	1	12/24/2015 17:42	WG837609
Cobalt	90.5		10.0	1	12/24/2015 17:42	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	12/29/2015 19:12	WG837589
Arsenic	2.64		2.00	1	12/29/2015 19:12	WG837589
Beryllium	2.82		2.00	1	12/29/2015 19:12	WG837589
Cadmium	7.21		1.00	1	12/29/2015 19:12	WG837589
Lead	6.93		2.00	1	12/29/2015 19:12	WG837589
Selenium	12.9		2.00	1	12/29/2015 19:12	WG837589
Thallium	ND		2.00	1	12/29/2015 19:12	WG837589

- 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	3320000		10000	1	12/24/2015 09:48	WG838121

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	373000		50000	50	12/24/2015 08:25	WG837786
Fluoride	329		100	1	12/24/2015 00:43	WG837786
Sulfate	1830000		250000	50	12/24/2015 08:25	WG837786

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 17:37	WG837859

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	22.8		5.00	1	12/24/2015 17:45	WG837609
Boron	ND		200	1	12/24/2015 17:45	WG837609
Calcium	522000		1000	1	12/24/2015 17:45	WG837609
Chromium	ND		10.0	1	12/24/2015 17:45	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:45	WG837609

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	12/29/2015 19:15	WG837589
Arsenic	4.34		2.00	1	12/29/2015 19:15	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:15	WG837589
Cadmium	ND		1.00	1	12/29/2015 19:15	WG837589
Lead	2.51		2.00	1	12/29/2015 19:15	WG837589
Selenium	ND		2.00	1	12/29/2015 19:15	WG837589
Thallium	ND		2.00	1	12/29/2015 19:15	WG837589



Collected date/time: 12/17/15 12:25

L808118

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1350000		10000	1	12/24/2015 09:48	WG838121

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	22400		1000	1	12/24/2015 00:57	WG837786
Fluoride	343		100	1	12/24/2015 00:57	WG837786
Sulfate	996000		250000	50	12/24/2015 21:59	WG837786

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 17:39	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	51.1		5.00	1	12/24/2015 17:48	WG837609
Boron	ND		200	1	12/24/2015 17:48	WG837609
Calcium	199000		1000	1	12/24/2015 17:48	WG837609
Chromium	ND		10.0	1	12/24/2015 17:48	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:48	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 19:17	WG837589
Arsenic	2.78		2.00	1	12/29/2015 19:17	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:17	WG837589
Cadmium	ND		1.00	1	12/29/2015 19:17	WG837589
Lead	ND		2.00	1	12/29/2015 19:17	WG837589
Selenium	ND		2.00	1	12/29/2015 19:17	WG837589
Thallium	ND		2.00	1	12/29/2015 19:17	WG837589

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	1150000		10000	1	12/24/2015 09:48	WG838121

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	10700		1000	1	12/24/2015 01:11	WG837786
Fluoride	365		100	1	12/24/2015 01:11	WG837786
Sulfate	918000		250000	50	12/24/2015 22:13	WG837786

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 17:47	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	67.7		5.00	1	12/24/2015 17:51	WG837609
Boron	ND		200	1	12/24/2015 17:51	WG837609
Calcium	157000		1000	1	12/24/2015 17:51	WG837609
Chromium	ND		10.0	1	12/24/2015 17:51	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:51	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 19:20	WG837589
Arsenic	13.2		2.00	1	12/29/2015 19:20	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:20	WG837589
Cadmium	ND		1.00	1	12/29/2015 19:20	WG837589
Lead	ND		2.00	1	12/29/2015 19:20	WG837589
Selenium	ND		2.00	1	12/29/2015 19:20	WG837589
Thallium	ND		2.00	1	12/29/2015 19:20	WG837589

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	1250000		10000	1	12/24/2015 09:48	WG838121

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9510		1000	1	12/24/2015 01:25	WG837786
Fluoride	246		100	1	12/24/2015 01:25	WG837786
Sulfate	764000		250000	50	12/24/2015 22:27	WG837786

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 17:49	WG837859

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	78.7		5.00	1	12/24/2015 17:54	WG837609
Boron	212		200	1	12/24/2015 17:54	WG837609
Calcium	173000		1000	1	12/24/2015 17:54	WG837609
Chromium	11.5		10.0	1	12/24/2015 17:54	WG837609
Cobalt	ND		10.0	1	12/24/2015 17:54	WG837609

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	12/29/2015 19:22	WG837589
Arsenic	9.35		2.00	1	12/29/2015 19:22	WG837589
Beryllium	ND		2.00	1	12/29/2015 19:22	WG837589
Cadmium	ND		1.00	1	12/29/2015 19:22	WG837589
Lead	9.42		2.00	1	12/29/2015 19:22	WG837589
Selenium	ND		2.00	1	12/29/2015 19:22	WG837589
Thallium	ND		2.00	1	12/29/2015 19:22	WG837589

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	1770000		10000	1	12/24/2015 09:48	WG838121

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	30700		1000	1	12/24/2015 02:07	WG837786
Fluoride	235		100	1	12/24/2015 02:07	WG837786
Sulfate	1070000		250000	50	12/24/2015 23:09	WG837786

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 16:23	WG837884

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	44.8		5.00	1	12/27/2015 21:07	WG838266
Boron	ND		200	1	12/27/2015 21:07	WG838266
Calcium	264000		1000	1	12/27/2015 21:07	WG838266
Chromium	ND		10.0	1	12/27/2015 21:07	WG838266
Cobalt	ND		10.0	1	12/27/2015 21:07	WG838266

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		10.0	5	12/29/2015 22:07	WG837891
Arsenic	ND		10.0	5	12/29/2015 22:07	WG837891
Beryllium	ND		10.0	5	12/29/2015 22:07	WG837891
Cadmium	ND		5.00	5	12/29/2015 22:07	WG837891
Lead	ND		10.0	5	12/29/2015 22:07	WG837891
Selenium	ND		10.0	5	12/29/2015 22:07	WG837891
Thallium	ND		10.0	5	12/29/2015 22:07	WG837891

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3102411-1 12/23/15 13:09

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) L808002-07 12/23/15 13:09 • (DUP) R3102411-4 12/23/15 13:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	5050	5010	1	0.795		5

⁴ Cn

⁵ Sr

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

(LCS) R3102411-2 12/23/15 13:09 • (LCSD) R3102411-3 12/23/15 13:09

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	8540	8530	97.0	96.9	85.0-115			0.117	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102263-1 12/23/15 05:27

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) L808118-16 12/23/15 05:27 • (DUP) R3102263-4 12/23/15 05:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3830	3880	1	1.17		5

⁴ Cn

⁵ Sr

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

(LCS) R3102263-2 12/23/15 05:27 • (LCSD) R3102263-3 12/23/15 05:27

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	8100	8510	92.0	96.7	85.0-115			4.94	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102424-1 12/23/15 13:49

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

⁴ Cn

⁵ Sr

⁶ Qc

Original Sample (OS) • Duplicate (DUP)

(OS) L808003-03 12/23/15 13:49 • (DUP) R3102424-4 12/23/15 13:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	802	830	1	3.43		5

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

(LCS) R3102424-2 12/23/15 13:49 • (LCSD) R3102424-3 12/23/15 13:49

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	8550	8600	97.2	97.7	85.0-115			0.583	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102566-1 12/24/15 09:48

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) L808118-17 12/24/15 09:48 • (DUP) R3102566-4 12/24/15 09:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3320	3280	1	1.21		5

⁴ Cn

⁵ Sr

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

(LCS) R3102566-2 12/24/15 09:48 • (LCSD) R3102566-3 12/24/15 09:48

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 %
Dissolved Solids	8800	8760	8750	99.5	99.4	85.0-115			0.114	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3102585-1 12/23/15 19:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	0.0583		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) L808118-02 12/23/15 20:19 • (DUP) R3102585-4 12/23/15 20:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	24.1	24.2	1	0		15
Fluoride	0.306	0.310	1	1		15

Original Sample (OS) • Duplicate (DUP)

(OS) L808118-21 12/24/15 02:07 • (DUP) R3102585-8 12/24/15 02:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	30.7	30.7	1	0		15
Fluoride	0.235	0.229	1	2		15

Original Sample (OS) • Duplicate (DUP)

(OS) L808118-02 12/24/15 18:03 • (DUP) R3102585-9 12/24/15 18:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	1520	1520	50	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) L808118-21 12/24/15 23:09 • (DUP) R3102585-13 12/24/15 23:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	1070	1070	50	0		15



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

(LCS) R3102585-2 12/23/15 19:23 • (LCSD) R3102585-3 12/23/15 19:37

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 %
Chloride	40.0	39.5	39.5	99	99	80-120			0	15
Fluoride	8.00	7.90	7.91	99	99	80-120			0	15
Sulfate	40.0	39.5	39.5	99	99	80-120			0	15

1 Cp

2 Tc

3 Ss

4 Cn

Original Sample (OS) • Matrix Spike (MS)

(OS) L808118-03 12/23/15 20:47 • (MS) R3102585-5 12/23/15 21:01

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	22.9	73.3	101	1	80-120	
Fluoride	5.00	0.310	5.17	97	1	80-120	

5 Sr

6 Qc

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

(OS) L808118-20 12/24/15 01:25 • (MS) R3102585-6 12/24/15 01:39 • (MSD) R3102585-7 12/24/15 01:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50.0	9.51	59.3	59.7	99	100	1	80-120			1	15
Fluoride	5.00	0.246	5.20	5.24	99	100	1	80-120			1	15

7 Gl

8 Al

9 Sc

Original Sample (OS) • Matrix Spike (MS)

(OS) L808118-03 12/24/15 18:31 • (MS) R3102585-10 12/24/15 18:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Sulfate	50.0	2200	4520	93	50	80-120	

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

(OS) L808118-20 12/24/15 22:27 • (MS) R3102585-11 12/24/15 22:41 • (MSD) R3102585-12 12/24/15 22:55

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 %
Sulfate	50.0	764	3160	3160	96	96	50	80-120			0	15



Method Blank (MB)

(MB) R3102243-1 12/23/15 16:35

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3102243-2 12/23/15 16:38 • (LCSD) R3102243-3 12/23/15 16:40

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	0.00293	0.00303	98	101	80-120			3	20

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

(OS) L808118-04 12/23/15 16:48 • (MS) R3102243-4 12/23/15 16:50 • (MSD) R3102243-5 12/23/15 16:53

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 %
Mercury	0.00300	ND	0.00301	0.00298	100	99	1	75-125			1	20

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

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

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3102651-1 12/24/15 16:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	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) R3102651-2 12/24/15 16:27 • (LCSD) R3102651-3 12/24/15 16:30

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	%	%	%			%	%
Barium	1.00	1.03	1.03	103	103	80-120			0	20
Boron	1.00	1.04	1.06	104	106	80-120			1	20
Calcium	10.0	10.5	10.5	105	105	80-120			0	20
Chromium	1.00	1.03	1.03	103	103	80-120			0	20
Cobalt	1.00	1.05	1.05	105	105	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(OS) L808118-04 12/24/15 16:33 • (MS) R3102651-5 12/24/15 16:39 • (MSD) R3102651-6 12/24/15 16:42

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	%	%		%			%	%
Barium	1.00	0.0133	1.02	1.04	101	102	1	75-125			1	20
Boron	1.00	4.60	5.57	5.61	97	101	1	75-125			1	20
Calcium	10.0	413	428	423	153	104	1	75-125	V		1	20
Chromium	1.00	0.000371	1.01	1.02	100	102	1	75-125			1	20
Cobalt	1.00	0.000621	1.07	1.09	107	109	1	75-125			2	20



Method Blank (MB)

(MB) R3102713-1 12/27/15 20:46

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) R3102713-2 12/27/15 20:49 • (LCSD) R3102713-3 12/27/15 20:52

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	1.06	1.03	106	103	80-120			3	20
Boron	1.00	1.05	1.01	105	101	80-120			3	20
Calcium	10.0	10.2	10.0	102	100	80-120			2	20
Chromium	1.00	1.04	1.01	104	101	80-120			3	20
Cobalt	1.00	1.06	1.04	106	104	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(OS) L808447-06 12/27/15 20:55 • (MS) R3102713-5 12/27/15 21:01 • (MSD) R3102713-6 12/27/15 21:04

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 %
Barium	1.00	0.000847	1.07	1.04	107	104	1	75-125			3	20
Boron	1.00	0.0424	1.10	1.07	105	102	1	75-125			3	20
Calcium	10.0	0.0910	10.5	10.2	104	101	1	75-125			3	20
Chromium	1.00	0.0000426	1.06	1.03	106	103	1	75-125			3	20
Cobalt	1.00	0.000171	1.07	1.04	107	104	1	75-125			3	20



Method Blank (MB)

(MB) R3103309-2 12/29/15 18:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000324		0.00021	0.00200
Arsenic	U		0.00025	0.00200
Beryllium	0.000127		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Lead	0.000241		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) R3103309-3 12/29/15 18:12 • (LCSD) R3103309-4 12/29/15 18:15

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	0.0545	0.0538	109	108	80-120			1	20
Arsenic	0.0500	0.0556	0.0538	111	108	80-120			3	20
Beryllium	0.0500	0.0571	0.0559	114	112	80-120			2	20
Cadmium	0.0500	0.0587	0.0568	117	114	80-120			3	20
Lead	0.0500	0.0545	0.0527	109	105	80-120			3	20
Selenium	0.0500	0.0476	0.0472	95	94	80-120			1	20
Thallium	0.0500	0.0524	0.0520	105	104	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(OS) L808118-04 12/29/15 18:17 • (MS) R3103309-6 12/29/15 18:21 • (MSD) R3103309-7 12/29/15 18:24

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	0.000391	0.0557	0.0543	111	108	1	75-125			3	20
Arsenic	0.0500	0.000863	0.0558	0.0514	110	101	1	75-125			8	20
Beryllium	0.0500	0.0000560	0.0495	0.0492	99	98	1	75-125			1	20
Cadmium	0.0500	0.00119	0.0578	0.0526	113	103	1	75-125			9	20
Lead	0.0500	0.000480	0.0522	0.0521	104	103	1	75-125			0	20
Selenium	0.0500	0.000451	0.0518	0.0519	103	103	1	75-125			0	20
Thallium	0.0500	0.000112	0.0512	0.0516	102	103	1	75-125			1	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
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		

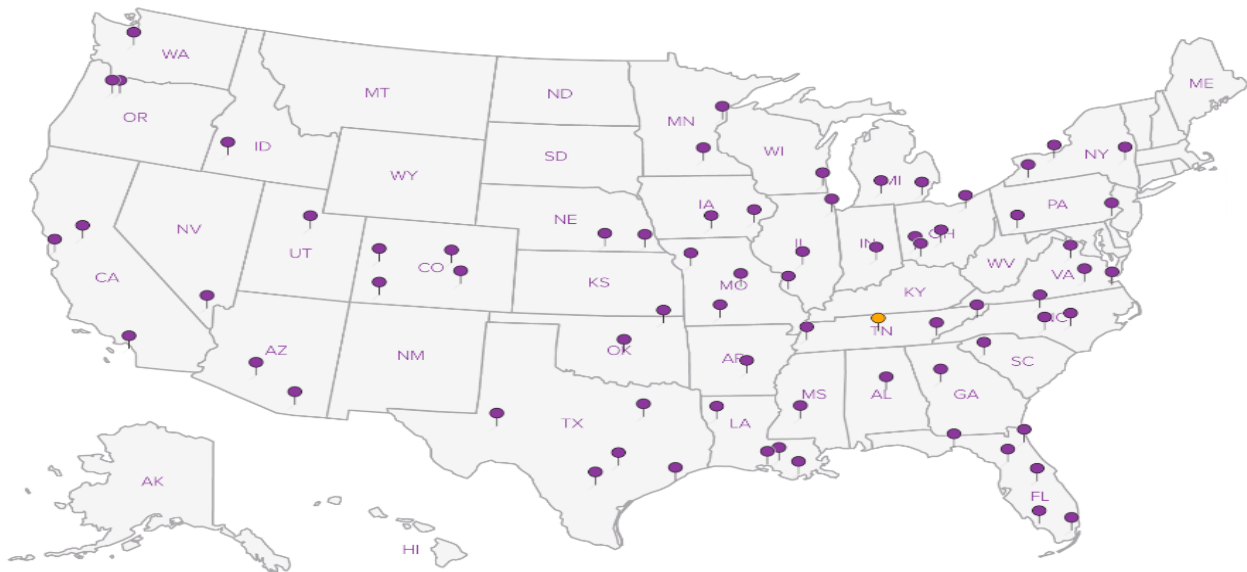
Third Party & Federal Accreditations

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 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: **KCPL - Montrose Generating Station**

City/State Collected:

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

Client Project #
27213168.15

Lab Project #
AQUAOPKS-MONTROSE

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 Day200%
Next Day100%
Two Day50%
Three Day25%

Date Results Needed
Standard
Email? No X Yes
FAX? No Yes

Analysis / Container / Preservative

Chain of Custody Page L of



YOUR LAB OF CHOICE

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



L# *L808118*
A161

Acctnum: AQUAOPKS
Template: T68018
Prelogin: P532648
TSR: 206 - Jeff Carr

PB:
Shipped Via:
Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Liters	Analysis / Container / Preservative						Rem./Contaminant	Sample # (lab only)
							Anions 125mlHDPE-NoPres	COD 250mlHDPE-H2SO4	Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCl	TOX 1L-Amb-Add H2SO4		
501	Grab	GW		12/16/15	1235	6	X	X	X	X	X	X		-01
502	Grab	GW		12/17/15	1315	6	X	X	X	X	X	X		-02
503	Grab	GW		12/16/15	1535	6	X	X	X	X	X	X		-03
504	Grab	GW		12/16/15	1415	6	X	X	X	X	X	X		-04
505	Grab	GW		12/17/15	1135	5	X	X	X	X	X	X		-05
506	Grab	GW		12/16/15	1430	6	X	X	X	X	X	X		-06
507	Grab	GW		12/16/15	1230	6	X	X	X	X	X	X		-07
508	Grab	GW		12/16/15	1145	6	X	X	X	X	X	X		-08
509	Grab	GW		12/17/15	1030	6	X	X	X	X	X	X		-09
DUPLICATE	Grab	GW		12/16/15	1420	6	X	X	X	X	X	X		-10

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

Remarks: Please indicate which sample was used for the MS/MSD.

6503 7156 6959
6503 7156 6992

6503 7156 7028 Temp
6503 7156 7006 Temp
6503 7156 6981 Temp
6503 7156 6970 Temp
6503 7156 6948 Temp

Hold #

Relinquished by: (Signature)

Date: 12/18/15

Time: 1400

Received by: (Signature)

Samples returned via: UPS

FedEx Courier _____

Condition: (lab use only)

Relinquished by: (Signature)

Date: 12/18/15

Time: 1700

Received by: (Signature)

Temp: °C Bottles Received: 3.2 138+6 DITB

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 12/19/15 Time: 0900

pH Checked: <2

NCF:

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: **KCPL - Montrose Generating Station**

City/State
Collected:
Lab Project #
AQUAOPKS-MONTROSE

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

Client Project #
27213168.15

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

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

Date Results Needed
Standard
Email? ___ No **X** Yes
FAX? ___ No ___ Yes

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Ctr	1	2	3	4	5	6	7	8	9	10
504 MS	Grab	GW		12/16/15	1425	6	X	X	X	X	X	X				
504 MSD	Grab	GW		12/16/15	1430	6	X	X	X	X	X	X				

Analysis / Container / Preservative									
Anions 125mlHDPE-NoPres	COD 250mlHDPE-H2SO4	Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCl	TOX 1L-Amb-Add H2SO4				
<2	<2	<2	<2	<2	<2				

Chain of Custody Page 2 of



YOUR LAB OF CHOICE

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L# **L808118**
Table #
Acctnum: **AQUAOPKS**
Template: **T68018**
Prelogin: **P532648**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	-24
	-04

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

Remarks: Please indicate which sample was used for the MS/MSD.

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature) *Whit Martin* Date: **12/18/15** Time: **1400** Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: **12/18/15** Time: **1700** Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____ Received for lab by: (Signature) *[Signature]*

Samples returned via: UPS
 FedEx Courier _____

Temp: _____ °C Bottles Received: **3-2 138+6DITB**

Date: **12/19/15** Time: **0930**

Hold # _____
Condition: (lab use only) **MW OK**

COC Seal Intact: ___ Y ___ N ___ NA
pH Checked: **<2** 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:
KCP&L Montrose CCR

City/State Collected:

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

Client Project #
27213168.15

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #


Collected by (signature):
Whit Martin
 Immediately Packed on Ice N Y

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

Date Results Needed
Standard
 Email? ___ No Yes
 FAX? ___ No ___ Yes


		Analysis / Container / Preservative					
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 250ml/Amb-Septa-HCL
							TOX 1L-Amb-Add H2S04

Chain of Custody Page **4** 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 # **L808118**

Table #

Acctnum: **AQUAOPKS**
 Template: **T68018**
 Prelogin: **P532648**
 TSR: **206-jeff Carr**
 Cooler:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	-11
	-12
	-13
	-14
	-15
	-16
	-17
	-18
	-19
	-20

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 250ml/Amb-Septa-HCL	TOX 1L-Amb-Add H2S04
601	Grab	GW		12/16/15	1330	6	X	X	X	X	X	X
602	Grab	GW		12/16/15	1150	6	X	X	X	X	X	X
603	Grab	GW		12/16/15	1325	6	X	X	X	X	X	X
604	Grab	GW		12/16/15	1545	6	X	X	X	X	X	X
605	Grab	GW		12/17/15	1130	6	X	X	X	X	X	X
701	Grab	GW		12/16/15	1635	6	X	X	X	X	X	X
702	Grab	GW		12/17/15	1015	6	X	X	X	X	X	X
703	Grab	GW		12/17/15	1225	6	X	X	X	X	X	X
704	Grab	GW		12/17/15	1315	6	X	X	X	X	X	X
705	Grab	GW		12/17/15	1225	6	X	X	X	X	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: 12/18/15	Time: 1400	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>m</i> <i>OK</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 12/18/15	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: _____ °C Bottles Received: 32 138+6 DITB	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 12/19/15 Time: 0930	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:
KCP&L Montrose CCR

City/State Collected:

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

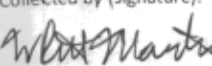
Client Project #
27213168.15

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):

 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
Standard

Email? No Yes
 FAX? No Yes

Analysis / Container / Preservative							
Anions 125ml HDPE-NoPres							
	<<	COD 250ml HDPE-H2S04					
	<<	Metals 500ml HDPE-HN03					
	<<	TDS 250ml HDPE-NoPres					
	<<	TOC 250ml/Amb-Septa-HCL					
							TOX 1L-Amb-Add H2S04

Chain of Custody Page **5** 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 # **1908118**

Table #

Acctnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P832648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Ltrs	Anions 125ml HDPE-NoPres	COD 250ml HDPE-H2S04	Metals 500ml HDPE-HN03	TDS 250ml HDPE-NoPres	TOC 250ml/Amb-Septa-HCL	TOX 1L-Amb-Add H2S04
706	Grab	GW	—	12/17/15	1410	6	X	X	X	X	X	X




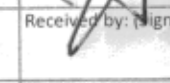
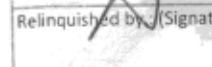
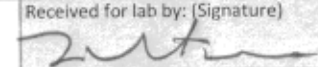
Rem./Contaminant	Sample # (lab only)
	-21

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

pH _____ Temp _____

Flow _____ Other _____

Remarks:

Relinquished by: (Signature) 	Date: 12/18/15	Time: 1400	Received by: (Signature) 	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) M² K
Relinquished by: (Signature) 	Date: 12/18/15	Time: 1700	Received by: (Signature) 	Temp: _____ °C Bottles Received: 32 138+6 DITB	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) 	Date: 12/19/15 Time: 0930 <<	pH Checked: <<

SCS Aquaterra

Sample Delivery Group: L808124
Samples Received: 12/19/2015
Project Number: 27213168.15
Description: KCPL - Montrose CCR

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

L808124 -01, -02, -03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13 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.

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		

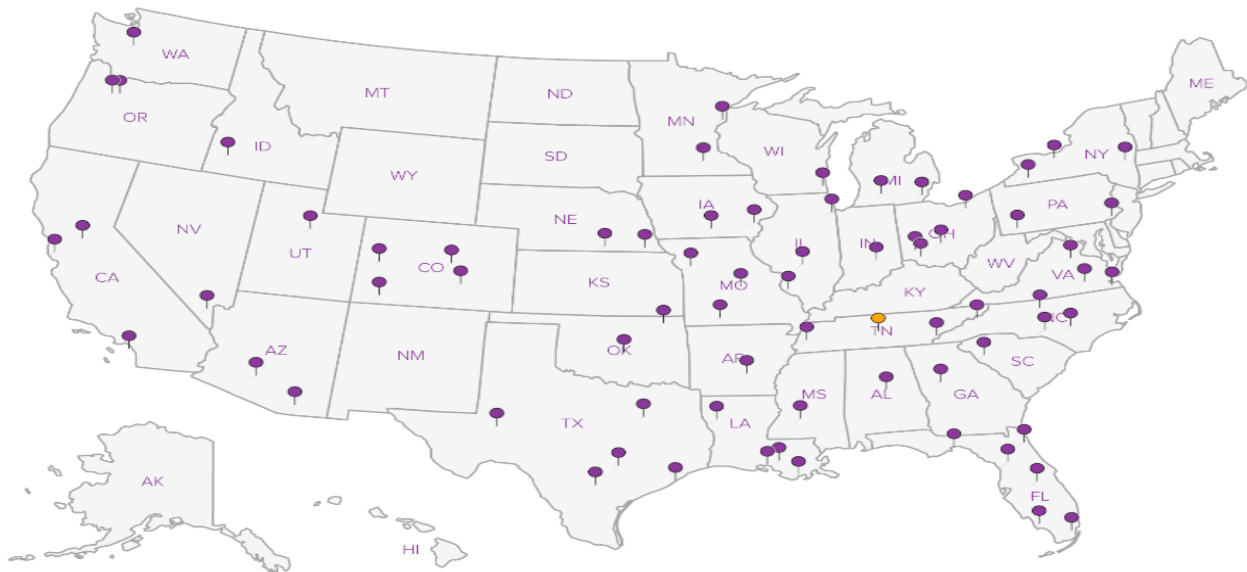
Third Party & Federal Accreditations

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

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 Description:
KCPL-Montrose CCR

City/State Collected:

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

Client Project #
27213168.15

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin
 Immediately
 Packed on Ice N ___ Y

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

Date Results Needed
Standard
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Analysis / Container / Preservative

Chain of Custody Page **6** of **6**



YOUR LAB OF CHOICE

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



L # **1908124**
A165

Acctnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P532648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Lithium, Molybdenom 500ml HDPE-HN03	RA-226, RA-228 1LHDPE-HNO3											
601	Grab	GW		12/16/15	1330	2	X	X											-01
602	Grab	GW		12/16/15	1150	3	X	X											-02
603	Grab	GW		12/16/15	1325	3	X	X											-03
604	Grab	GW		12/16/15	1545	3	X	X											-04
605	Grab	GW		12/17/15	1130	3	X	X											-05
701	Grab	GW		12/16/15	1635	3	X	X											-06
702	Grab	GW		12/17/15	1015	3	X	X											-07
703	Grab	GW		12/17/15	1225	3	X	X											-08
704	Grab	GW		12/17/15	1315	3	X	X											-09
705	Grab	GW		12/17/15	1225	3	X	X											-10

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

Remarks: **65037156 6959 65037156 7028**
65037156 6992 65037156 1175

Relinquished by: (Signature)
Whit Martin
 Date: **12/18/15**
 Time: **1700**

Received by: (Signature)
[Signature]
 Date: **12/18/15**
 Time: **1700**

Received for lab by: (Signature)
[Signature]
 Date: **12/19/15**
 Time: **0930**

pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS
 FedEx Courier _____
 Temp: _____ °C Bottles Received: **28-ER**
 Date: **12/19/15** Time: **0930**

Hold #
 Condition: (lab use only) **M* OK**
 COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: **<2** 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:
KCPL-Montrose CCR

City/State Collected:
AQUAOPKS-MONTROSE

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

Client Project #
27213168.15

P.O. #

Collected by (print):
Whit Martin

Site/Facility ID #

Date Results Needed

Collected by (signature):
Whit Martin

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

Email? ___ No Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y

No. of Cntrs

Lithium, Molybdenom 500mlHDPE-HN03
 RA-226, RA-228 1LHDPE-HN03

Analysis / Container / Preservative

Chain of Custody Page 7 of



YOUR LAB OF CHOICE

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



L# **LF08124**

Table #

Accnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P532648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis	Container	Preservative	Rem./Contaminant	Sample # (lab only)
706	Grab	GW		12/17/15	1410	2	X	X			-11
Duplicate-604	Grab	GW		12/16/15	1550	3	X	X			-12
604 MS	Grab	GW		12/16/15	1555	3	X	X			-04 #3
604 MSD	Grab	GW		12/16/15	1600	3	X	X			-04 #4

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

pH _____ Temp _____
 Flow _____ Other _____

Remarks:

Relinquished by: (Signature)
Whit Martin
 Relinquished by: (Signature)
[Signature]
 Relinquished by: (Signature)
[Signature]

Date: **12/18/15** Time: **1400**
 Date: **12/18/15** 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:
32 **28-ER**
 Date: **12/19/15** Time: **0900**

Hold # _____
 Condition: _____ (lab use only)
M10
 COC Seal Intact: ___ Y ___ N ___ NA **OK**
 pH Checked: **<2** NCF: _____

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

Email To: jfranks@scsengineers.com

Report to:
Mr. Jason R. Franks

Project Description: KCPL - Montrose Generating Station

City/State Collected:

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

Client Project #
2721316815

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Whit Martin

Site/Facility ID #

P.O. #

Collected by (signature):
Whit Martin

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

No. of Cntrs

Lithium, Molybdenom 500mlHDPE-HNO3
RA-226, RA-228 1L-HDPE-Add HNO3

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



L# 18824
A163

Acctnum: AQUAOPKS
Template: T107789
Prelogin: P532716
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Item / Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs												
501		GRW				3	X	X										
502		GRW				3	X	X										
503		GRW				3	X	X										
504		GRW				3	X	X										
505		GRW				3	X	X										
506	Grab	GRW		12/16/15	1430	2	X	X										-13
507		GW				3	X	X										
508		GW				3	X	X										
509		GRW				3	X	X										

DUPLICATE

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

6503 7156 6992

Relinquished by: (Signature) Whit Martin	Date: 12/18/15	Time: 1400	Received by: (Signature) [Signature]	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) M ^o of
Relinquished by: (Signature) [Signature]	Date: 12/18/15	Time: 1700	Received by: (Signature) [Signature]	Temp: 32 °C Bottles Received: 2 = ER	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature) [Signature]	Date:	Time:	Received for lab by: (Signature) [Signature]	Date: 12/19/15 Time: 0930	pH Checked: <input type="checkbox"/> NCF: <input type="checkbox"/>



Case Narrative

Lab No: 20151320

This report contains the analytical results for the 15 sample(s) received under chain of custody by Outreach Laboratory on 12/22/15 13:56:39. These samples are associated with your WG837382 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 : WG837382
 Lab Number : 20151320
 Date Reported : 01/27/16
 Date Received : 12/22/15
 Page Number : 2 of 5

Analytical Report

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

Lab ID : 20151320-01
Client ID : L808124-01
Date Sampled : 12/16/15 13:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.725 +/- 0.317	0.245	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.869 +/- 0.776	1.00	pCi/l		01/18/16	01/21/16	AE

Lab ID : 20151320-02
Client ID : L808124-02
Date Sampled : 12/16/15 11:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.413 +/- 0.227	0.181	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	2.40 +/- 0.645	0.673	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-03
Client ID : L808124-03
Date Sampled : 12/16/15 13:25:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.521 +/- 0.246	0.233	pCi/l		01/25/16	01/26/16	RE
Radium-228	EPA 904*/9320*	1.48 +/- 0.678	0.742	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-04
Client ID : L808124-04
Date Sampled : 12/16/15 15:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.128 +/- 0.303	0.452	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.079 +/- 0.483	0.539	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-05
Client ID : L808124-04MS
Date Sampled : 12/16/15 15:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	24.1 +/- 3.02	0.453	pCi/l		01/14/16	01/26/16	RE
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*NELAC Certified Parameter BDL = Below Detection Limit



Client : ESC Lab Sciences
 Client Project : WG837382
 Lab Number : 20151320
 Date Reported : 01/27/16
 Date Received : 12/22/15
 Page Number : 3 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	7.54 +/- 0.574	0.515	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-06
Client ID : L808124-04MSD
Date Sampled : 12/16/15 16:00:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	23.9 +/- 2.92	0.716	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	7.95 +/- 0.706	0.653	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-07
Client ID : L808124-05
Date Sampled : 12/17/15 11:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	-0.086 +/- 0.223	0.529	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.387 +/- 0.483	0.497	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-08
Client ID : L808124-06
Date Sampled : 12/16/15 16:35:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.811 +/- 0.458	0.452	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.875 +/- 0.572	0.851	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-09
Client ID : L808124-07
Date Sampled : 12/17/15 10:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.361 +/- 0.316	0.394	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.158 +/- 0.543	0.675	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-10
Client ID : L808124-08
Date Sampled : 12/17/15 12:25:00
Matrix : NPW

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : ESC Lab Sciences
 Client Project : WG837382
 Lab Number : 20151320
 Date Reported : 01/27/16
 Date Received : 12/22/15
 Page Number : 4 of 5

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*	1.54 +/- 0.746	0.511	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	-0.160 +/- 0.613	0.810	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-11
Client ID : L808124-09
Date Sampled : 12/17/15 13:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	3.09 +/- 0.862	0.590	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.359 +/- 0.614	0.759	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-12
Client ID : L808124-10
Date Sampled : 12/17/15 12:25:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	2.42 +/- 0.762	0.374	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	1.31 +/- 0.538	0.664	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-13
Client ID : L808124-11
Date Sampled : 12/17/15 14:10:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	2.12 +/- 0.807	0.512	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.398 +/- 0.581	0.597	pCi/l		01/18/16	01/22/16	AE

Lab ID : 20151320-14
Client ID : L808124-12
Date Sampled : 12/16/15 15:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.032 +/- 0.195	0.456	pCi/l		01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	0.183 +/- 0.501	0.613	pCi/l		01/18/16	01/22/16	AE



Client : ESC Lab Sciences
 Client Project : WG837382
 Lab Number : 20151320
 Date Reported : 01/27/16
 Date Received : 12/22/15
 Page Number : 5 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20151320-15							
Client ID : L808124-13							
Date Sampled : 12/16/15 14:30:00							
Matrix : NPW							

Radiochemical Analyses


Radium-226	SM 7500 Ra B M*	0.116 +/- 0.473	0.808	pCi/l	01/14/16	01/26/16	RE
Radium-228	EPA 904*/9320*	-0.291 +/- 0.525	0.646	pCi/l	01/18/16	01/22/16	AE

QC Report

Parameter	Blank	LCS %REC	LCS %REC	LCS RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Date
Radium-226	0.014	108.0			NC	0.261	120.0	120.0	0.5	01/26/16
Radium-228	0.221	84.9			NC	0.313	74.6	78.7	5.3	01/22/16

Lab Approval: _____

Sub-Contract Chain of Custody


Environmental Science Corp
 12065 Lebanon Road
 Mt. Juliet, TN 37122
 (615) 773-9756 (615) 758-5859 fax

Sub-Contract Lab : ORLBAOK
 City / State : Broken Arrow, OK
 Results Needed by : 1/22/16
 ESC Purchase Order # : S23027

WORKGROUP	WG837382
Date Created :	12/21/15

Send Reports To : Janice Cozby jcozby@esclabsciences.com

SAMPLENO Container #	MATRIX	Date / Time Collected	PARAMETER Code	METHOD	Comments
L808124-01 19667194	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-01 19667193	GW		Radium-228 ORL-RA-228	9320	
L808124-02 19667226	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-02 19667225	GW		Radium-228 ORL-RA-228	9320	
L808124-03 19667227	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-03 19667228	GW		Radium-228 ORL-RA-228	9320	
L808124-04 19667229	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-04 19667230	GW		Radium-228 ORL-RA-228	9320	
L808124-05 19667231	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-05 19667232	GW		Radium-228 ORL-RA-228	9320	
L808124-06 19667233	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-06 19667234	GW		Radium-228 ORL-RA-228	9320	

20151320

Relinquished by [Signature] Date: 122115
 Received by [Signature] Date: 12/22/15 1340
 Relinquished by _____ Date: _____
 Received by _____ Date: _____



Sub-Contract Lab : ORLBAOK
 City / State : Broken Arrow, OK
 Results Needed by : 1/22/16
 ESC Purchase Order # : S23027

WORKGROUP	WG837382
Date Created :	12/21/15

Send Reports To : Janice Cozby jcozby@esclabsciences.com

SAMPLENO Container #	MATRIX	Date / Time Collected	PARAMETER Code	METHOD	Comments
L808124-07 19667235	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-07 19667236	GW		Radium-228 ORL-RA-228	9320	
L808124-08 19667237	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-08 19667238	GW		Radium-228 ORL-RA-228	9320	
L808124-09 19667239	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-09 19667240	GW		Radium-228 ORL-RA-228	9320	
L808124-10 19667241	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-10 19667242	GW		Radium-228 ORL-RA-228	9320	
L808124-11 19667243	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-11 19667244	GW		Radium-228 ORL-RA-228	9320	
L808124-12 19667245	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-12 19667246	GW		Radium-228 ORL-RA-228	9320	
L808124-13 19667247	GW		Radium-226 ORL-RA-226	SM7500Ra B M	
L808124-13	GW		Radium-228 ORL-RA-228	9320	

Relinquished by _____ Date: _____
 Received by : [Signature] Date: 1/22/15 1340
 Relinquished by _____ Date: _____
 Received by : _____ Date: _____

20151320



Sub-Contract Lab : ORLBAOK
City / State : Broken Arrow, OK
Results Needed by : 1/22/16
ESC Purchase Order # : S23027

WORKGROUP	WG837382
Date Created :	12/21/15

Send Reports To : Janice Cozby jcozby@esclabsciences.com

SAMPLENO	MATRIX	Date / Time	PARAMETER	Code	METHOD	Comments
Container # 19667248		Collected				

Relinquished by _____ Date: _____
Received by : *de* Date: 12/22/15 1340
Relinquished by _____ Date: _____
Received by : _____ Date: _____

20151320



Company Name/Address:
SES-AQUATERRA
 7314 W. 130th St., Suite 100
 Overland Park, KS 66213

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

Project Description:
KCPL-Montrose CCR
 Client Project # 27213168.15
 Site/Facility ID #

Billing Information:
Accounts Payable
 7314 West 130th Street, Ste. 100
 Overland Park, KS 66213

City/State Collected:
AQUAOPKS-MONTROSE
 P.O. #

Lab Project #
AQUAOPKS-MONTROSE



L# 1908124
A165

Account: **AQUAOPKS**
 Template: **T68018**
 Prelogin: **P532648**
 TSR: **208-jeff Cairr**
 Cooler:
 Shipped Via:

Item / Contaminant	Sample # (Lab only)
	-01
	-02
	-03
	-04
	-05
	-06
	-07
	-08
	-09
	-10

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	Analysis / Container / Preservative
601	Grab	GW		12/16/15	1330	2	X
602	Grab	GW		12/16/15	1150	2	X
603	Grab	GW		12/16/15	1325	2	X
604	Grab	GW		12/16/15	1545	2	X
605	Grab	GW		12/17/15	1130	2	X
701	Grab	GW		12/16/15	1635	2	X
702	Grab	GW		12/17/15	1015	2	X
703	Grab	GW		12/17/15	1225	2	X
704	Grab	GW		12/17/15	1315	2	X
705	Grab	GW		12/17/15	1225	2	X

Rush? (Lab MUST be Notified)
 Same Day 200%
 Next Day 300%
 Two Day 50%
 Three Day 25%

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

Received for lab by: (Signature) *Jason Franks* Date: 12/18/15 Time: 1700

Relinquished by: (Signature) *Whit Martin* Date: 12/18/15 Time: 1700

Matrix: 55 - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks: 65037156 4959
 65037156 16992
 65037156 7029

Temp: 9.2 °C
Date: 12/19/15 0930

Condition: (lab use only) M^o OK

COC Seal Intact: Y N NA
pH Checked: NCF

20151320

Analysis / Container / Preservative

Billing Information:
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
 Email To: jfranks@scsengineers.com

Project: **KCPL-Montrose CCR**
 Description: **AQUAOPKS-MONTROSE**
 Client Project #: 27213168.15
 Site/Facility ID #

Collected by (print): **Whit Martin**
 Collected by (signature): *Whit Martin*
 Immediately Packed on Ice N Y

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

Sample ID	Comp/Grab	Matrix *	Depth	Date Results Needed		Date	Time	No. of Cnts
				Email? No <input checked="" type="checkbox"/> Yes	FAX? No <input type="checkbox"/> Yes			
706	Grab	GW	1			12/17/15	1410	1
Duplicate-604	Grab	GW	1			12/16/15	1550	3
604 MS	Grab	GW	1			12/16/15	1555	3
604 MSD	Grab	GW	1			12/16/15	1600	3

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

Remarks:
 Relinquished by: (Signature) *Whit Martin* Date: 12/18/15 Time: 1700
 Relinquished by: (Signature) *Whit Martin* Date: 12/18/15 Time: 1700
 Relinquished by: (Signature) *Whit Martin* Date: 12/18/15 Time: 1700

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

Temp: 32 °C Bottles Received: 28-EX
 Date: 12/19/15 Time: 0900

Flow: _____ Temp: _____
 Samples returned via: UPS FedEx Courier Other

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

Lithium, Molybdenom 500mIHDP-EN03
 RA-226, RA-228 1LHDP-EN03

[Handwritten mark]

20151320

12065 Lebanon Rd
 Mount Airy, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-8859
 Fax: 615-758-5859

L# **A163**
 Account: **AQUAOPKS**
 Template: **T107789**
 Prelogit: **P532716**
 TSR: **206 - Jeff Carr**
 PB:
 Shipped Via:
 Resn./Contaminant: _____
 Sample # (lab only): _____

Analysis / Container / Preservative

Account Payable
 7311 West 130th Street, Ste. 100
 Overland Park, KS 66213
 Email To: jfranks@scsengineers.com

City/State Collected:
 Lab Project # **AQUAOPKS-MONTROSE**
 P.O. #
 Rush? (Lab MUST be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%
 Date Required Needed
 Email? No X Yes
 FAX? No Yes

Sample ID	Comp/Grab	Matrix	Depth	Date	Time	No. of Tests
501	GW	GW				3
502	GW	GW				3
503	GW	GW				3
504	GW	GW				3
505	GW	GW		12/16/15	1430	3
506	GW	GW				3
507	GW	GW				3
508	GW	GW				3
509	GW	GW				3
DUPLICATE						

Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other _____
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS FedEx Courler Bottles Received:
 Temp: 32 °C 2=ER
 Date: 12/19/15 0930 Time:
 Condition: (lab use only) M of
 COC Seal Intact: Y N NA
 pH Checked: NCF:
 Received for lab by: (Signature) [Signature]
 Received for lab by: (Signature) [Signature]
 Received for lab by: (Signature) [Signature]

20151320

December 28, 2015

SCS Aquaterra

Sample Delivery Group: L808122
Samples Received: 12/19/2015
Project Number: 27213168.15
Description: KCPL-Montrose CCR

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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¹ Cp
² Tc
³ Ss
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⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY



601 L808122-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:44	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/16/15 13:30	12/19/15 09:30



602 L808122-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:47	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/16/15 11:50	12/19/15 09:30



603 L808122-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:50	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/16/15 13:25	12/19/15 09:30



604 L808122-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:04	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/16/15 15:45	12/19/15 09:30



605 L808122-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:53	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/17/15 11:30	12/19/15 09:30

701 L808122-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 01:57	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/16/15 16:35	12/19/15 09:30

702 L808122-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:00	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/17/15 10:15	12/19/15 09:30

703 L808122-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:09	WBD

Collected by	Collected date/time	Received date/time
Whit Martin	12/17/15 12:25	12/19/15 09:30

SAMPLE SUMMARY



704 L808122-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:12	WBD

Collected by Whit Martin
 Collected date/time 12/17/15 13:15
 Received date/time 12/19/15 09:30



705 L808122-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:15	WBD

Collected by Whit Martin
 Collected date/time 12/17/15 12:25
 Received date/time 12/19/15 09:30



706 L808122-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:18	WBD

Collected by Whit Martin
 Collected date/time 12/17/15 14:10
 Received date/time 12/19/15 09:30



DUPLICATE-604 L808122-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:21	WBD

Collected by Whit Martin
 Collected date/time 12/16/15 15:50
 Received date/time 12/19/15 09:30



506 L808122-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG837597	1	12/23/15 20:18	12/27/15 02:24	WBD

Collected by Whit Martin
 Collected date/time 12/16/15 14:30
 Received date/time 12/19/15 09:30



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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	Batch
	ug/l		ug/l		date / time	
Lithium	293		15.0	1	12/27/2015 01:44	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:44	WG837597

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	85.5		15.0	1	12/27/2015 01:47	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:47	WG837597

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	135		15.0	1	12/27/2015 01:50	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:50	WG837597

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	101		15.0	1	12/27/2015 01:04	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:04	WG837597

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	120		15.0	1	12/27/2015 01:53	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:53	WG837597

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	249		15.0	1	12/27/2015 01:57	WG837597
Molybdenum	ND		5.00	1	12/27/2015 01:57	WG837597

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	38.1		15.0	1	12/27/2015 02:00	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:00	WG837597

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	44.8		15.0	1	12/27/2015 02:09	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:09	WG837597

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	53.7		15.0	1	12/27/2015 02:12	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:12	WG837597

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	72.5		15.0	1	12/27/2015 02:15	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:15	WG837597

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	40.1		15.0	1	12/27/2015 02:18	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:18	WG837597

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	101		15.0	1	12/27/2015 02:21	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:21	WG837597

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	283		15.0	1	12/27/2015 02:24	WG837597
Molybdenum	ND		5.00	1	12/27/2015 02:24	WG837597

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) 12/27/15 00:55

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) 12/27/15 00:58 • (LCSD) 12/27/15 01:01

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	1.00	1.01	100	101	80-120			1	20
Molybdenum	1.00	0.952	0.980	95	98	80-120			3	20

L808122-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/27/15 01:04 • (MS) 12/27/15 01:10 • (MSD) 12/27/15 01:13

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	0.101	1.17	1.18	107	108	1	75-125			1	20
Molybdenum	1.00	0.000208	0.974	0.980	97	98	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
-----------	-------------

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		

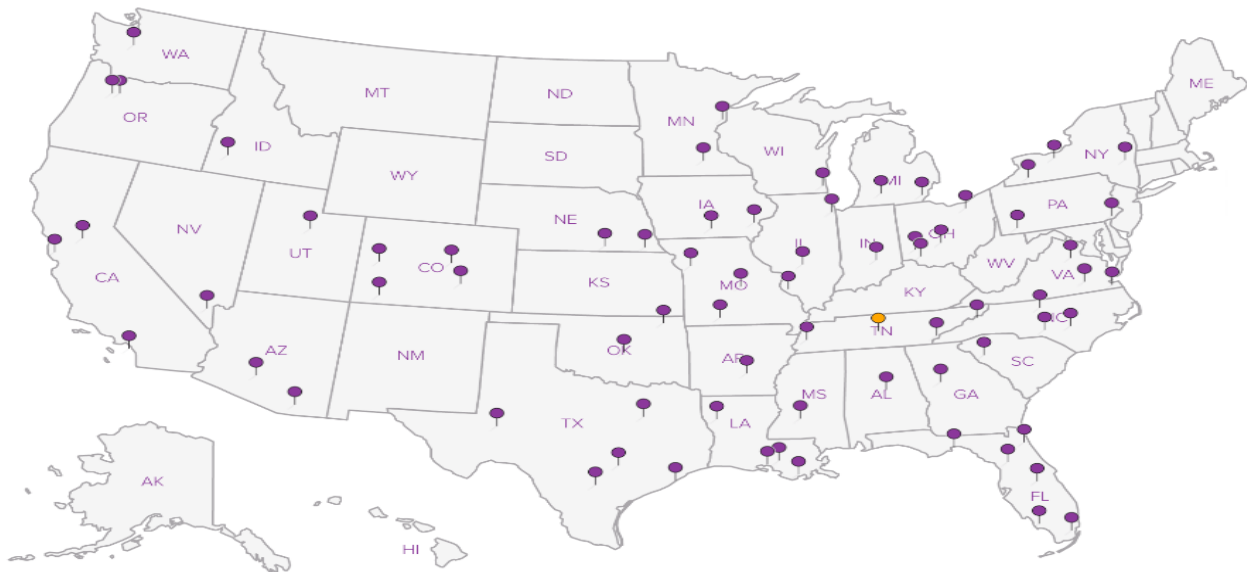
Third Party & Federal Accreditations

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: KCPL-Montrose CCR
 Description: City/State Collected: Lab Project # AQUAOPKS-MONTROSE


Phone: 913-681-0030
 Fax: 913-681-0012
 Client Project # 27213168.15
 Lab Project # AQUAOPKS-MONTROSE

Collected by (print): Whit Martin
 Collected by (signature): *Whit Martin*
 Immediately Packed on Ice N Y X

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

Date Results Needed: Standard
 Email? No Yes
 FAX? No Yes

Analysis / Container / Preservative
 Lithium, Molybdenom 500ml HDPE-HN03
 RA-226, RA-228 1LHDPE-HN03

Chain of Custody Page 2 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# 6808122
 A164
 Acctnum: AQUAOPKS
 Template: T68018
 Prelogin: P532648
 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		12/16/15	1330	3	X	X										-01
602	Grab	GW		12/16/15	1150	3	X	X										-02
603	Grab	GW		12/16/15	1325	3	X	X										-03
604	Grab	GW		12/16/15	1545	3	X	X										-04
605	Grab	GW		12/17/15	1130	3	X	X										-05
701	Grab	GW		12/16/15	1635	3	X	X										-06
702	Grab	GW		12/17/15	1015	3	X	X										-07
703	Grab	GW		12/17/15	1225	3	X	X										-08
704	Grab	GW		12/17/15	1315	3	X	X										-09
705	Grab	GW		12/17/15	1225	3	X	X										-10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: 6503 7156 6959 6503 7154 7028
 6503 7156 6992 6503 7156 1125

Relinquished by: (Signature) *Whit Martin* Date: 12/18/15 Time: 1100
 Relinquished by: (Signature) *[Signature]* Date: 12/18/15 Time: 1700
 Relinquished by: (Signature) *[Signature]* Date: 12/19/15 Time: 0930

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: 7.2 °C Bottles Received: 14 = DR
 Condition: (lab use only) *M**
 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

Analysis / Container / Preservative

Chain of Custody Page 7 of 7



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: **KCPL-Montrose CCR** City/State Collected: _____

Phone: **913-681-0030** Client Project # **27213168.15** Lab Project # **AQUAOPKS-MONTROSE**
 Fax: **913-681-0012**

Collected by (print): **Whit Martin** Site/Facility ID # _____ P.O. # _____

Collected by (signature): *Whit Martin* Date Results Needed _____
 Rush? (Lab MUST Be Notified)
 ___ 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												
706	Grab	GW		12/17/15	1410	3	X	X										
Duplicate-604	Grab	GW		12/16/15	1550	3	X	X										
604 MS	Grab	GW		12/16/15	1555	3	X	X										
604 MSD	Grab	GW		12/16/15	1600	3	X	X										

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

pH _____ Temp _____

Remarks: _____ Flow _____ Other _____ Hold # _____

Relinquished by: (Signature) <i>Whit Martin</i>	Date: 12/18/15	Time: 1400	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>M¹⁰ OK</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 12/18/15	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: 32 °C Bottles Received: 14 = DR	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature) <i>[Signature]</i>	Date: _____	Time: _____	Received for lab by: (Signature) <i>[Signature]</i>	Date: 12/19/15 Time: 0930	pH Checked: <i><2</i> NCF: _____

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: **KCPL - Montrose Generating Station**

City/State
Collected:

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

Client Project #
2721316815

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Whit Martin
Collected by (signature):
Whit Martin


Site/Facility ID #

P.O. #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
501		GRW				3	Lithium, Molybdenom 500m HDPE-HNO3 RA-226, RA-228 1L-HDPE-Add HNO3	Chain of Custody Page 3 of  YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 L # <i>L008122</i> A162 Acctnum: AQUAOPKS Template: T107789 Prelogin: P532716 TSR: 206 - Jeff Carr PB: Shipped Via: Rem./Contaminant Sample # (lab only)
502		GRW				3		
503		GRW				3		
504		GRW				3		
505		GRW				3		
506	Grab	GRW		12/16/15	1430	3		
507		GW				3		
508		GW				3		
509		GRW				3		
DUPLICATE		GRW				3		

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: UPS
 FedEx Courier _____

Hold #

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: _____ °C Bottles Received:
32 *1=DR*

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: *12/19/15* Time: *0900*

pH Checked:

NCF:

650371566992

[Signature]

22

13-15

Jared Morrison
December 20, 2022

ATTACHMENT 1-2
February 2016 Sampling Event Laboratory Report

SCS Engineers

Sample Delivery Group: L818419
Samples Received: 02/18/2016
Project Number: 27213168.16
Description: KCP&L Montrose CCR

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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SAMPLE SUMMARY



601 L818419-01 GW

Collected by
Whit Martin Collected date/time
02/16/16 10:15 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850439	1	02/19/16 16:17	02/19/16 17:18	MF
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:09	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 19:28	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:07	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 13:56	02/19/16 13:56	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 18:26	02/19/16 18:26	DJD



602 L818419-02 GW

Collected by
Whit Martin Collected date/time
02/16/16 10:05 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850439	1	02/19/16 16:17	02/19/16 17:18	MF
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:11	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 19:41	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:10	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 14:13	02/19/16 14:13	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 18:42	02/19/16 18:42	DJD

603 L818419-03 GW

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

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850439	1	02/19/16 16:17	02/19/16 17:18	MF
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:14	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 19:44	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:12	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 14:29	02/19/16 14:29	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 18:59	02/19/16 18:59	DJD

604 L818419-04 GW

Collected by
Whit Martin Collected date/time
02/16/16 12:45 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850439	1	02/19/16 16:17	02/19/16 17:18	MF
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 13:07	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 19:47	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 10:48	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 14:46	02/19/16 14:46	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 19:15	02/19/16 19:15	DJD

605 L818419-05 GW

Collected by
Whit Martin Collected date/time
02/16/16 14:35 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:16	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:02	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:14	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 17:04	02/19/16 17:04	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 15:19	02/19/16 15:19	DJD

SAMPLE SUMMARY



701 L818419-06 GW

Collected by
Whit Martin Collected date/time
02/16/16 12:50 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:19	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:05	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:17	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 17:20	02/19/16 17:20	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 15:36	02/19/16 15:36	DJD



702 L818419-07 GW

Collected by
Whit Martin Collected date/time
02/16/16 13:40 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:21	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:08	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:19	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 17:37	02/19/16 17:37	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 15:52	02/19/16 15:52	DJD

703 L818419-08 GW

Collected by
Whit Martin Collected date/time
02/16/16 14:30 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:32	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:11	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:22	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 17:53	02/19/16 17:53	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 16:08	02/19/16 16:08	DJD

704 L818419-09 GW

Collected by
Whit Martin Collected date/time
02/16/16 15:20 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:34	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:14	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:24	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 18:10	02/19/16 18:10	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 19:32	02/19/16 19:32	DJD

705 L818419-10 GW

Collected by
Whit Martin Collected date/time
02/16/16 16:05 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:37	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:17	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:26	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 20:21	02/19/16 20:21	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 21:10	02/19/16 21:10	DJD

SAMPLE SUMMARY



706 L818419-11 GW

Collected by
Whit Martin Collected date/time
02/16/16 15:30 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:39	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:20	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:29	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 20:37	02/19/16 20:37	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 21:27	02/19/16 21:27	DJD

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

506 L818419-12 GW

Collected by
Whit Martin Collected date/time
02/16/16 11:15 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:42	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:24	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:38	LAT
Wet Chemistry by Method 9056A	WG850320	1	02/19/16 20:54	02/19/16 20:54	DJD
Wet Chemistry by Method 9056A	WG850320	50	02/19/16 21:43	02/19/16 21:43	DJD

DUPLICATE L818419-13 GW

Collected by
Whit Martin Collected date/time
02/16/16 12:45 Received date/time
02/18/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG850472	1	02/21/16 23:33	02/22/16 03:50	JM
Mercury by Method 7470A	WG850751	1	02/19/16 14:39	02/22/16 15:45	TRB
Metals (ICP) by Method 6010B	WG850528	1	02/19/16 09:32	02/19/16 20:33	WBD
Metals (ICPMS) by Method 6020	WG850779	1	02/23/16 08:24	02/24/16 12:40	LAT
Wet Chemistry by Method 9056A	WG850432	1	02/19/16 13:08	02/19/16 13:08	DJD
Wet Chemistry by Method 9056A	WG850432	50	02/19/16 17:37	02/19/16 17:37	DJD



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 date / time	Batch
Dissolved Solids	4280000		10000	1	02/19/2016 17:18	WG850439

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	53000		1000	1	02/19/2016 13:56	WG850320
Fluoride	406		100	1	02/19/2016 13:56	WG850320
Sulfate	3200000		250000	50	02/19/2016 18:26	WG850320

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:09	WG850751

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	13.8		5.00	1	02/19/2016 19:28	WG850528
Boron	ND		200	1	02/19/2016 19:28	WG850528
Calcium	481000	V	1000	1	02/19/2016 19:28	WG850528
Chromium	ND		10.0	1	02/19/2016 19:28	WG850528
Cobalt	17.0		10.0	1	02/19/2016 19:28	WG850528

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:07	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:07	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:07	WG850779
Cadmium	1.40		1.00	1	02/24/2016 12:07	WG850779
Lead	ND		2.00	1	02/24/2016 12:07	WG850779
Selenium	3.86		2.00	1	02/24/2016 12:07	WG850779
Thallium	ND		2.00	1	02/24/2016 12:07	WG850779

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	2080000		10000	1	02/19/2016 17:18	WG850439

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	4380		1000	1	02/19/2016 14:13	WG850320
Fluoride	ND		100	1	02/19/2016 14:13	WG850320
Sulfate	1410000		250000	50	02/19/2016 18:42	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:11	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	22.2		5.00	1	02/19/2016 19:41	WG850528
Boron	5040		200	1	02/19/2016 19:41	WG850528
Calcium	372000		1000	1	02/19/2016 19:41	WG850528
Chromium	10.2		10.0	1	02/19/2016 19:41	WG850528
Cobalt	118		10.0	1	02/19/2016 19:41	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:10	WG850779
Arsenic	4.56		2.00	1	02/24/2016 12:10	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:10	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:10	WG850779
Lead	ND		2.00	1	02/24/2016 12:10	WG850779
Selenium	ND		2.00	1	02/24/2016 12:10	WG850779
Thallium	ND		2.00	1	02/24/2016 12:10	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3140000		10000	1	02/19/2016 17:18	WG850439

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7650		1000	1	02/19/2016 14:29	WG850320
Fluoride	552		100	1	02/19/2016 14:29	WG850320
Sulfate	2470000		250000	50	02/19/2016 18:59	WG850320

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	02/22/2016 15:14	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	13.7		5.00	1	02/19/2016 19:44	WG850528
Boron	6810		200	1	02/19/2016 19:44	WG850528
Calcium	445000		1000	1	02/19/2016 19:44	WG850528
Chromium	ND		10.0	1	02/19/2016 19:44	WG850528
Cobalt	48.2		10.0	1	02/19/2016 19:44	WG850528

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	02/24/2016 12:12	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:12	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:12	WG850779
Cadmium	3.51		1.00	1	02/24/2016 12:12	WG850779
Lead	ND		2.00	1	02/24/2016 12:12	WG850779
Selenium	10.5		2.00	1	02/24/2016 12:12	WG850779
Thallium	ND		2.00	1	02/24/2016 12:12	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2690000		10000	1	02/19/2016 17:18	WG850439

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15500		1000	1	02/19/2016 14:46	WG850320
Fluoride	497		100	1	02/19/2016 14:46	WG850320
Sulfate	2080000		250000	50	02/19/2016 19:15	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 13:07	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	14.6		5.00	1	02/19/2016 19:47	WG850528
Boron	4880		200	1	02/19/2016 19:47	WG850528
Calcium	470000	V	1000	1	02/19/2016 19:47	WG850528
Chromium	ND		10.0	1	02/19/2016 19:47	WG850528
Cobalt	ND		10.0	1	02/19/2016 19:47	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 10:48	WG850779
Arsenic	ND		2.00	1	02/24/2016 10:48	WG850779
Beryllium	ND		2.00	1	02/24/2016 10:48	WG850779
Cadmium	1.16		1.00	1	02/24/2016 10:48	WG850779
Lead	ND		2.00	1	02/24/2016 10:48	WG850779
Selenium	ND		2.00	1	02/24/2016 10:48	WG850779
Thallium	ND		2.00	1	02/24/2016 10:48	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2750000		10000	1	02/22/2016 03:50	WG850472

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	45700		1000	1	02/19/2016 17:04	WG850320
Fluoride	156		100	1	02/19/2016 17:04	WG850320
Sulfate	1950000		250000	50	02/19/2016 15:19	WG850320

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/22/2016 15:16	WG850751

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.1		5.00	1	02/19/2016 20:02	WG850528
Boron	2030		200	1	02/19/2016 20:02	WG850528
Calcium	426000		1000	1	02/19/2016 20:02	WG850528
Chromium	ND		10.0	1	02/19/2016 20:02	WG850528
Cobalt	36.0		10.0	1	02/19/2016 20:02	WG850528

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/24/2016 12:14	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:14	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:14	WG850779
Cadmium	1.80		1.00	1	02/24/2016 12:14	WG850779
Lead	ND		2.00	1	02/24/2016 12:14	WG850779
Selenium	ND		2.00	1	02/24/2016 12:14	WG850779
Thallium	ND		2.00	1	02/24/2016 12:14	WG850779

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	3350000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	688000		50000	50	02/19/2016 15:36	WG850320
Fluoride	1290		100	1	02/19/2016 17:20	WG850320
Sulfate	2090000		250000	50	02/19/2016 15:36	WG850320

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	02/22/2016 15:19	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	13.6		5.00	1	02/19/2016 20:05	WG850528
Boron	ND		200	1	02/19/2016 20:05	WG850528
Calcium	519000		1000	1	02/19/2016 20:05	WG850528
Chromium	ND		10.0	1	02/19/2016 20:05	WG850528
Cobalt	76.2		10.0	1	02/19/2016 20:05	WG850528

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	02/24/2016 12:17	WG850779
Arsenic	2.52		2.00	1	02/24/2016 12:17	WG850779
Beryllium	2.34		2.00	1	02/24/2016 12:17	WG850779
Cadmium	6.49		1.00	1	02/24/2016 12:17	WG850779
Lead	2.70		2.00	1	02/24/2016 12:17	WG850779
Selenium	11.9		2.00	1	02/24/2016 12:17	WG850779
Thallium	ND		2.00	1	02/24/2016 12:17	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2960000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	363000		50000	50	02/19/2016 15:52	WG850320
Fluoride	277		100	1	02/19/2016 17:37	WG850320
Sulfate	1680000		250000	50	02/19/2016 15:52	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:21	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	12.3		5.00	1	02/19/2016 20:08	WG850528
Boron	ND		200	1	02/19/2016 20:08	WG850528
Calcium	519000		1000	1	02/19/2016 20:08	WG850528
Chromium	ND		10.0	1	02/19/2016 20:08	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:08	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:19	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:19	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:19	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:19	WG850779
Lead	ND		2.00	1	02/24/2016 12:19	WG850779
Selenium	2.62		2.00	1	02/24/2016 12:19	WG850779
Thallium	ND		2.00	1	02/24/2016 12:19	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1280000		10000	1	02/22/2016 03:50	WG850472

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12800		1000	1	02/19/2016 17:53	WG850320
Fluoride	127		100	1	02/19/2016 17:53	WG850320
Sulfate	821000		250000	50	02/19/2016 16:08	WG850320

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	02/22/2016 15:32	WG850751

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	49.2		5.00	1	02/19/2016 20:11	WG850528
Boron	ND		200	1	02/19/2016 20:11	WG850528
Calcium	206000		1000	1	02/19/2016 20:11	WG850528
Chromium	ND		10.0	1	02/19/2016 20:11	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:11	WG850528

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	02/24/2016 12:22	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:22	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:22	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:22	WG850779
Lead	ND		2.00	1	02/24/2016 12:22	WG850779
Selenium	ND		2.00	1	02/24/2016 12:22	WG850779
Thallium	ND		2.00	1	02/24/2016 12:22	WG850779

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	1110000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	4490		1000	1	02/19/2016 18:10	WG850320
Fluoride	ND		100	1	02/19/2016 18:10	WG850320
Sulfate	774000		250000	50	02/19/2016 19:32	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:34	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	61.6		5.00	1	02/19/2016 20:14	WG850528
Boron	ND		200	1	02/19/2016 20:14	WG850528
Calcium	165000		1000	1	02/19/2016 20:14	WG850528
Chromium	ND		10.0	1	02/19/2016 20:14	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:14	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:24	WG850779
Arsenic	12.9		2.00	1	02/24/2016 12:24	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:24	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:24	WG850779
Lead	ND		2.00	1	02/24/2016 12:24	WG850779
Selenium	ND		2.00	1	02/24/2016 12:24	WG850779
Thallium	ND		2.00	1	02/24/2016 12:24	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1180000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	9300		1000	1	02/19/2016 20:21	WG850320
Fluoride	179		100	1	02/19/2016 20:21	WG850320
Sulfate	768000		250000	50	02/19/2016 21:10	WG850320

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	02/22/2016 15:37	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	45.1		5.00	1	02/19/2016 20:17	WG850528
Boron	230		200	1	02/19/2016 20:17	WG850528
Calcium	180000		1000	1	02/19/2016 20:17	WG850528
Chromium	ND		10.0	1	02/19/2016 20:17	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:17	WG850528

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	02/24/2016 12:26	WG850779
Arsenic	6.09		2.00	1	02/24/2016 12:26	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:26	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:26	WG850779
Lead	ND		2.00	1	02/24/2016 12:26	WG850779
Selenium	ND		2.00	1	02/24/2016 12:26	WG850779
Thallium	ND		2.00	1	02/24/2016 12:26	WG850779



Collected date/time: 02/16/16 15:30

L818419

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1630000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	30700		1000	1	02/19/2016 20:37	WG850320
Fluoride	160		100	1	02/19/2016 20:37	WG850320
Sulfate	1130000		250000	50	02/19/2016 21:27	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:39	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	45.5		5.00	1	02/19/2016 20:20	WG850528
Boron	237		200	1	02/19/2016 20:20	WG850528
Calcium	283000		1000	1	02/19/2016 20:20	WG850528
Chromium	ND		10.0	1	02/19/2016 20:20	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:20	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:29	WG850779
Arsenic	12.4		2.00	1	02/24/2016 12:29	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:29	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:29	WG850779
Lead	ND		2.00	1	02/24/2016 12:29	WG850779
Selenium	ND		2.00	1	02/24/2016 12:29	WG850779
Thallium	ND		2.00	1	02/24/2016 12:29	WG850779



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	3280000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	97200		1000	1	02/19/2016 20:54	WG850320
Fluoride	ND		100	1	02/19/2016 20:54	WG850320
Sulfate	2210000		250000	50	02/19/2016 21:43	WG850320

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:42	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	9.84		5.00	1	02/19/2016 20:24	WG850528
Boron	ND		200	1	02/19/2016 20:24	WG850528
Calcium	448000		1000	1	02/19/2016 20:24	WG850528
Chromium	ND		10.0	1	02/19/2016 20:24	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:24	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:38	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:38	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:38	WG850779
Cadmium	ND		1.00	1	02/24/2016 12:38	WG850779
Lead	ND		2.00	1	02/24/2016 12:38	WG850779
Selenium	8.59		2.00	1	02/24/2016 12:38	WG850779
Thallium	ND		2.00	1	02/24/2016 12:38	WG850779



Collected date/time: 02/16/16 12:45

L818419

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2950000		10000	1	02/22/2016 03:50	WG850472

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	15300		1000	1	02/19/2016 13:08	WG850432
Fluoride	493		100	1	02/19/2016 13:08	WG850432
Sulfate	2280000		250000	50	02/19/2016 17:37	WG850432

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	02/22/2016 15:45	WG850751

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	16.6		5.00	1	02/19/2016 20:33	WG850528
Boron	4870		200	1	02/19/2016 20:33	WG850528
Calcium	472000		1000	1	02/19/2016 20:33	WG850528
Chromium	ND		10.0	1	02/19/2016 20:33	WG850528
Cobalt	ND		10.0	1	02/19/2016 20:33	WG850528

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	02/24/2016 12:40	WG850779
Arsenic	ND		2.00	1	02/24/2016 12:40	WG850779
Beryllium	ND		2.00	1	02/24/2016 12:40	WG850779
Cadmium	1.15		1.00	1	02/24/2016 12:40	WG850779
Lead	ND		2.00	1	02/24/2016 12:40	WG850779
Selenium	ND		2.00	1	02/24/2016 12:40	WG850779
Thallium	ND		2.00	1	02/24/2016 12:40	WG850779



Method Blank (MB)

(MB) R3115085-1 02/19/16 17:18

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) L818096-01 02/19/16 17:18 • (DUP) R3115085-4 02/19/16 17:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	549	553	1	0.726		5

⁴ Cn

⁵ Sr

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

(LCS) R3115085-2 02/19/16 17:18 • (LCSD) R3115085-3 02/19/16 17:18

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	8620	8670	98.0	98.5	85.0-115			0.578	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3115452-1 02/22/16 03:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		2.82	10.0

1 Cp

2 Tc

3 Ss

Original Sample (OS) • Duplicate (DUP)

(OS) L818419-13 02/22/16 03:50 • (DUP) R3115452-4 02/22/16 03:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2950	2920	1	0.853	5	

4 Cn

5 Sr

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

(LCS) R3115452-2 02/22/16 03:50 • (LCSD) R3115452-3 02/22/16 03:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800	8180	8430	93.0	95.8	85.0-115			3.01	5

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3115049-1 02/19/16 10:13

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) L818394-02 02/19/16 22:49 • (DUP) R3115049-5 02/19/16 23:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	11.7	11.7	1	0		15
Fluoride	0.251	0.251	1	0		15
Sulfate	36.9	36.9	1	0		15

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

(LCS) R3115049-2 02/19/16 10:29 • (LCSD) R3115049-3 02/19/16 10:46

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	40.1	40.1	100	100	80-120			0	15
Fluoride	8.00	8.10	8.09	101	101	80-120			0	15
Sulfate	40.0	40.6	40.6	101	101	80-120			0	15

Original Sample (OS) • Matrix Spike (MS)

(OS) L818385-01 02/19/16 13:24 • (MS) R3115049-4 02/19/16 13:40

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	7.19	60.2	106	1	80-120	
Fluoride	5.00	0.0572	5.50	109	1	80-120	
Sulfate	50.0	4.76	57.7	106	1	80-120	



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

(OS) L818394-08 02/19/16 23:54 • (MS) R3115049-6 02/20/16 00:11 • (MSD) R3115049-7 02/20/16 00:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50.0	2.47	52.5	53.0	100	101	1	80-120			1	15
Fluoride	5.00	0.121	5.19	5.26	101	103	1	80-120			1	15
Sulfate	50.0	61.9	108	109	93	95	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) R3115039-1 02/19/16 07:00

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) L818458-03 02/19/16 10:50 • (DUP) R3115039-4 02/19/16 12:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	10.3	8.83	1	15		15
Fluoride	0.131	0.0902	1	37	J P1	15
Sulfate	12.8	12.6	1	2		15

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

(LCS) R3115039-2 02/19/16 07:15 • (LCSD) R3115039-3 02/19/16 07:31

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	39.2	39.2	98	98	80-120			0	15
Fluoride	8.00	7.71	7.70	96	96	80-120			0	15
Sulfate	40.0	39.2	39.1	98	98	80-120			0	15

Original Sample (OS) • Matrix Spike (MS)

(OS) L818458-04 02/19/16 11:05 • (MS) R3115039-5 02/19/16 12:53

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	31.3	78.9	95	1	80-120	
Fluoride	5.00	0.0402	4.88	97	1	80-120	
Sulfate	50.0	44.1	89.5	91	1	80-120	



Method Blank (MB)

(MB) R3115341-1 02/22/16 12:59

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

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

(LCS) R3115341-2 02/22/16 13:02 • (LCSD) R3115341-3 02/22/16 13:05

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	0.00312	0.00326	104	109	80-120			4	20

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

(OS) L818419-04 02/22/16 13:07 • (MS) R3115341-4 02/22/16 13:10 • (MSD) R3115341-5 02/22/16 13:12

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	0.00331	0.00340	110	113	1	75-125			2	20

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3115061-1 02/19/16 19:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.0017	0.00500
Boron	0.0187		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) R3115061-2 02/19/16 19:22 • (LCSD) R3115061-3 02/19/16 19:25

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	1.01	1.04	101	104	80-120			3	20
Boron	1.00	1.02	1.05	102	105	80-120			3	20
Calcium	10.0	9.94	10.2	99	102	80-120			3	20
Chromium	1.00	1.01	1.04	101	104	80-120			3	20
Cobalt	1.00	1.03	1.05	103	105	80-120			2	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(OS) L818419-01 02/19/16 19:28 • (MS) R3115061-5 02/19/16 19:34 • (MSD) R3115061-6 02/19/16 19:37

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	0.0138	0.989	0.984	97	97	1	75-125			0	20
Boron	1.00	0.169	1.21	1.20	104	103	1	75-125			1	20
Calcium	10.0	481	486	488	54	73	1	75-125	V	V	0	20
Chromium	1.00	0.00119	0.988	0.982	99	98	1	75-125			1	20
Cobalt	1.00	0.0170	1.10	1.09	108	108	1	75-125			0	20

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

(OS) L818419-04 02/19/16 19:47 • (MS) R3115061-7 02/19/16 19:56 • (MSD) R3115061-8 02/19/16 19:59

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 %
Barium	1.00	0.0146	1.03	1.03	102	101	1	75-125			0	20
Boron	1.00	4.88	5.92	5.98	105	110	1	75-125			1	20



[L818419-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

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

(OS) L818419-04 02/19/16 19:47 • (MS) R3115061-7 02/19/16 19:56 • (MSD) R3115061-8 02/19/16 19:59

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 %
Calcium	10.0	470	476	478	66	84	1	75-125	V		0	20
Chromium	1.00	0.000828	1.02	1.02	102	102	1	75-125			0	20
Cobalt	1.00	0.00283	1.11	1.10	111	110	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) R3115958-1 02/24/16 10:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.00021	0.00200
Arsenic	U		0.00025	0.00200
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Lead	0.000319		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) R3115958-2 02/24/16 10:44 • (LCSD) R3115958-3 02/24/16 10:46

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	0.0553	0.0544	111	109	80-120			2	20
Arsenic	0.0500	0.0493	0.0463	99	93	80-120			6	20
Beryllium	0.0500	0.0452	0.0462	90	92	80-120			2	20
Cadmium	0.0500	0.0518	0.0487	104	97	80-120			6	20
Lead	0.0500	0.0500	0.0510	100	102	80-120			2	20
Selenium	0.0500	0.0500	0.0502	100	100	80-120			0	20
Thallium	0.0500	0.0497	0.0505	99	101	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(OS) L818419-04 02/24/16 10:48 • (MS) R3115958-5 02/24/16 10:53 • (MSD) R3115958-6 02/24/16 10:55

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	0.000262	0.0568	0.0557	113	111	1	75-125			2	20
Arsenic	0.0500	0.000876	0.0523	0.0493	103	97	1	75-125			6	20
Beryllium	0.0500	0.0000102	0.0448	0.0438	90	87	1	75-125			2	20
Cadmium	0.0500	0.00116	0.0543	0.0520	106	102	1	75-125			4	20
Lead	0.0500	0.000379	0.0498	0.0491	99	97	1	75-125			1	20
Selenium	0.0500	0.00117	0.0510	0.0521	100	102	1	75-125			2	20
Thallium	0.0500	0.000109	0.0494	0.0490	99	98	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
J	The identification of the analyte is acceptable; the reported value is an estimate.
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		

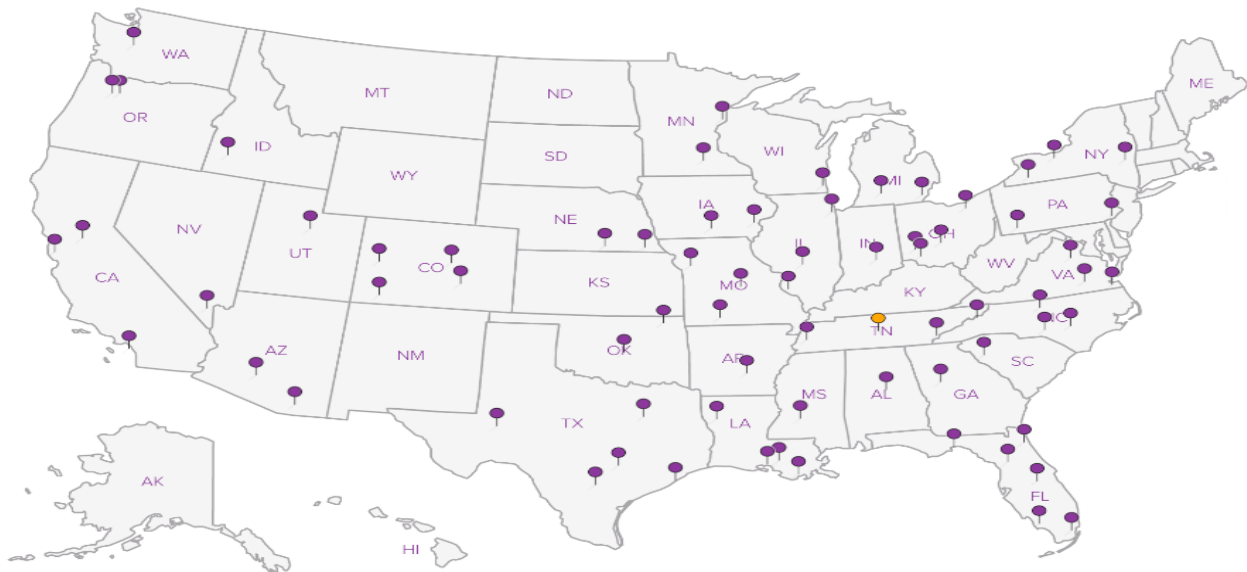
Third Party & Federal Accreditations

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.**



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
 Anions 125ml HDPE-NoPres
 COD 250ml HDPE-H2S04
 Metals 500ml HDPE-HN03
 TDS 250ml HDPE-NoPres
 TOC 250ml Amb-Septa-Hel
 TOX TL-Amb-AQU-H2S04
 RA-220, RA-220 IL HDPE-HN03
 LITHIUM, MOLYBDENUM

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

Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCP&L Montrose CCR

City/State Collected:
MONTRUSE, MO

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTRUSE

Collected by (print):
WHEI MARTEN

Site/Facility ID #

P.O. #

Collected by (signature):

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

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

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnrs	Anions 125ml HDPE-NoPres	COD 250ml HDPE-H2S04	Metals 500ml HDPE-HN03	TDS 250ml HDPE-NoPres	TOC 250ml Amb-Septa-Hel	TOX TL-Amb-AQU-H2S04	RA-220, RA-220 IL HDPE-HN03	Rem./Contaminant	Sample # (lab only)
601	GRAB	GW	-	2/16/16	1015	6	X	X	X	X	X	X	X		-01
602		GW	-	2/16/16	1005	6	X	X	X	X	X	X	X		-02
603		GW	-	2/16/16	1100	6	X	X	X	X	X	X	X		-03
604		GW	-	2/16/16	1245	3	X	X	X	X	X	X	X		-04
605		GW	-	2/16/16	1435	6	X	X	X	X	X	X	X		-05
701		GW	-	2/16/16	1250	6	X	X	X	X	X	X	X		-06
702		GW	-	2/16/16	1340	6	X	X	X	X	X	X	X		-07
703		GW	-	2/16/16	1430	6	X	X	X	X	X	X	X		-08
704		GW	-	2/16/16	1520	6	X	X	X	X	X	X	X		-09
705		GW	-	2/16/16	1605	6	X	X	X	X	X	X	X		-10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: 6645 0389 5458 6645 0389 5322 6645 0389 5333 6645 0389 5447
 pH _____ Temp _____ Flow _____ Other _____
 Hold # 6645 0389 5469

Relinquished by: (Signature)

 Relinquished by: (Signature)

 Relinquished by: (Signature)

Date: 2/17/16 Time: 1000
 Date: 2/17/16 Time: 1700

Received by: (Signature)

 Received by: (Signature)

 Received for lab by: (Signature)

Samples returned via: UPS FedEx Courier
 Temp: 2.3 °C Bottles Received: 90
 Date: 2/18/16 Time: 0900

Condition: (lab use only) DB10 OK
 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:
KCP&L Montrose CCR

City/State Collected:
Montrose, MO

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
WHIT MARTIN

Site/Facility ID #

P.O. #

Collected by (signature):
 Immediately Packed on Ice N Y X

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

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Nc. of Cntrs	Anions 125ml HDPE-NoPres	COD 250mlHDPE-H2S04	Metals 500mlHDPE-HN03	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HCL	TOX 1L-Amb-Add H2S04
706	GRAB	GW	-	2/16/16	1530	6	X	X	X	X	X	X
506		GW	-	2/16/16	1115	6	X	X	X			X
Duplicate		GW	-	2/16/16	1245	6	X	X	X			X
MS		GW	-	2/16/16	1250	6	X	X	X			X
MSD		GW	-	2/16/16	1255	6	X	X	X			X

Analysis / Container / Preservative
 LITHIUM, Molybdenum
 RA-220, RA-228 IL HDPE-HADJ
 CR


Chain of Custody Page **22** of **22**



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# **LS218419**

Table #

Acctnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P832648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	-11
	-12
	-13
	-04 #
	-04 JS

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

Remarks: **MS/MSD = MW-604**

6645 0389 5333 6645 0389 5458 pH _____ Temp _____

6645 0389 5322 6645 0389 5447 Flow _____ Other _____

6645 0389 5469 Hold #

Relinquished by: (Signature)
Bryan

Relinquished by: (Signature)
[Signature]

Relinquished by: (Signature)
[Signature]

Date: **2/17/16** Time: **1000**

Date: **2/17/16** 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: **2-3** °C Bottles Received: **90**

Date: **2/18/16** Time: **0900**

Condition: (lab use only)
DB10

COC Seal Intact: Y N NA

pH Checked: **CR** NCF:

SCS Engineers

Sample Delivery Group: L818427
Samples Received: 02/18/2016
Project Number: 27213168.16
Description: K<CP&L Montrose CCR

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

L818427 -01, -02, -03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13 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.
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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].
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.



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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		

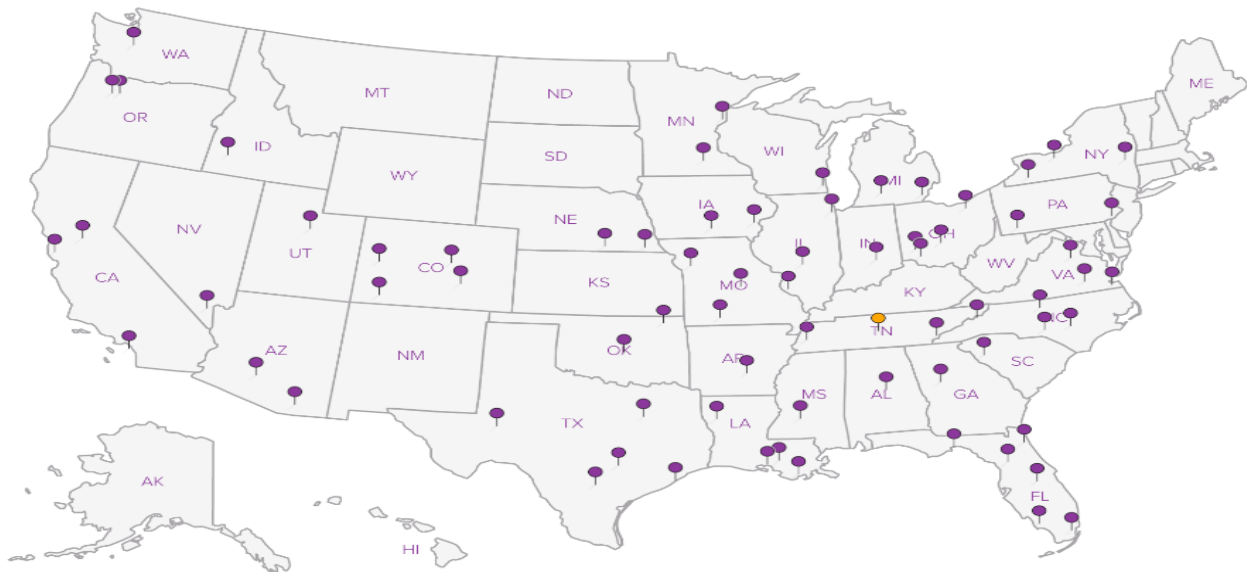
Third Party & Federal Accreditations

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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1 Cp

2 Tc

3 Cn

4 Gl

5 Al

6 Sc

Company Name/Address:
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 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:
KCP&L Montrose CCR

City/State Collected:
Montrose, MO

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
WHIT MARTIN

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
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Analysis / Container / Preservative										Rem./Contaminant	Sample # (lab only)
							Anions 125ml HDPE-NoPres	CO ₃ 250ml HDPE-H2S64	Metals 500ml HDPE-HN03	TDS 250ml HDPE-NoPres	TOC 250ml Amb-Septic-HOL	TOX 1E Amb-Amb H2S64	RA-220, RA-220 IL HDPE-HN03					
601	Gras	GW	-	2/16/16	1015	6	X	X	X	X	X	X	X	X	X	X	-01	
602		GW	-	2/16/16	1005	6	X	X	X	X	X	X	X	X	X	X	-02	
603		GW	-	2/16/16	1100	3	X	X	X	X	X	X	X	X	X	X	-03	
604		GW	-	2/16/16	1245	3	X	X	X	X	X	X	X	X	X	X	-04	
605		GW	-	2/16/16	1435	6	X	X	X	X	X	X	X	X	X	X	-05	
701		GW	-	2/16/16	1250	6	X	X	X	X	X	X	X	X	X	X	-06	
702		GW	-	2/16/16	1340	6	X	X	X	X	X	X	X	X	X	X	-07	
703		GW	-	2/16/16	1430	6	X	X	X	X	X	X	X	X	X	X	-08	
704		GW	-	2/16/16	1520	6	X	X	X	X	X	X	X	X	X	X	-09	
705		GW	-	2/16/16	1605	6	X	X	X	X	X	X	X	X	X	X	-10	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 pH _____ Temp _____
 Flow _____ Other _____
 Hold # _____

Relinquished by: (Signature)
[Signature]
 Date: **2/17/16**
 Time: **1000**

Received by: (Signature)
[Signature]
 Date: **2/17/16**
 Time: **1700**

Samples returned via: UPS
 FedEx Courier _____
 Temp: **2.3** °C Bottles Received: **90**
 Date: **2/18/16** Time: **0900**

Condition: (lab use only)
DB10 **OK**
 COC Seal Intact: ___ Y ___ N NA
 pH Checked: **22** NCF: _____

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 # **LS1849**
C007
LS18427
 Acctnum: **AQUAOPKS**
 Template: **T68018**
 Prelogin: **P532648**
 TSR: **206-jeff Carr**
 Cooler:

Rem./Contaminant	Sample # (lab only)
	-01
	-02
	-03
	-04
	-05
	-06
	-07
	-08
	-09
	-10

22
 Analysis / Container / Preservative

Anions 125ml HDPE-NoPres
 CO₃ 250ml HDPE-H2S64
 Metals 500ml HDPE-HN03
 TDS 250ml HDPE-NoPres
 TOC 250ml Amb-Septic-HOL
 TOX 1E Amb-Amb H2S64

RA-220, RA-220 IL HDPE-HN03

6645 0389 5458
 6645 0389 5322
 6645 0389 5333, 6645 0389 5447

[Signature]

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:
KCP&L Montrose CCR

City/State Collected:
Montrose, MO

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
WHIT MARTIN

Site/Facility ID #

P.O. #

Collected by (signature):
 Immediately Packed on Ice N Y X

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

Date Results Needed

Email? No X Yes
 FAX? No Yes

No. of Cntrs

Anions 125ml HDPE-NoPres

COG-250mlHDPE-H2SO4

Metals 500mlHDPE-HNO3

TDS 250mlHDPE-NoPres

TOC 250mlAmb-Septa-HGT

TOX 1L-Amb-Add H2SO4

RA-220, RA-228 IL HDPE-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 # **6818427**

Table #

Acctnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P832648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions 125ml HDPE-NoPres	COG-250mlHDPE-H2SO4	Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Septa-HGT	TOX 1L-Amb-Add H2SO4	RA-220, RA-228 IL HDPE-HNO3	Rem./Contaminant	Sample # (lab only)
706	GRAB	GW	-	2/16/16	530	6	X	X	X	X	X	X	X		-11
506		GW	-	2/16/16	1115	6	X	X	X	X	X	X	X		-12
Duplicate		GW	-	2/16/16	1245	6	X	X	X	X	X	X	X		-13
MS		GW	-	2/16/16	1250	6	X	X	X	X	X	X	X		-04 #
MSD		GW	-	2/16/16	1255	6	X	X	X	X	X	X	X		-04 #

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: **MS/MSD = MW-604**
 pH _____ Temp _____
 Flow _____ Other _____
 Hold # **6645 0389 5469**

Relinquished by: (Signature) **[Signature]** Date: **2/17/16** Time: **1000**
 Relinquished by: (Signature) **[Signature]** Date: **2/17/16** Time: **1700**
 Relinquished by: (Signature) **[Signature]** Date: _____ Time: _____
 Received by: (Signature) **[Signature]**
 Received by: (Signature) **[Signature]**
 Received for lab by: (Signature) **[Signature]**
 Samples returned via: UPS FedEx Courier Other
 Temp: **2-3** °C Bottles Received: **90**
 Date: **2/18/16** Time: **0900**
 Condition: (lab use only) **DB10**
 COC Seal Intact: Y N NA
 pH Checked: **12** NCF: **9K**

Case Narrative

Lab No: 20160171

This report contains the analytical results for the 15 sample(s) received under chain of custody by Outreach Laboratory on 02/19/16 09:30:04. These samples are associated with your KCP&L Montrose CCR 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 : SCS Aquaterra
 Client Project : KCP&L Montrose CCR
 Lab Number : 20160171
 Date Reported : 03/21/16
 Date Received : 02/19/16
 Page Number : 2 of 5

Analytical Report

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

Lab ID : 20160171-01
Client ID : 601
Date Sampled : 02/16/16 10:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.380 +/- 0.124	0.088	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.307 +/- 0.329	0.433	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-02
Client ID : 602
Date Sampled : 02/16/16 10:05:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.470 +/- 0.150	0.114	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.000 +/- 0.496	0.682	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-03
Client ID : 603
Date Sampled : 02/16/16 11:00:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.312 +/- 0.128	0.119	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.449 +/- 0.433	0.559	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-04
Client ID : 604
Date Sampled : 02/16/16 12:45:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.023 +/- 0.055	0.099	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.197 +/- 0.476	0.670	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-05
Client ID : 604 MS
Date Sampled : 02/16/16 12:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	119%		% Rec		03/01/16	03/02/16	AK
------------	-----------------	------	--	-------	--	----------	----------	----

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Aquaterra
 Client Project : KCP&L Montrose CCR
 Lab Number : 20160171
 Date Reported : 03/21/16
 Date Received : 02/19/16
 Page Number : 3 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	75.0%		% Rec		03/14/16	03/17/16	JR

Lab ID : 20160171-06
Client ID : 604 MSD
Date Sampled : 02/16/16 12:55:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	125%		RPD		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	80.2%		RPD		03/14/16	03/17/16	JR

Lab ID : 20160171-07
Client ID : 605
Date Sampled : 02/16/16 14:35:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.247 +/- 0.112	0.098	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	-0.536 +/- 0.687	0.874	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-08
Client ID : 701
Date Sampled : 02/16/16 12:50:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.555 +/- 0.164	0.138	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.938 +/- 0.723	0.918	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-09
Client ID : 702
Date Sampled : 02/16/16 13:40:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.257 +/- 0.124	0.149	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	-0.209 +/- 0.567	0.682	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-10
Client ID : 703
Date Sampled : 02/16/16 14:30:00
Matrix : NPW

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Aquaterra
 Client Project : KCP&L Montrose CCR
 Lab Number : 20160171
 Date Reported : 03/21/16
 Date Received : 02/19/16
 Page Number : 4 of 5

Analytical Report

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

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.546 +/- 0.189	0.113	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.737 +/- 0.564	0.596	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-11
Client ID : 704
Date Sampled : 02/16/16 15:20:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.535 +/- 0.161	0.072	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.139 +/- 0.609	0.848	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-12
Client ID : 705
Date Sampled : 02/16/16 16:05:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.854 +/- 0.174	0.111	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.723 +/- 0.529	0.602	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-13
Client ID : 706
Date Sampled : 02/16/16 15:30:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.682 +/- 0.164	0.119	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.354 +/- 0.621	0.720	pCi/l		03/14/16	03/17/16	JR

Lab ID : 20160171-14
Client ID : 506
Date Sampled : 02/16/16 11:15:00
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.131 +/- 0.102	0.136	pCi/l		03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.163 +/- 0.476	0.617	pCi/l		03/14/16	03/17/16	JR



Client : SCS Aquaterra
 Client Project : KCP&L Montrose CCR
 Lab Number : 20160171
 Date Reported : 03/21/16
 Date Received : 02/19/16
 Page Number : 5 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160171-15							
Client ID : Duplicate							
Date Sampled : 02/16/16 12:45:00							
Matrix : NPW							

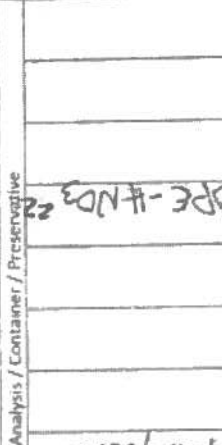
Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.071 +/- 0.052	0.030	pCi/l	03/01/16	03/02/16	AK
Radium-228	EPA 904*/9320*	0.115 +/- 0.508	0.536	pCi/l	03/14/16	03/17/16	JR

QC Report

Parameter	Blank	LCS %REC	LCS D %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
Radium-226	-0.059	115.0			27.7	1.570	119.0	125.0	4.1	03/02/16
Radium-228	-1.03	83.3			NC	0.581	75.0	80.2	6.4	03/17/16

Lab Approval: _____



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

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

Report to:
Jason Franks
Project: **KCP&L Montrose CCR**
Description:
Client Project #: **27213168.1b**
Site/Facility ID #

Account: **AQUAOPKS**
Template: **T68018**
Prelogin: **P532648**
TSR: **206-Jeff Carr**
Cooler

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: **Montrose, MO**
Lab Project #: **AQUAOPKS-MONTROSE**
P.O. #

Sample ID	Comp/Grab	Matrix*	Depth	Date Results Needed			No. of Chits	Temp	pH	Flow	Other	Hold #	Condition: (lab use only)
				Same Day	Next Day	Three Day							
601	GRAB	GW	-	2/16/16	1015	6						6645 0289 5469	
602		GW	-	2/16/16	1005	6							
603		GW	-	2/16/16	1100	3							
604		GW	-	2/16/16	1245	3							
605		GW	-	2/16/16	1435	6							
701		GW	-	2/16/16	1250	6							
702		GW	-	2/16/16	1340	6							
703		GW	-	2/16/16	1430	6							
704		GW	-	2/16/16	1520	6							
705		GW	-	2/16/16	1605	6							

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

Remarks:

Retinquished by: (Signature)
Retinquished by: (Signature)
Retinquished by: (Signature)

Received by: (Signature) **6645 0399 5458**
Received by: (Signature) **6645 0389 5322**
Received by: (Signature) **6645 0389 5447**

Date: **2/17/16** Time: **1000**
Date: **2/17/16** Time: **1700**

Received for lab by: (Signature) **Colin Bundy**

Company Name/Address

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

Report to:
Jason Franks

Project: KCP&L Montrose CCR
Description:
Phone: 913-681-0030
Fax: 913-681-0012

Collected by (print):
WATT MARTIN
Collected by (signature):

Immediately Packed on ice N Y

Client Project #
27213168.16

Site/Facility ID #

Rush? (Lab MUST be notified)
 Same Day
 Next Day
 Two Day
 Three Day

Date Results Needed

Email? No Yes
FAX? No Yes

Date Date Time
2/16/16 1115
2/16/16 1245
2/16/16 1250
2/16/16 1255

Depth
GW
60
60
60
60

Comp/Grab
Grab
↓

Matrix: SS Soil GW Groundwater WW Waste-Water DW Drinking Water OT - Other
6645 6389 5478
6645 6389 5362
6645 6389 5477

Remarks:
MS/MSD = MW-604

Requisitioned by: (Signature)
Requisitioned by: (Signature)
Requisitioned by: (Signature)

Billing Information

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

Email To:
franks@scsengineers.com

City/State Collected:
Montrose, MO

Lab Project #
AQUAOPKS-MONTROSE

P.O. #

Analysis / Container / Preservative

RA-228 IL HDPE-HRB

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

TDS 250ml HDPE-NO PRES

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

TDS 250ml HDPE-NO PRES

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

TDS 250ml HDPE-NO PRES

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

TDS 250ml HDPE-NO PRES

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

TDS 250ml HDPE-NO PRES

FOX IL AND ADD H2SO4

FOX 250ml HDPE-NO PRES

Meib 500ml HDPE-HNO3

Meib 250ml HDPE-HNO3

Artions 125ml HDPE-NO PRES

Chain of Custody Page 2 of 2



13005 Johnson Rd
Kansas City, MO 64137
Phone: 816-798-4548
FAX: 816-798-4549
E-mail: 816-798-4549

Table #
LH 191817

Account: AQUAOPKS

Temperature: T68018

Protocol: P832848

TSR: 205-Jeff Carr

Operator:

Shipping Via:

Item / Container / Sample # (lab only)

Temp

Hold #

Condition: (lab use only)

COC Seal Intact: Y N

pH Checked: Y N

MA

2/18/16 0900

2/18/16 0900

2/18/16 1700

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

2/17/16

22

20160171

SCS Aquaterra

Sample Delivery Group: L818747
Samples Received: 02/18/2016
Project Number: 27213168.16
Description: KCP&L Montrose CCR

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

Entire Report Reviewed By:

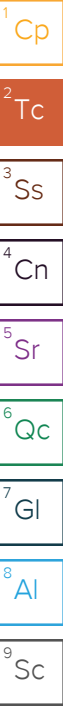


Jeff Carr
Technical Service Representative

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
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702 L818747-07	12
703 L818747-08	13
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SAMPLE SUMMARY



601 L818747-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 09:51	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 10:15
 Received date/time 02/18/16 09:00



602 L818747-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 09:54	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 10:05
 Received date/time 02/18/16 09:00



603 L818747-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 09:58	CCE

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



604 L818747-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 09:21	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 12:45
 Received date/time 02/18/16 09:00



605 L818747-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:07	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 14:35
 Received date/time 02/18/16 09:00

701 L818747-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:10	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 12:50
 Received date/time 02/18/16 09:00

702 L818747-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:13	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 13:40
 Received date/time 02/18/16 09:00

703 L818747-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:16	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 14:30
 Received date/time 02/18/16 09:00

SAMPLE SUMMARY



704 L818747-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:19	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 15:20
 Received date/time 02/18/16 09:00



705 L818747-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:22	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 16:05
 Received date/time 02/18/16 09:00



706 L818747-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:25	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 15:30
 Received date/time 02/18/16 09:00



506 L818747-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:29	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 11:15
 Received date/time 02/18/16 09:00



DUPLICATE L818747-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG850781	1	02/22/16 19:52	02/23/16 10:32	CCE

Collected by Whit Martin
 Collected date/time 02/16/16 12:45
 Received date/time 02/18/16 09:00



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	315		15.0	1	02/23/2016 09:51	WG850781
Molybdenum	ND		5.00	1	02/23/2016 09:51	WG850781

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	102		15.0	1	02/23/2016 09:54	WG850781
Molybdenum	ND		5.00	1	02/23/2016 09:54	WG850781

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	156		15.0	1	02/23/2016 09:58	WG850781
Molybdenum	ND		5.00	1	02/23/2016 09:58	WG850781

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	124		15.0	1	02/23/2016 09:21	WG850781
Molybdenum	ND		5.00	1	02/23/2016 09:21	WG850781

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	141		15.0	1	02/23/2016 10:07	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:07	WG850781

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	275		15.0	1	02/23/2016 10:10	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:10	WG850781

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	61.0		15.0	1	02/23/2016 10:13	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:13	WG850781

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	56.1		15.0	1	02/23/2016 10:16	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:16	WG850781

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	61.0		15.0	1	02/23/2016 10:19	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:19	WG850781

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	74.8		15.0	1	02/23/2016 10:22	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:22	WG850781

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	51.8		15.0	1	02/23/2016 10:25	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:25	WG850781

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	275		15.0	1	02/23/2016 10:29	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:29	WG850781

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	119		15.0	1	02/23/2016 10:32	WG850781
Molybdenum	ND		5.00	1	02/23/2016 10:32	WG850781

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 09:12

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) 02/23/16 09:15 • (LCSD) 02/23/16 09:18

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	0.994	0.987	99	99	80-120			1	20

L818747-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 02/23/16 09:21 • (MS) 02/23/16 09:33 • (MSD) 02/23/16 09:36

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	0.124	1.21	1.19	109	106	1	75-125			2	20
Molybdenum	1.00	ND	0.987	0.971	99	97	1	75-125			2	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

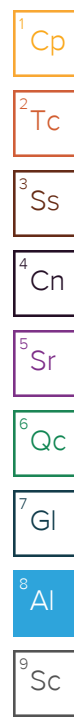
⁷ Gl

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		

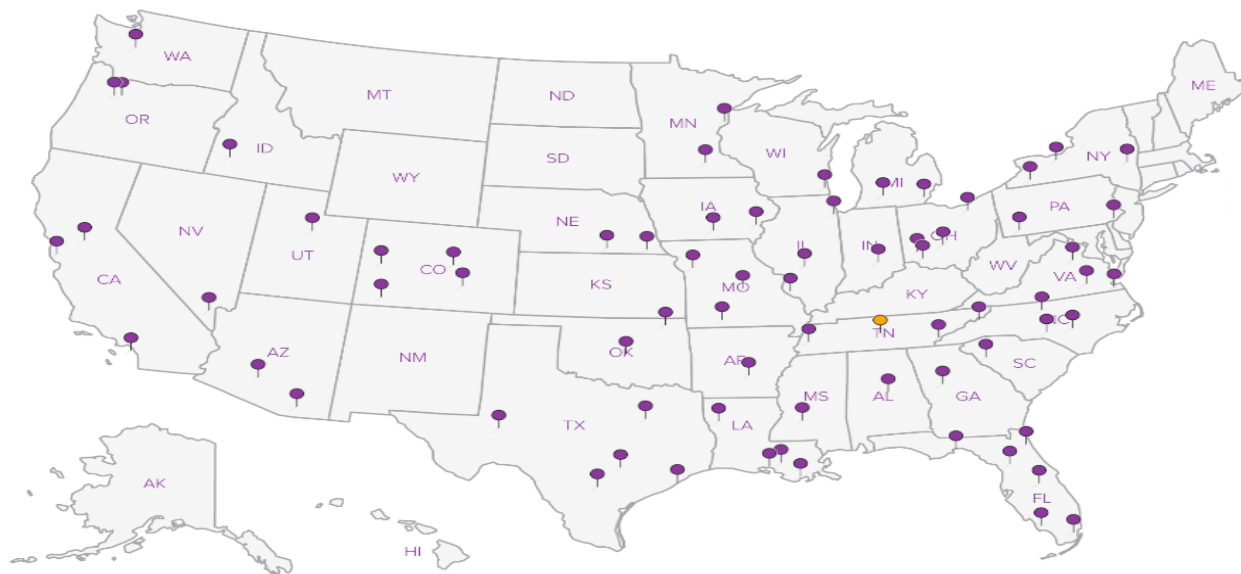
Third Party & Federal Accreditations

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 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:
KCP&L Montrose CCR

City/State Collected:
Montrose, MO

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

Client Project #
27213168.1b

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
WHEI MARTIN

Site/Facility ID #

P.O. #

Collected by (signature):
 [Signature]

Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 300%
 ___ Two Day 50%
 ___ Three Day 25%

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

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Chrs	Anions 125ml HDPE-NoPres	CO ₂ 250ml HDPE-H2664	Metals 500ml HDPE-HN03	TDS 250ml HDPE-NoPres	TOC 250ml AMD-Septa-HGL	TOX 1L-AMD-A00-H2664	RA-220, RA-220 IL HDPE-4-HN03-22
601	Grab	GW	-	2/16/16	1015	6	X	X	X	X	X	X	X
602		GW	-	2/16/16	1005	6	X	X	X	X	X	X	X
603		GW	-	2/16/16	1100	6	X	X	X	X	X	X	X
604		GW	-	2/16/16	1245	3	X	X	X	X	X	X	X
605		GW	-	2/16/16	1435	6	X	X	X	X	X	X	X
701		GW	-	2/16/16	1250	6	X	X	X	X	X	X	X
702		GW	-	2/16/16	1340	6	X	X	X	X	X	X	X
703		GW	-	2/16/16	1430	6	X	X	X	X	X	X	X
704		GW	-	2/16/16	1520	6	X	X	X	X	X	X	X
705		GW	-	2/16/16	1605	6	X	X	X	X	X	X	X

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

Remarks: **6645 0389 5333 6645 0389 5447**

Relinquished by: (Signature) **[Signature]** Date: **2/17/16** Time: **1000**

Relinquished by: (Signature) **[Signature]** Date: **2/17/16** Time: **1700**

Relinquished by: (Signature) **[Signature]** Date: **2/18/16** Time: **0900**

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

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

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

Samples returned via: UPS FedEx Courier Other

Temp: **2.3** °C Bottles Received: **90**

Date: **2/18/16** Time: **0900**

pH: **6645 0389 5469** Temp: _____

Flow: _____ Other: _____

Hold #

Condition: (lab use only) **DB10** **OK**

COC Seal Intact: Y N NA

pH Checked: **22** NCF: _____

Analysis / Container / Preservative

Chain of Custody Page **1** of **2**

ESC
 LAB SCIENCES

YOUR LAB OF CHOICE

17065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

QR Code

L# **6818747**

CO07
6818747

Acctnum: **AQUAOPKS**

Template: **T68018**

Prelogin: **P532648**

TSR: **206-jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	-01
	-02
	-03
	-04
	-05
	-06
	-07
	-08
	-09
	-10

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:
KCP&L Montrose CCR

City/State Collected:
Montrose, MO

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
WHIT MARTIN

Site/Facility ID #

P.O. #

Collected by (signature):
 Immediately Packed on Ice N Y X

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

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

Analysis / Container / Preservative
 Anions 125ml HDPE-NoPres
 COD 250ml HDPE-H2SO4
 Metals 500ml HDPE-HNO3
 TDS 250ml HDPE-NoPres
 TOC 250ml Amb-Septic-HCl
 TOX 1L-Amb-Add H2SO4
 RA-220, RA-228 IL HDPE-HAD3 e2

Chain of Custody Page 22 of



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



L # **L818747**
 Table # **L818747**
 Acctnum: **AQUAOPKS**
 Template: **T68018**
 Prelogin: **P832648**
 TSR: **206-jeff Carr**
 Cooler:
 Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Nc. of Cntrs	Anions	COD	Metals	TDS	TOC	TOX	RA-220	RA-228	IL HDPE-HAD3
706	GRAB	GW	-	2/16/16	1330	6	X	X	X	X	X	X	X	X	X
506	↓	GW	-	2/16/16	1115	6	X	X	X	X	X	X	X	X	X
Duplicate	↓	GW	-	2/16/16	1245	6	X	X	X	X	X	X	X	X	X
MS	↓	GW	-	2/16/16	1250	6	X	X	X	X	X	X	X	X	X
MSD	↓	GW	-	2/16/16	1255	6	X	X	X	X	X	X	X	X	X

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other
 Remarks: **MS/MSD = MW-604**
 Relinquished by: (Signature) **Bryan** Date: **2/17/16** Time: **1000**
 Relinquished by: (Signature) **[Signature]** Date: **2/17/16** Time: **1700**
 Relinquished by: (Signature) **[Signature]** Date: **2/18/16** Time: **0900**
 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: **2.3** °C Bottles Received: **90**
 Condition: (lab use only) **DB10**
 COC Seal Intact: Y N NA
 pH Checked: **12** NCF: **12**

Jared Morrison
December 20, 2022

ATTACHMENT 1-3
May 2016 Sampling Event Laboratory Report

SCS Engineers

Sample Delivery Group: L837965
Samples Received: 05/26/2016
Project Number: 27213168.16
Description: KCPL - Montrose 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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⁴Cn: Case Narrative	6	
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603 L837965-03	9	
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SAMPLE SUMMARY



601 L837965-01 GW

Collected by Jason R. Franks
Collected date/time 05/23/16 13:55
Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:34	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:15	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:15	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:18	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 19:32	05/30/16 19:32	CM
Wet Chemistry by Method 9056A	WG876615	50	06/01/16 17:27	06/01/16 17:27	SAM

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

602 L837965-02 GW

Collected by Jason R. Franks
Collected date/time 05/23/16 12:00
Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:36	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:18	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:24	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:20	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 20:36	05/30/16 20:36	CM
Wet Chemistry by Method 9056A	WG876615	50	06/01/16 17:43	06/01/16 17:43	SAM

603 L837965-03 GW

Collected by Jason R. Franks
Collected date/time 05/23/16 13:40
Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:38	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:21	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:27	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:22	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 21:08	05/30/16 21:08	CM
Wet Chemistry by Method 9056A	WG876615	50	06/01/16 17:59	06/01/16 17:59	SAM

604 L837965-04 GW

Collected by Jason R. Franks
Collected date/time 05/23/16 16:35
Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:40	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:24	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:30	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:35	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 21:40	05/30/16 21:40	CM
Wet Chemistry by Method 9056A	WG876042	20	05/30/16 21:56	05/30/16 21:56	CM

605 L837965-05 GW

Collected by Jason R. Franks
Collected date/time 05/23/16 17:35
Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:43	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:33	BRJ

SAMPLE SUMMARY



605 L837965-05 GW

Collected by
Jason R. Franks
Collected date/time
05/23/16 17:35
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:33	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:37	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 22:12	05/30/16 22:12	CM
Wet Chemistry by Method 9056A	WG876042	20	05/30/16 22:28	05/30/16 22:28	CM

1
Cp

2
Tc

3
Ss

4
Cn

701 L837965-06 GW

Collected by
Jason R. Franks
Collected date/time
05/24/16 11:00
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876140	1	05/31/16 07:42	05/31/16 08:31	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:45	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:36	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:36	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:40	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 23:15	05/30/16 23:15	CM
Wet Chemistry by Method 9056A	WG876042	20	05/30/16 23:31	05/30/16 23:31	CM
Wet Chemistry by Method 9056A	WG876615	50	06/01/16 18:15	06/01/16 18:15	SAM

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

702 L837965-07 GW

Collected by
Jason R. Franks
Collected date/time
05/24/16 11:35
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876140	1	05/31/16 07:42	05/31/16 08:31	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:47	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:39	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:39	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:42	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/30/16 23:47	05/30/16 23:47	CM
Wet Chemistry by Method 9056A	WG876042	20	05/31/16 00:03	05/31/16 00:03	CM

703 L837965-08 GW

Collected by
Jason R. Franks
Collected date/time
05/23/16 18:35
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:49	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:42	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:41	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:44	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/31/16 00:51	05/31/16 00:51	CM
Wet Chemistry by Method 9056A	WG876042	10	05/31/16 01:07	05/31/16 01:07	CM

704 L837965-09 GW

Collected by
Jason R. Franks
Collected date/time
05/23/16 18:20
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876034	1	05/30/16 22:59	05/30/16 23:35	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:56	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:45	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:44	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:47	JDG

SAMPLE SUMMARY



704 L837965-09 GW

Collected by Jason R. Franks
 Collected date/time 05/23/16 18:20
 Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG876042	1	05/31/16 01:23	05/31/16 01:23	CM
Wet Chemistry by Method 9056A	WG876042	10	05/31/16 02:10	05/31/16 02:10	CM

1
Cp

2
Tc

3
Ss

705 L837965-10 GW

Collected by Jason R. Franks
 Collected date/time 05/24/16 14:50
 Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876140	1	05/31/16 07:42	05/31/16 08:31	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:22	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:48	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:47	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:49	JDG
Wet Chemistry by Method 9056A	WG876042	1	05/31/16 02:26	05/31/16 02:26	CM
Wet Chemistry by Method 9056A	WG876042	10	05/31/16 02:42	05/31/16 02:42	CM

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

706 L837965-11 GW

Collected by Jason R. Franks
 Collected date/time 05/24/16 15:40
 Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876140	1	05/31/16 07:42	05/31/16 08:31	JM
Mercury by Method 7470A	WG875833	1	05/27/16 11:39	05/27/16 15:59	TRB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:52	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:50	BRJ
Metals (ICPMS) by Method 6020	WG876384	1	05/30/16 14:17	05/31/16 10:51	JDG
Wet Chemistry by Method 9056A	WG876227	1	05/31/16 15:39	05/31/16 15:39	SAM
Wet Chemistry by Method 9056A	WG877303	50	06/03/16 10:20	06/03/16 10:20	CM

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	4530000		10000	1	05/30/2016 23:35	WG876034

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	50600		1000	1	05/30/2016 19:32	WG876042
Fluoride	276		100	1	05/30/2016 19:32	WG876042
Sulfate	3360000		250000	50	06/01/2016 17:27	WG876615

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	05/27/2016 15:34	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.9		5.00	1	05/27/2016 14:15	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:15	WG875812
Boron	ND		200	1	05/27/2016 14:15	WG875812
Calcium	473000		1000	1	05/27/2016 14:15	WG875812
Chromium	ND		10.0	1	05/27/2016 14:15	WG875812
Cobalt	10.1		10.0	1	05/27/2016 14:15	WG875812
Lithium	304		15.0	1	05/27/2016 19:15	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:15	WG875812

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	05/31/2016 10:18	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:18	WG876384
Cadmium	1.56		1.00	1	05/31/2016 10:18	WG876384
Lead	ND		2.00	1	05/31/2016 10:18	WG876384
Selenium	2.94		2.00	1	05/31/2016 10:18	WG876384
Thallium	ND		2.00	1	05/31/2016 10:18	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2180000		10000	1	05/30/2016 23:35	WG876034

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4290		1000	1	05/30/2016 20:36	WG876042
Fluoride	ND		100	1	05/30/2016 20:36	WG876042
Sulfate	1490000		250000	50	06/01/2016 17:43	WG876615

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	05/27/2016 15:36	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	22.0		5.00	1	05/27/2016 14:18	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:18	WG875812
Boron	5170		200	1	05/27/2016 14:18	WG875812
Calcium	355000		1000	1	05/27/2016 14:18	WG875812
Chromium	ND		10.0	1	05/27/2016 14:18	WG875812
Cobalt	115		10.0	1	05/27/2016 14:18	WG875812
Lithium	97.3		15.0	1	05/27/2016 19:24	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:18	WG875812

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	05/31/2016 10:20	WG876384
Arsenic	4.98		2.00	1	05/31/2016 10:20	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:20	WG876384
Lead	ND		2.00	1	05/31/2016 10:20	WG876384
Selenium	ND		2.00	1	05/31/2016 10:20	WG876384
Thallium	ND		2.00	1	05/31/2016 10:20	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2990000		10000	1	05/30/2016 23:35	WG876034

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7640		1000	1	05/30/2016 21:08	WG876042
Fluoride	523		100	1	05/30/2016 21:08	WG876042
Sulfate	2760000		250000	50	06/01/2016 17:59	WG876615

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/27/2016 15:38	WG875833

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.3		5.00	1	05/27/2016 14:21	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:21	WG875812
Boron	7060		200	1	05/27/2016 14:21	WG875812
Calcium	429000		1000	1	05/27/2016 14:21	WG875812
Chromium	ND		10.0	1	05/27/2016 14:21	WG875812
Cobalt	45.4		10.0	1	05/27/2016 14:21	WG875812
Lithium	149		15.0	1	05/27/2016 19:27	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:21	WG875812

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 10:22	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:22	WG876384
Cadmium	2.99		1.00	1	05/31/2016 10:22	WG876384
Lead	ND		2.00	1	05/31/2016 10:22	WG876384
Selenium	7.37		2.00	1	05/31/2016 10:22	WG876384
Thallium	ND		2.00	1	05/31/2016 10:22	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	3010000		10000	1	05/30/2016 23:35	WG876034

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13300		1000	1	05/30/2016 21:40	WG876042
Fluoride	437		100	1	05/30/2016 21:40	WG876042
Sulfate	1990000		100000	20	05/30/2016 21:56	WG876042

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	05/27/2016 15:40	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	13.6		5.00	1	05/27/2016 14:24	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:24	WG875812
Boron	5060		200	1	05/27/2016 14:24	WG875812
Calcium	474000		1000	1	05/27/2016 14:24	WG875812
Chromium	ND		10.0	1	05/27/2016 14:24	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:24	WG875812
Lithium	116		15.0	1	05/27/2016 19:30	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:24	WG875812

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	05/31/2016 10:35	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:35	WG876384
Cadmium	1.20		1.00	1	05/31/2016 10:35	WG876384
Lead	ND		2.00	1	05/31/2016 10:35	WG876384
Selenium	ND		2.00	1	05/31/2016 10:35	WG876384
Thallium	ND		2.00	1	05/31/2016 10:35	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2760000		10000	1	05/30/2016 23:35	WG876034

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	47300		1000	1	05/30/2016 22:12	WG876042
Fluoride	166		100	1	05/30/2016 22:12	WG876042
Sulfate	1880000		100000	20	05/30/2016 22:28	WG876042

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	05/27/2016 15:43	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.35		5.00	1	05/27/2016 14:33	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:33	WG875812
Boron	2020		200	1	05/27/2016 14:33	WG875812
Calcium	412000		1000	1	05/27/2016 14:33	WG875812
Chromium	ND		10.0	1	05/27/2016 14:33	WG875812
Cobalt	29.6		10.0	1	05/27/2016 14:33	WG875812
Lithium	131		15.0	1	05/27/2016 19:33	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:33	WG875812

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	05/31/2016 10:37	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:37	WG876384
Cadmium	1.79		1.00	1	05/31/2016 10:37	WG876384
Lead	ND		2.00	1	05/31/2016 10:37	WG876384
Selenium	ND		2.00	1	05/31/2016 10:37	WG876384
Thallium	ND		2.00	1	05/31/2016 10:37	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3770000		10000	1	05/31/2016 08:31	WG876140

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	584000		20000	20	05/30/2016 23:31	WG876042
Fluoride	1370		100	1	05/30/2016 23:15	WG876042
Sulfate	2540000		250000	50	06/01/2016 18:15	WG876615

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	0.267		0.200	1	05/27/2016 15:45	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.4		5.00	1	05/27/2016 14:36	WG875812
Beryllium	2.91		2.00	1	05/27/2016 14:36	WG875812
Boron	ND		200	1	05/27/2016 14:36	WG875812
Calcium	504000		1000	1	05/27/2016 14:36	WG875812
Chromium	ND		10.0	1	05/27/2016 14:36	WG875812
Cobalt	50.9		10.0	1	05/27/2016 14:36	WG875812
Lithium	257		15.0	1	05/27/2016 19:36	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:36	WG875812

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	05/31/2016 10:40	WG876384
Arsenic	2.66		2.00	1	05/31/2016 10:40	WG876384
Cadmium	6.57		1.00	1	05/31/2016 10:40	WG876384
Lead	ND		2.00	1	05/31/2016 10:40	WG876384
Selenium	11.8		2.00	1	05/31/2016 10:40	WG876384
Thallium	ND		2.00	1	05/31/2016 10:40	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2730000		10000	1	05/31/2016 08:31	WG876140

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	340000		20000	20	05/31/2016 00:03	WG876042
Fluoride	179		100	1	05/30/2016 23:47	WG876042
Sulfate	1570000		100000	20	05/31/2016 00:03	WG876042

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	05/27/2016 15:47	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.4		5.00	1	05/27/2016 14:39	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:39	WG875812
Boron	ND		200	1	05/27/2016 14:39	WG875812
Calcium	491000		1000	1	05/27/2016 14:39	WG875812
Chromium	ND		10.0	1	05/27/2016 14:39	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:39	WG875812
Lithium	57.7		15.0	1	05/27/2016 19:39	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:39	WG875812

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	05/31/2016 10:42	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:42	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:42	WG876384
Lead	ND		2.00	1	05/31/2016 10:42	WG876384
Selenium	2.13		2.00	1	05/31/2016 10:42	WG876384
Thallium	ND		2.00	1	05/31/2016 10:42	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1460000		10000	1	05/30/2016 23:35	WG876034

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14500		1000	1	05/31/2016 00:51	WG876042
Fluoride	126		100	1	05/31/2016 00:51	WG876042
Sulfate	848000		50000	10	05/31/2016 01:07	WG876042

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/27/2016 15:49	WG875833

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	42.8		5.00	1	05/27/2016 14:42	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:42	WG875812
Boron	ND		200	1	05/27/2016 14:42	WG875812
Calcium	215000		1000	1	05/27/2016 14:42	WG875812
Chromium	ND		10.0	1	05/27/2016 14:42	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:42	WG875812
Lithium	56.1		15.0	1	05/27/2016 19:41	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:42	WG875812

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 10:44	WG876384
Arsenic	ND		2.00	1	05/31/2016 10:44	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:44	WG876384
Lead	ND		2.00	1	05/31/2016 10:44	WG876384
Selenium	ND		2.00	1	05/31/2016 10:44	WG876384
Thallium	ND		2.00	1	05/31/2016 10:44	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	1140000		10000	1	05/30/2016 23:35	WG876034

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	3770		1000	1	05/31/2016 01:23	WG876042
Fluoride	107		100	1	05/31/2016 01:23	WG876042
Sulfate	722000		50000	10	05/31/2016 02:10	WG876042

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	05/27/2016 15:56	WG875833

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	60.4		5.00	1	05/27/2016 14:45	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:45	WG875812
Boron	ND		200	1	05/27/2016 14:45	WG875812
Calcium	156000		1000	1	05/27/2016 14:45	WG875812
Chromium	ND		10.0	1	05/27/2016 14:45	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:45	WG875812
Lithium	58.3		15.0	1	05/27/2016 19:44	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:45	WG875812

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	05/31/2016 10:47	WG876384
Arsenic	13.8		2.00	1	05/31/2016 10:47	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:47	WG876384
Lead	ND		2.00	1	05/31/2016 10:47	WG876384
Selenium	ND		2.00	1	05/31/2016 10:47	WG876384
Thallium	ND		2.00	1	05/31/2016 10:47	WG876384



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1090000		10000	1	05/31/2016 08:31	WG876140

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	10200		1000	1	05/31/2016 02:26	WG876042
Fluoride	180		100	1	05/31/2016 02:26	WG876042
Sulfate	623000		50000	10	05/31/2016 02:42	WG876042

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/27/2016 15:22	WG875833

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	47.6		5.00	1	05/27/2016 14:48	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:48	WG875812
Boron	ND		200	1	05/27/2016 14:48	WG875812
Calcium	141000		1000	1	05/27/2016 14:48	WG875812
Chromium	ND		10.0	1	05/27/2016 14:48	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:48	WG875812
Lithium	61.8		15.0	1	05/27/2016 19:47	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:48	WG875812

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 10:49	WG876384
Arsenic	6.56		2.00	1	05/31/2016 10:49	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:49	WG876384
Lead	ND		2.00	1	05/31/2016 10:49	WG876384
Selenium	ND		2.00	1	05/31/2016 10:49	WG876384
Thallium	ND		2.00	1	05/31/2016 10:49	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	1790000		10000	1	05/31/2016 08:31	WG876140

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	29400		1000	1	05/31/2016 15:39	WG876227
Fluoride	169		100	1	05/31/2016 15:39	WG876227
Sulfate	1150000		250000	50	06/03/2016 10:20	WG877303

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/27/2016 15:59	WG875833

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	39.9		5.00	1	05/27/2016 14:52	WG875812
Beryllium	ND		2.00	1	05/27/2016 14:52	WG875812
Boron	216		200	1	05/27/2016 14:52	WG875812
Calcium	273000		1000	1	05/27/2016 14:52	WG875812
Chromium	ND		10.0	1	05/27/2016 14:52	WG875812
Cobalt	ND		10.0	1	05/27/2016 14:52	WG875812
Lithium	50.7		15.0	1	05/27/2016 19:50	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:52	WG875812

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 10:51	WG876384
Arsenic	11.5		2.00	1	05/31/2016 10:51	WG876384
Cadmium	ND		1.00	1	05/31/2016 10:51	WG876384
Lead	ND		2.00	1	05/31/2016 10:51	WG876384
Selenium	ND		2.00	1	05/31/2016 10:51	WG876384
Thallium	ND		2.00	1	05/31/2016 10:51	WG876384

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3140775-1 05/30/16 23:35

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

L837965-01 Original Sample (OS) • Duplicate (DUP)

(OS) L837965-01 05/30/16 23:35 • (DUP) R3140775-4 05/30/16 23:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	4530000	4590000	1	1.43		5

7 Gl

8 Al

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

(LCS) R3140775-2 05/30/16 23:35 • (LCSD) R3140775-3 05/30/16 23:35

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8760000	8630000	99.5	98.1	85.0-115			1.50	5

9 Sc



Method Blank (MB)

(MB) R3140772-1 05/31/16 08:31

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

L837965-10 Original Sample (OS) • Duplicate (DUP)

(OS) L837965-10 05/31/16 08:31 • (DUP) R3140772-5 05/31/16 08:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1090000	1140000	1	4.31		5

L837965-11 Original Sample (OS) • Duplicate (DUP)

(OS) L837965-11 05/31/16 08:31 • (DUP) R3140772-4 05/31/16 08:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1790000	1770000	1	1.13		5

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

(LCS) R3140772-2 05/31/16 08:31 • (LCSD) R3140772-3 05/31/16 08:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8140000	8520000	92.5	96.8	85.0-115			4.56	5



Method Blank (MB)

(MB) R3140576-1 05/30/16 14:12

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

L837927-08 Original Sample (OS) • Duplicate (DUP)

(OS) L837927-08 05/30/16 15:34 • (DUP) R3140576-4 05/30/16 15:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	463	1	0		15
Fluoride	ND	0.000	1	0		15
Sulfate	ND	1430	1	0		15

5 Sr

6 Qc

7 Gl

L837965-07 Original Sample (OS) • Duplicate (DUP)

(OS) L837965-07 05/30/16 23:47 • (DUP) R3140576-6 05/31/16 00:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	179	183	1	2		15

8 Al

9 Sc

L837965-07 Original Sample (OS) • Duplicate (DUP)

(OS) L837965-07 05/31/16 00:03 • (DUP) R3140576-7 05/31/16 00:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	340000	344000	20	1		15
Sulfate	1570000	1580000	20	1		15

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

(LCS) R3140576-2 05/30/16 14:28 • (LCSD) R3140576-3 05/30/16 14:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39500	39200	99	98	80-120			1	15
Fluoride	8000	7950	7970	99	100	80-120			0	15
Sulfate	40000	39300	38800	98	97	80-120			1	15



L837959-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L837959-05 05/30/16 17:57 • (MS) R3140576-5 05/30/16 18:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	39800	87000	94	1	80-120	
Fluoride	5000	136	5270	103	1	80-120	
Sulfate	50000	30300	77500	94	1	80-120	

L837965-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837965-10 05/31/16 02:26 • (MS) R3140576-8 05/31/16 02:58 • (MSD) R3140576-9 05/31/16 03:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	10200	66800	60400	113	100	1	80-120			10	15
Fluoride	5000	180	5470	5160	106	100	1	80-120			6	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3140810-1 05/31/16 06:29

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

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

(LCS) R3140810-2 05/31/16 06:44 • (LCSD) R3140810-3 05/31/16 06:59

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	7880	7910	99	99	80-120			0	15

5 Sr

6 Qc

L837965-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L837965-11 05/31/16 15:39 • (MS) R3140810-4 05/31/16 15:53

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	29400	78700	99	1	80-120	
Fluoride	5000	169	4960	96	1	80-120	

7 Gl

8 Al

9 Sc

L837981-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837981-01 05/31/16 19:07 • (MS) R3140810-5 05/31/16 19:52 • (MSD) R3140810-6 05/31/16 20:07

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	3450	92900	93000	179	179	1	80-120	J5	J5	0	15
Fluoride	5000	13.0	4970	5170	99	103	1	80-120			4	15



Method Blank (MB)

(MB) R3141060-1 06/01/16 09:05

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

L837959-02 Original Sample (OS) • Duplicate (DUP)

(OS) L837959-02 06/01/16 14:16 • (DUP) R3141060-4 06/01/16 15:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	34200	26300	10	26	J P1	15

L838294-04 Original Sample (OS) • Duplicate (DUP)

(OS) L838294-04 06/02/16 00:05 • (DUP) R3141060-8 06/02/16 00:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	ND	811	1	0		15

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

(LCS) R3141060-2 06/01/16 09:21 • (LCSD) R3141060-3 06/01/16 09:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	38000	37900	95	95	80-120			0	15

L837959-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L837959-07 06/01/16 16:55 • (MS) R3141060-5 06/01/16 17:11

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	92.9	47900	96	1	80-120	

L838294-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838294-02 06/01/16 23:01 • (MS) R3141060-6 06/01/16 23:17 • (MSD) R3141060-7 06/01/16 23:33

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	6740	55600	55600	98	98	1	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

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



Method Blank (MB)

(MB) R3140317-1 05/27/16 15:15

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

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3140317-2 05/27/16 15:18 • (LCSD) R3140317-3 05/27/16 15:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.08	3.04	103	101	80-120			1	20

L837965-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837965-10 05/27/16 15:22 • (MS) R3140317-4 05/27/16 15:29 • (MSD) R3140317-5 05/27/16 15:31

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	3.04	2.87	101	96	1	75-125			6	20



Method Blank (MB)

(MB) R3140311-1 05/27/16 13:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		1.70	5.00
Beryllium	U		0.700	2.00
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) R3140311-2 05/27/16 13:25 • (LCSD) R3140311-3 05/27/16 13:27

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	%	%	%			%	%
Barium	1000	1020	1010	102	101	80-120			1	20
Beryllium	1000	1050	1030	105	103	80-120			1	20
Boron	1000	1110	1070	111	107	80-120			3	20
Calcium	10000	11500	10400	115	104	80-120			10	20
Chromium	1000	1020	1010	102	101	80-120			1	20
Cobalt	1000	1030	1020	103	102	80-120			0	20
Molybdenum	1000	1030	1020	103	102	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 13:30 • (MS) R3140311-5 05/27/16 13:36 • (MSD) R3140311-6 05/27/16 13:39

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	9.09	991	993	98	98	1	75-125			0	20
Beryllium	1000	ND	1020	1030	102	103	1	75-125			0	20
Boron	1000	ND	1220	1210	108	108	1	75-125			0	20
Calcium	10000	404000	405000	404000	12	7	1	75-125	V	V	0	20
Chromium	1000	ND	979	977	98	97	1	75-125			0	20
Cobalt	1000	ND	1060	1060	106	106	1	75-125			0	20
Molybdenum	1000	ND	1010	1020	101	102	1	75-125			1	20



L837880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837880-01 05/27/16 14:00 • (MS) R3140311-7 05/27/16 14:03 • (MSD) R3140311-8 05/27/16 14:06

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1000	8.37	989	996	98	99	1	75-125			1	20
Beryllium	1000	ND	1020	1020	102	102	1	75-125			0	20
Boron	1000	ND	1200	1220	107	108	1	75-125			1	20
Calcium	10000	408000	402000	402000	0	0	1	75-125	<u>V</u>	<u>V</u>	0	20
Chromium	1000	ND	966	970	97	97	1	75-125			0	20
Cobalt	1000	ND	1050	1060	105	106	1	75-125			1	20
Molybdenum	1000	ND	1020	1020	102	102	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) R3140323-1 05/27/16 18:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lithium	U		5.30	15.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3140323-2 05/27/16 18:41 • (LCSD) R3140323-3 05/27/16 18:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Lithium	1000	1010	1030	101	103	80-120			2	20

L837880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837880-01 05/27/16 18:47 • (MS) R3140323-5 05/27/16 19:03 • (MSD) R3140323-6 05/27/16 19:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lithium	1000	269	1270	1280	100	101	1	75-125			0	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3140596-1 05/31/16 10:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
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

- 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) 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
	ug/l	ug/l	ug/l	%	%	%			%	%
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

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	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	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



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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ 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		

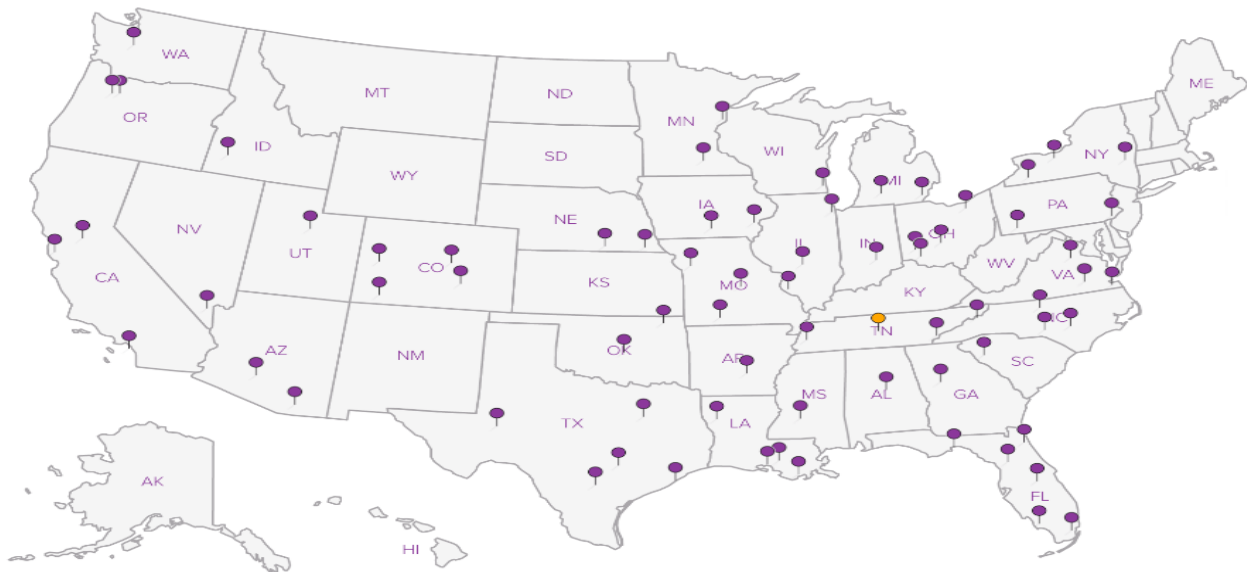
Third Party & Federal Accreditations

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

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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

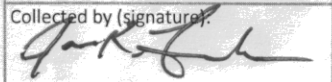
Client Project #
27213168.16

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):

 Immediately Packed on Ice N ___ Y

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

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

Analysis / Container / Preservative			
CCR Anions (Cl-, F-, SO4)	125mlHDPE-NoPres		
*CCR Metals	500mlHDPE-HNO3	62	
TDS	250mlHDPE-NoPres		
Ra226/228(reportseparate&comb)	2x1LHDPE-HNO3		

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 # **837965**

T **G063**

Acctnum: **AQUAOPRO**

Template:

Prelogin:

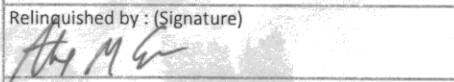
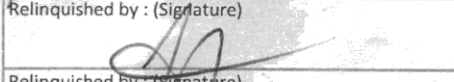
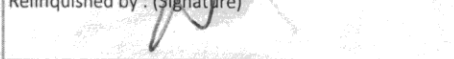
TSR: **206-Jeff Carr**

PB:

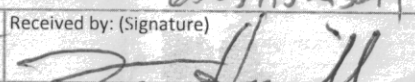
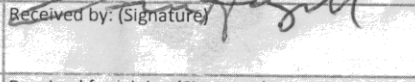
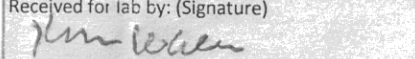
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Analysis / Container / Preservative				Rem./Contaminant	Sample # (lab only)
							CCR Anions (Cl-, F-, SO4)	*CCR Metals	TDS	Ra226/228		
601	Grab	GW	NA	5/23/16	1355	35	X	X	X	X		01
602	Grab	GW	NA	5/23/16	1200	35	X	X	X	X		02
603	Grab	GW	NA	5/23/16	1340	35	X	X	X	X		03
604	Grab	GW	NA	5/23/16	1635	35	X	X	X	X		04
605	Grab	GW	NA	5/23/16	1735	35	X	X	X	X		05
701	Grab	GW	NA	5/24/16	1100	35	X	X	X	X		06
702	Grab	GW	NA	5/24/16	1135	35	X	X	X	X		07
703	Grab	GW	NA	5/23/16	1835	35	X	X	X	X		08
704	Grab	Other	NA	5/23/16	1820	35	X	X	X	X		09
705	Grab	Other	NA	5/24/16	1450	3/5	X	X	X	X		10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other **Radium To outreach** pH _____ Temp _____

Remarks: *CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl **650371523614** Flow _____ Other _____

Relinquished by: (Signature)

 Relinquished by: (Signature)

 Relinquished by: (Signature)


Date: **5/25/16** Time: **1015**
 Date: **5/25/16** Time: **1700**
 Date: _____ Time: _____

Received by: (Signature)

 Received by: (Signature)

 Received for lab by: (Signature)


Samples returned via: UPS
 FedEx Courier _____
 Temp: **3.2** °C Bottles Received: **33**
 Date: **5/26/16** Time: **0900**

Hold # _____
 Condition: (lab use only) **0**
 COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: **L2** 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

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

Lab Project #

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

No. of Cntrs

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
706	Grab	GW	NA	5/24/16	1540	35

Analysis / Container / Preservative	CCR Anions (Cl-, F-, SO4) 125mlHDPE-NoPres	*CCR Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Ra226/228(reportseperate&comb)-2x1LHDPE-HNO3
	X	X	X	X

Chain of Custody Page ___ of ___



YOUR LAB OF CHOICE

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



L # **837965**

Table **G065**

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	11

* 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**

Radium To OUt Reach pH _____ Temp _____

656371523614 Flow _____ Other _____

Relinquished by: (Signature) <i>At the Max</i>	Date: 5/25/16	Time: 1015	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Hold #
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/25/16	Time: 1610	Received by: (Signature) <i>[Signature]</i>	Temp: 32 °C Bottles Received: 33	Condition: (lab use only) OL
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>Kim Lee</i>	Date: 5/26/16 Time: 0900	COC Seal Intact: ___ Y ___ N ___ NA
					pH Checked: NCF:

Case Narrative

Lab No: 20160514

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 5/26/2016 1:37:16 PM. These samples are associated with your 27213168.16 KCPL Montrose Gen Stn 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 : 27213168.16 KCPL Montrose Gen Stn
 Lab Number : 20160514
 Date Reported : 06/30/16
 Date Received : 05/26/16
 Page Number : 2 of 6

Analytical Report

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

Lab ID : 20160514-01
Client ID : 506
Date Sampled : 5/23/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.609 +/- 0.607	0.903	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.034 +/- 0.163	0.317	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.609 +/- 0.444	0.586	pCi/l	06/17/16	06/22/16	JR

Lab ID : 20160514-02
Client ID : Duplicate
Date Sampled : 5/23/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	3.35 +/- 0.605	0.748	pCi/l				
Radium-226	SM 7500 Ra B M*	0.151 +/- 0.101	0.093	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	3.20 +/- 0.504	0.655	pCi/l	06/17/16	06/22/16	JR

Lab ID : 20160514-03
Client ID : 506 MS
Date Sampled : 5/23/2016 4:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	25.8 +/- 1.70	0.780	pCi/l				
Radium-226	SM 7500 Ra B M*	84.5	% Rec		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	78.5	% Rec		06/17/16	06/22/16	JR

Lab ID : 20160514-04
Client ID : 506 MSD
Date Sampled : 5/23/2016 4:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	27.9 +/- 2.08	1.28	pCi/l				
Radium-226	SM 7500 Ra B M*	13.1	RPD		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	2.8	RPD		06/17/16	06/22/16	JR



Client : SCS Engineers
 Client Project : 27213168.16 KCPL Montrose Gen Stn
 Lab Number : 20160514
 Date Reported : 06/30/16
 Date Received : 05/26/16
 Page Number : 3 of 6

Analytical Report

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

Lab ID : 20160514-05
Client ID : 601
Date Sampled : 5/23/2016 1:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.801 +/- 0.804	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.091 +/- 0.178	0.292	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.710 +/- 0.626	0.745	pCi/l	06/17/16	06/23/16	JR

Lab ID : 20160514-06
Client ID : 602
Date Sampled : 5/23/2016 12:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.94 +/- 0.736	0.862	pCi/l				
Radium-226	SM 7500 Ra B M*	0.308 +/- 0.199	0.255	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	1.63 +/- 0.537	0.607	pCi/l	06/17/16	06/23/16	JR

Lab ID : 20160514-07
Client ID : 603
Date Sampled : 5/23/2016 1:45:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.688 +/- 0.636	0.822	pCi/l				
Radium-226	SM 7500 Ra B M*	0.261 +/- 0.147	0.184	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.427 +/- 0.489	0.638	pCi/l	06/17/16	06/23/16	JR

Lab ID : 20160514-08
Client ID : 604
Date Sampled : 5/23/2016 4:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.390 +/- 0.811	0.96	pCi/l				
Radium-226	SM 7500 Ra B M*	0.167 +/- 0.127	0.130	pCi/l	06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.223 +/- 0.684	0.833	pCi/l	06/17/16	06/23/16	JR



Client : SCS Engineers
 Client Project : 27213168.16 KCPL Montrose Gen Stn
 Lab Number : 20160514
 Date Reported : 06/30/16
 Date Received : 05/26/16
 Page Number : 4 of 6

Analytical Report

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

Lab ID : 20160514-09
Client ID : 605
Date Sampled : 5/23/2016 5:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.906 +/- 0.760	0.86	pCi/l				
Radium-226	SM 7500 Ra B M*	0.477 +/- 0.210	0.168	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.429 +/- 0.550	0.690	pCi/l		06/17/16	06/23/16	JR

Lab ID : 20160514-10
Client ID : 701
Date Sampled : 5/24/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.51 +/- 0.639	0.800	pCi/l				
Radium-226	SM 7500 Ra B M*	0.297 +/- 0.158	0.185	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	1.21 +/- 0.481	0.615	pCi/l		06/17/16	06/23/16	JR

Lab ID : 20160514-11
Client ID : 702
Date Sampled : 5/24/2016 11:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.48 +/- 0.954	1.19	pCi/l				
Radium-226	SM 7500 Ra B M*	0.265 +/- 0.152	0.189	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	1.21 +/- 0.702	0.999	pCi/l		06/17/16	06/23/16	JR

Lab ID : 20160514-12
Client ID : 703
Date Sampled : 5/23/2016 6:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.644 +/- 0.622	0.795	pCi/l				
Radium-226	SM 7500 Ra B M*	0.316 +/- 0.155	0.175	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	0.328 +/- 0.467	0.620	pCi/l		06/17/16	06/23/16	JR



Client : SCS Engineers
 Client Project : 27213168.16 KCPL Montrose Gen Stn
 Lab Number : 20160514
 Date Reported : 06/30/16
 Date Received : 05/26/16
 Page Number : 5 of 6

Analytical Report

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

Lab ID : 20160514-13
Client ID : 704
Date Sampled : 5/23/2016 6:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		4.43 +/- 0.830	1.08	pCi/l				
Radium-226	SM 7500 Ra B M*	0.624 +/- 0.232	0.162	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	3.81 +/- 0.598	0.914	pCi/l		06/17/16	06/23/16	JR

Lab ID : 20160514-14
Client ID : 705
Date Sampled : 5/24/2016 2:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.756 +/- 0.686	0.759	pCi/l				
Radium-226	SM 7500 Ra B M*	0.756 +/- 0.194	0.089	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	-0.598 +/- 0.492	0.670	pCi/l		06/17/16	06/23/16	JR

Lab ID : 20160514-15
Client ID : 706
Date Sampled : 5/24/2016 3:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		3.77 +/- 0.903	1.01	pCi/l				
Radium-226	SM 7500 Ra B M*	0.475 +/- 0.172	0.125	pCi/l		06/02/16	06/06/16	AK
Radium-228	EPA 904*/9320*	3.29 +/- 0.731	0.887	pCi/l		06/17/16	06/23/16	JR



Client : SCS Engineers
 Client Project : 27213168.16 KCPL Montrose Gen Stn
 Lab Number : 20160514
 Date Reported : 06/30/16
 Date Received : 05/26/16
 Page Number : 6 of 6

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
Radium-226	-0.007	85.4			NC	0.324	84.5	96.5	13.1	6/6/2016
Radium-228	-0.441	87.5			NC	0.634	78.5	75.0	2.8	6/29/2016

Lab Approval: _____

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@sccsengineers.com**

Project Description:
KCPL Montrose Gen Station - Groundwater

Client Project #
27213168.16

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

City/State Collected:
Montrose, Mo

Collected by (print):
Jason R. Franks

Lab Project #
P.O. #

Date Results Needed
STD

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

Immediate
 Packed on ice N ___ Y

Email? ___ No Yes
FAX? ___ No ___ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date		Time	No. OF Cntrs	Analysis / Container / Preservative						Radium 226, Radium 228 ** 2x1L HDPE+HN03	Total Metals ** 500ml HDPE+HN03	X	X	X	X	X	X																								
				Date	Time																																								
506	Grab	GW	NA	5/23/16	1550		3																																						

*** Matrix:** S5 - 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 Franks Date: **5/25/16** Time: **1015**

Relinquished by: (Signature)
Jason Franks Date: **5/23/16** Time: **1550**

Relinquished by: (Signature)
Jason Franks Date: **5/23/16** Time: **1550**

Received by: (Signature)
Jason Franks Date: **5/25/16** Time: **1015**

Received by: (Signature)
Jason Franks Date: **5/23/16** Time: **1550**

Received for lab by: (Signature)
Jason Franks Date: **5/23/16** Time: **1550**

Temp: _____ °C
Flow _____
Other _____

Samples returned via: UPS FedEx Courier Bottles Received:

Temp: _____ °C
Date: _____
Time: _____

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

20160514

Chain of Custody Page ___ of ___

ESC
 L.A.B S.C.I.E.N.C.I.E.S
YOUR LAB OF CHOICE
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-759-5858
 Phone: 800-767-5859
 Fax: 615-759-5859

L# 838463

Table#

Account: AQUAOPKS

Template:

Prep/In:

CSR: 206-Jeff Carr

RR:

Shipped Via:

Retn./Contaminant

Sample # (lab only)

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
Mr. Jason R. Franks
913-681-0030
913-681-0012
913-681-0030
913-681-0012

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected: **Montrose, Mo**

Lab Project #: _____

P.O. #: _____

Client Project #: **27213168.16**

Site/Facility ID #: _____

Collected by (signature): *[Signature]*

Collected by (print): **Jason R. Franks**

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

Immediately _____ Y N _____ Y N _____

Packed on Ice _____ Y N _____ Y N _____

Date Results Needed: **STD**

Email? No Yes
 FAX? No Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Chnrs
Duplicate	Grab	GW	NA	5/23/16	1550	3
MS (506)	Grab	GW	NA	5/23/16	1600	3
MSD (506)	Grab	GW	NA	5/23/16	1600	3

Chain of Custody Page ___ of ___

Analysis / Container / Preservative

Hold # _____

Condition: (lab use only) _____

GOC Seal Intact: Y ___ N ___ NA ___

pH Checked: _____

Temp: _____ °C

Date: *5/25/16* Time: *10:15*

Date: _____ Time: _____

Date: _____ Time: _____

Received by (Signature): *[Signature]*

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

Chain of Custody Page ___ of ___

Analysis / Container / Preservative

Hold # _____

Condition: (lab use only) _____

GOC Seal Intact: Y ___ N ___ NA ___

pH Checked: _____

Temp: _____ °C

Date: *5/25/16* Time: *10:15*

Date: _____ Time: _____

Date: _____ Time: _____

Received by (Signature): *[Signature]*

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

Chain of Custody Page ___ of ___

Analysis / Container / Preservative

Hold # _____

Condition: (lab use only) _____

GOC Seal Intact: Y ___ N ___ NA ___

pH Checked: _____

Temp: _____ °C

Date: *5/25/16* Time: *10:15*

Date: _____ Time: _____

Date: _____ Time: _____

Received by (Signature): *[Signature]*

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

Chain of Custody Page ___ of ___

Analysis / Container / Preservative

Hold # _____

Condition: (lab use only) _____

GOC Seal Intact: Y ___ N ___ NA ___

pH Checked: _____

Temp: _____ °C

Date: *5/25/16* Time: *10:15*

Date: _____ Time: _____

Date: _____ Time: _____

Received by (Signature): *[Signature]*

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

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

Remarks: ****Metals=Li, Mo****

Ra 226&Ra228=Report Separately and combined Please

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

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

Remarks: ****Metals=Li, Mo****

Ra 226&Ra228=Report Separately and combined Please

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

20160514

Analysis / Container / Preservative

Ra226/228(reportseparate&comb)-2x1LHDFE-HN03

~~IDS 250mHDFE-NOPres~~

~~*CCR Metals-500mHDFE-HN03~~

~~CCR Anions(Cl-, F-, SO4) 125mHDFE-NOPres~~

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 Montrose Gen Station - Groundwater
City/State Collected: **Montrose, Mo**


Client Project #
27213168.16

Site/Facility ID #

Phone: **913-681-0030**

Fax: **913-681-0012**

Collected by (print):
Jason R. Franks

Collected by (signature):


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 Results Needed		No. of Cntrs
				Date	Time	
601	Grab	GW	NA	5/23/16	1355	5
602	Grab	GW	NA	5/23/16	1200	5
603	Grab	GW	NA	5/23/16	1340	5
604	Grab	GW	NA	5/23/16	1635	5
605	Grab	GW	NA	5/23/16	1735	5
701	Grab	GW	NA	5/24/16	1100	5
702	Grab	GW	NA	5/24/16	1135	5
703	Grab	GW	NA	5/23/16	1835	5
704	Grab	Other	NA	5/23/16	1820	5
705	Grab	Other	NA	5/24/16	1450	5

Rem./Contaminant: _____ Sample # (lab only): _____

Shipped Via: _____

TSR: **206-Jeff Carr**

Table #: **838403**

Acctnum: **AQUAOPKS**


Template: _____

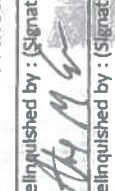
Prelogiri: _____


Temp: _____ °C

Flow: _____ Other: _____

Samples returned via: UPS FedEx Courier Bottles Received:

Received by: (Signature)  Time: 1015

Relinquished by: (Signature)  Time: 5/25/16

Received for lab by: (Signature)  Time: 1337

Date: 5/26/16

Temp: _____ °C

GOC Seal Intact: Y N NA

pH(Checked): _____ NGF: _____

Hold # _____ Condition: (lab use only)

pH _____ Temp _____

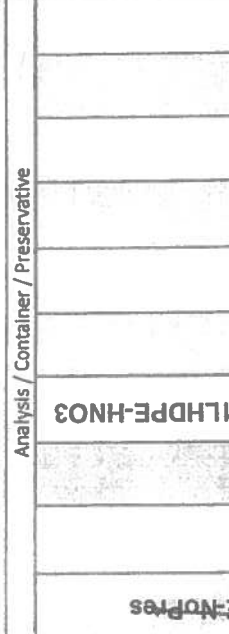
Remarks: **SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other**

Remarks: ***CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti**

Date: 5/26/16

Time: 1337

20160514



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

L.# 838403
Tablet #
Account: **AQUAOPKS**
Template:
Prelogint:
TSR: **206-Jeff Carr**
PB:
Shipped Via:
Rem./Contaminant
Sample # (lab only)

Billing information:
Jason Franks
SCS Engineers
7311 West 130th Street
Suite 100
Overland Park, Kansas 66213

Report to:
Mr. Jason R. Franks
Project: **KCPL Montrose Gen Station - Groundwater**
Description:
Phone: **913-681-0030**
Fax: **913-681-0012**
Collected by (print):
Jason R. Franks
Collected by (signature):
Jason R. Franks
Packed on 10/2 N Y ✓

City/State Collected: **Montrose, Mo**
Lab Project #
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
Date
Time
Date
Time

Client Project #
27213168.16
Site/Facility ID #
Comp/Grab
Matrix *
Depth
Date
Time
Date
Time

Sample ID
706

No. of Cntrs
5

Analysis / Container / Preservative	Hold #	Condition: (lab use only)
CCR Anions (Cl-, F-, SO4) 123mHDPF-NoPres		
CCR Metals 500mHDPF-HNO3		
TDS 250mHDPF-NoPres		
Ra226/228 (reportseparate&comb)-2x1LHDPF-HNO3		

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other	pH	Temp
Remarks: *CCR Metals: B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Ti	Flow	Other
Relinquished by: (Signature) <i>Mr. Man</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Temp: <u> </u> °C Bottles Received:
Relinquished by: (Signature)	Date: <u>5/25/16</u> Time: <u>1015</u>	Date: <u>5/26/16</u> Time: <u>1337</u>
Relinquished by: (Signature)	Date: <u> </u> Time: <u> </u>	Date: <u> </u> Time: <u> </u>

Received by: (Signature) <i>Jason Franks</i>	Received for lab by: (Signature) <i>Jason Franks</i>
Date: <u>5/25/16</u> Time: <u>1015</u>	Date: <u>5/26/16</u> Time: <u>1337</u>
Date: <u> </u> Time: <u> </u>	Date: <u> </u> Time: <u> </u>

GOC Seal Intact: Y N NA
pH Checked: NCF:

SAMPLE LOGIN

Date Received: 5/26/2016 1:37:16

Lab Number: 20160514

Due: 6/23/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160514-01 B	506	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-01 A	506	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-02 A	Duplicate	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-02 B	Duplicate	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-03 A	506 MS	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-03 B	506 MS	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-04 A	506 MSD	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-04 B	506 MSD	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-05 A	601	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-05 B	601	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-06 A	602	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-06 B	602	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-07 B	603	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
20160514-07 A	603	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*9320*						
20160514-08 B	604	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	Yes	Yes

Sample ID	NPW	Date	Material	Volume	Parameter	Result	Pass
20160514-08 A	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-09 A	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-09 B	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-10 A	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-10 B	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-11 A	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-11 B	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-12 A	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-12 B	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-13 A	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-13 B	NPW	05/23/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-14 A	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-14 B	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes
20160514-15 A	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
20160514-15 B	NPW	05/24/16	Plastic	1 L	HNO ₃ , pH < 2		<input type="checkbox"/>
Radium-226		SM 7500 Ra B M*					Yes
Radium-228		EPA 904*9320*					Yes

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken 0 Temperature: NA Ice C Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 Chain of Custody Record Labels in Tact Radiation Survey Complete NA

Anomalies Sample #10, In 701, sample time discrepancy: coc has "11:00", sample label has "11:35" } 05/26/16 M
#11, I 702, " " ; " " "11:35"; " " "11:00" }

Inspected By: [Signature] DATE 5/26/16
QA or Designee Review: [Signature] DATE 05/26/16
Sample Custodian Review: [Signature] DATE 5.26.16

Project Notes:

Case Narrative

Lab No: 20160514

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 5/26/2016 1:37:16 PM. These samples are associated with your 27213168.16 KCPL Montrose Gen Stn 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

SCS Engineers

Sample Delivery Group: L837867
Samples Received: 05/26/2016
Project Number: 27213168.16
Description: KCPL - Montrose 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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DUPLICATE L837867-02	6	
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SAMPLE SUMMARY



506 L837867-01 GW

Collected by
Jason R. Franks
Collected date/time
05/23/16 15:50
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876033	1	05/30/16 23:16	05/30/16 23:46	JM
Mercury by Method 7470A	WG875715	1	05/26/16 16:22	05/27/16 12:48	NJB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 13:30	BRJ
Metals (ICPMS) by Method 6020	WG875774	1	05/27/16 06:16	05/27/16 15:27	JDG
Wet Chemistry by Method 9056A	WG876370	1	05/31/16 22:02	05/31/16 22:02	SAM
Wet Chemistry by Method 9056A	WG876370	50	05/31/16 22:17	05/31/16 22:17	SAM



DUPLICATE L837867-02 GW

Collected by
Jason R. Franks
Collected date/time
05/23/16 15:50
Received date/time
05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG876033	1	05/30/16 23:16	05/30/16 23:46	JM
Mercury by Method 7470A	WG875715	1	05/26/16 16:22	05/27/16 13:18	NJB
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 13:43	BRJ
Metals (ICPMS) by Method 6020	WG875774	1	05/27/16 06:16	05/27/16 15:25	JDG
Wet Chemistry by Method 9056A	WG876370	1	05/31/16 23:37	05/31/16 23:37	SAM
Wet Chemistry by Method 9056A	WG876370	50	05/31/16 23:53	05/31/16 23:53	SAM



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	2910000		10000	1	05/30/2016 23:46	WG876033

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	84700		1000	1	05/31/2016 22:02	WG876370
Fluoride	ND		100	1	05/31/2016 22:02	WG876370
Sulfate	2330000		250000	50	05/31/2016 22:17	WG876370

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	05/27/2016 12:48	WG875715

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.09		5.00	1	05/27/2016 13:30	WG875812
Boron	ND		200	1	05/27/2016 13:30	WG875812
Calcium	404000	V	1000	1	05/27/2016 13:30	WG875812
Chromium	ND		10.0	1	05/27/2016 13:30	WG875812
Cobalt	ND		10.0	1	05/27/2016 13:30	WG875812

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	05/27/2016 15:27	WG875774
Arsenic	ND		2.00	1	05/27/2016 15:27	WG875774
Beryllium	ND		2.00	1	05/27/2016 15:27	WG875774
Cadmium	ND		1.00	1	05/27/2016 15:27	WG875774
Lead	ND		2.00	1	05/27/2016 15:27	WG875774
Selenium	7.84		2.00	1	05/27/2016 15:27	WG875774



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3270000		10000	1	05/30/2016 23:46	WG876033

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	84200		1000	1	05/31/2016 23:37	WG876370
Fluoride	ND		100	1	05/31/2016 23:37	WG876370
Sulfate	2270000		250000	50	05/31/2016 23:53	WG876370

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	05/27/2016 13:18	WG875715

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.78		5.00	1	05/27/2016 13:43	WG875812
Boron	ND		200	1	05/27/2016 13:43	WG875812
Calcium	411000		1000	1	05/27/2016 13:43	WG875812
Chromium	ND		10.0	1	05/27/2016 13:43	WG875812
Cobalt	ND		10.0	1	05/27/2016 13:43	WG875812

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	05/27/2016 15:25	WG875774
Arsenic	ND		2.00	1	05/27/2016 15:25	WG875774
Beryllium	ND		2.00	1	05/27/2016 15:25	WG875774
Cadmium	ND		1.00	1	05/27/2016 15:25	WG875774
Lead	ND		2.00	1	05/27/2016 15:25	WG875774
Selenium	ND		2.00	1	05/27/2016 15:25	WG875774



Method Blank (MB)

(MB) R3140762-1 05/30/16 23:46

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

L837867-02 Original Sample (OS) • Duplicate (DUP)

(OS) L837867-02 05/30/16 23:46 • (DUP) R3140762-4 05/30/16 23:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	3270000	3290000	1	0.763		5

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

(LCS) R3140762-2 05/30/16 23:46 • (LCSD) R3140762-3 05/30/16 23:46

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8230000	8570000	93.5	97.4	85.0-115			4.05	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3141050-1 05/31/16 16:59

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

L837899-01 Original Sample (OS) • Duplicate (DUP)

(OS) L837899-01 05/31/16 18:19 • (DUP) R3141050-4 05/31/16 18:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	1810	1720	1	5		15
Fluoride	ND	88.1	1	0		15
Sulfate	11600	11500	1	1		15

L837899-03 Original Sample (OS) • Duplicate (DUP)

(OS) L837899-03 06/01/16 02:16 • (DUP) R3141050-8 06/01/16 02:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	1740	1710	1	2		15
Fluoride	598	597	1	0		15
Sulfate	25300	25400	1	0		15

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

(LCS) R3141050-2 05/31/16 17:15 • (LCSD) R3141050-3 05/31/16 17:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39000	39100	98	98	80-120			0	15
Fluoride	8000	7880	7850	99	98	80-120			0	15
Sulfate	40000	38400	38400	96	96	80-120			0	15

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/31/16 22:02 • (MS) R3141050-5 05/31/16 23:05 • (MSD) R3141050-6 05/31/16 23:21

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	84700	130000	130000	91	90	1	80-120	E	E	0	15
Fluoride	5000	ND	4560	4580	90	90	1	80-120			0	15



L837899-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L837899-02 06/01/16 01:44 • (MS) R3141050-7 06/01/16 02:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3260	53300	100	1	80-120	
Fluoride	5000	188	5310	102	1	80-120	
Sulfate	50000	ND	54100	98	1	80-120	

L838219-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L838219-07 06/01/16 03:52 • (MS) R3141050-9 06/01/16 04:39 • (MSD) R3141050-10 06/01/16 04:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	15100	63700	63600	97	97	1	80-120			0	15
Fluoride	5000	131	5000	5040	97	98	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) R3140233-1 05/27/16 12:41

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) R3140233-2 05/27/16 12:43 • (LCSD) R3140233-3 05/27/16 12:46

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.15	2.95	105	98	80-120			6	20

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 12:48 • (MS) R3140233-4 05/27/16 12:50 • (MSD) R3140233-5 05/27/16 12:53

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	3.20	2.87	107	96	1	75-125			11	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3140311-1 05/27/16 13:20

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3140311-2 05/27/16 13:25 • (LCSD) R3140311-3 05/27/16 13:27

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	%	%	%			%	%
Barium	1000	1020	1010	102	101	80-120			1	20
Boron	1000	1110	1070	111	107	80-120			3	20
Calcium	10000	11500	10400	115	104	80-120			10	20
Chromium	1000	1020	1010	102	101	80-120			1	20
Cobalt	1000	1030	1020	103	102	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 13:30 • (MS) R3140311-5 05/27/16 13:36 • (MSD) R3140311-6 05/27/16 13:39

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	9.09	991	993	98	98	1	75-125			0	20
Boron	1000	ND	1220	1210	108	108	1	75-125			0	20
Calcium	10000	404000	405000	404000	12	7	1	75-125	V	V	0	20
Chromium	1000	ND	979	977	98	97	1	75-125			0	20
Cobalt	1000	ND	1060	1060	106	106	1	75-125			0	20

L837880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837880-01 05/27/16 14:00 • (MS) R3140311-7 05/27/16 14:03 • (MSD) R3140311-8 05/27/16 14:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	8.37	989	996	98	99	1	75-125			1	20
Boron	1000	ND	1200	1220	107	108	1	75-125			1	20
Calcium	10000	408000	402000	402000	0	0	1	75-125	V	V	0	20
Chromium	1000	ND	966	970	97	97	1	75-125			0	20
Cobalt	1000	ND	1050	1060	105	106	1	75-125			1	20



Method Blank (MB)

(MB) R3140290-1 05/27/16 13:39

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

- 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) R3140290-2 05/27/16 13:41 • (LCSD) R3140290-3 05/27/16 13:43

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	51.5	51.2	103	102	80-120			1	20
Arsenic	50.0	52.3	49.7	105	99	80-120			5	20
Beryllium	50.0	49.7	49.2	99	98	80-120			1	20
Cadmium	50.0	55.4	52.9	111	106	80-120			5	20
Lead	50.0	49.8	50.1	100	100	80-120			1	20
Selenium	50.0	48.5	48.3	97	97	80-120			0	20

L837809-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837809-01 05/27/16 13:46 • (MS) R3140290-5 05/27/16 13:50 • (MSD) R3140290-6 05/27/16 13:53

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	53.2	53.6	106	107	1	75-125			1	20
Arsenic	50.0	ND	54.3	55.0	107	108	1	75-125			1	20
Beryllium	50.0	ND	46.9	48.2	94	96	1	75-125			3	20
Cadmium	50.0	ND	56.2	56.7	112	113	1	75-125			1	20
Lead	50.0	ND	49.2	49.9	98	100	1	75-125			1	20
Selenium	50.0	8.06	57.7	58.9	99	102	1	75-125			2	20

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 15:27 • (MS) R3140290-9 05/27/16 15:29 • (MSD) R3140290-10 05/27/16 15:31

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	%	%		%			%	%
Antimony	50.0	ND	53.9	54.1	108	108	1	75-125			0	20
Arsenic	50.0	ND	51.6	53.2	101	104	1	75-125			3	20
Beryllium	50.0	ND	52.2	51.6	104	103	1	75-125			1	20



L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 15:27 • (MS) R3140290-9 05/27/16 15:29 • (MSD) R3140290-10 05/27/16 15:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cadmium	50.0	ND	51.9	53.2	104	106	1	75-125			2	20
Lead	50.0	ND	48.6	48.2	97	96	1	75-125			1	20
Selenium	50.0	7.84	55.6	57.1	96	99	1	75-125			3	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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).
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		

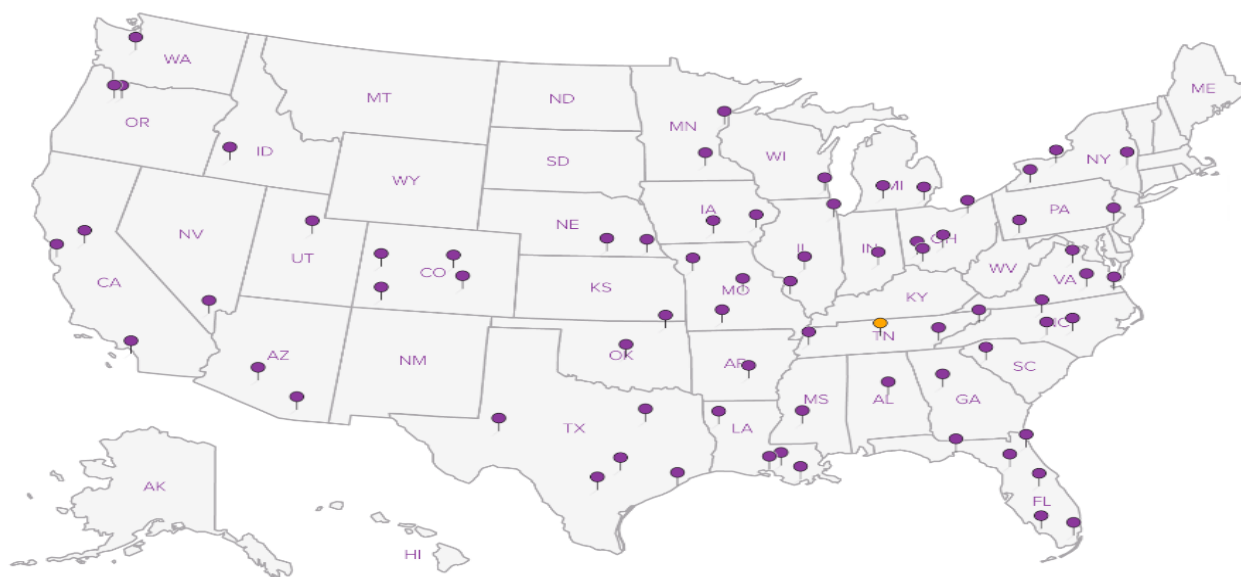
Third Party & Federal Accreditations

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

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 Montrose Gen Station - Groundwater**

City/State Collected: **Montrose, Mo**

Client Project #: **27213168.16**

Lab Project #

Phone: **913-681-0030**

Fax: **913-681-0012**

Collected by (print): **Jason R. Franks**

Site/Facility ID #

Collected by (signature): *[Signature]*

Rush? (Lab MUST Be Notified)

— Same Day200%

— Next Day100%

— Two Day50%

— Three Day25%

Date Results Needed: **STD**

Email? No Yes

FAX? No Yes

In immediately Packed on Ice N ___ Y

Analysis / Container / Preservative		No. of Cntrs	Total Metals** 500mlHDPE-HN03	Chloride, Fluoride, Sulfate 125ml HDPE-NoPres	TDS 250mlHDPE-NoPres

Chain of Custody Page ___ of ___

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

L # **837867**

Table **G064**

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Total Metals** 500mlHDPE-HN03	Chloride, Fluoride, Sulfate 125ml HDPE-NoPres	TDS 250mlHDPE-NoPres
506	Grab	GW	NA	5/23/16	1550	3	X	X	X

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

Remarks: ****Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Hg, Se****

Relinquished by: (Signature) *[Signature]* Date: **5-25-16** Time: **1015**

Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: **5/25/16** Time: **1700**

Received by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____

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

Samples returned via: UPS FedEx Courier _____

Temp: _____ °C Bottles Received: **3**

Date: **5/26/16** Time: **0900**

Hold # _____

Condition: (lab use only) **02 JW7**

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: _____ 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

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

Lab Project #

Collected by (print):
Jason R. Franks


Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]
 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			Chain of Custody	Page ___ of ___
Total Metals** 500mlHDPE-HN03 Chloride, Fluoride, Sulfate 125ml HDPE-NoPres TDS 250mlHDPE-NoPres			 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 # 837867 Ta G060 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													
Duplicate	Grab	GW	NA	5/23/16	1550	3	X	X	X										
MS (506)	Grab	GW	NA	5/23/16	1600	3	X	X	X										
MSD (506)	Grab	GW	NA	5/23/16	1600	3	X	X	X										

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

Remarks: ****Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Hg, Se**** **650371523603**

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/25/16	Time: 1015	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"/> _____	Hold #
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/25/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: _____ °C 3.1 Bottles Received: _____ 9	Condition: (lab use only) a JW7
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 5/26/17	Time: 0900

COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: **62** NCF:

May 31, 2016

SCS Engineers

Sample Delivery Group: L837880
Samples Received: 05/26/2016
Project Number: 27213168.16
Description: KCPL - Montrose Generating Station

Report To: Ms. Susie McCart
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	¹Cp
²Tc: Table of Contents	2	²Tc
³Ss: Sample Summary	3	³Ss
⁴Cn: Case Narrative	4	⁴Cn
⁵Sr: Sample Results	5	⁵Sr
506 L837880-01	5	⁴Cn
DUPLICATE L837880-02	6	⁵Sr
⁶Qc: Quality Control Summary	7	⁶Qc
Metals (ICP) by Method 6010B	7	⁶Qc
⁷Gl: Glossary of Terms	9	⁷Gl
⁸Al: Accreditations & Locations	10	⁸Al
⁹Sc: Chain of Custody	11	⁹Sc



506 L837880-01 GW

Collected by Jason R. Franks Collected date/time 05/23/16 15:50 Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:00	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 18:47	BRJ

¹ Cp

² Tc

³ Ss

DUPLICATE L837880-02 GW

Collected by Jason R. Franks Collected date/time 05/23/16 15:50 Received date/time 05/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG875812	1	05/27/16 08:28	05/27/16 14:09	BRJ
Metals (ICP) by Method 6010B	WG875999	1	05/27/16 15:38	05/27/16 19:12	BRJ

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	269		15.0	1	05/27/2016 18:47	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:00	WG875812

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	267		15.0	1	05/27/2016 19:12	WG875999
Molybdenum	ND		5.00	1	05/27/2016 14:09	WG875812

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3140311-1 05/27/16 13:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Molybdenum	U		1.60	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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

(LCS) R3140311-2 05/27/16 13:25 • (LCSD) R3140311-3 05/27/16 13:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Molybdenum	1000	1030	1020	103	102	80-120			1	20

L837867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837867-01 05/27/16 13:30 • (MS) R3140311-5 05/27/16 13:36 • (MSD) R3140311-6 05/27/16 13:39

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Molybdenum	1000	ND	1010	1020	101	102	1	75-125			1	20

⁷Gl

⁸Al

L837880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837880-01 05/27/16 14:00 • (MS) R3140311-7 05/27/16 14:03 • (MSD) R3140311-8 05/27/16 14:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Molybdenum	1000	ND	1020	1020	102	102	1	75-125			1	20

⁹Sc



Method Blank (MB)

(MB) R3140323-1 05/27/16 18:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lithium	U		5.30	15.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3140323-2 05/27/16 18:41 • (LCSD) R3140323-3 05/27/16 18:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Lithium	1000	1010	1030	101	103	80-120			2	20

L837880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L837880-01 05/27/16 18:47 • (MS) R3140323-5 05/27/16 19:03 • (MSD) R3140323-6 05/27/16 19:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lithium	1000	269	1270	1280	100	101	1	75-125			0	20

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

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		

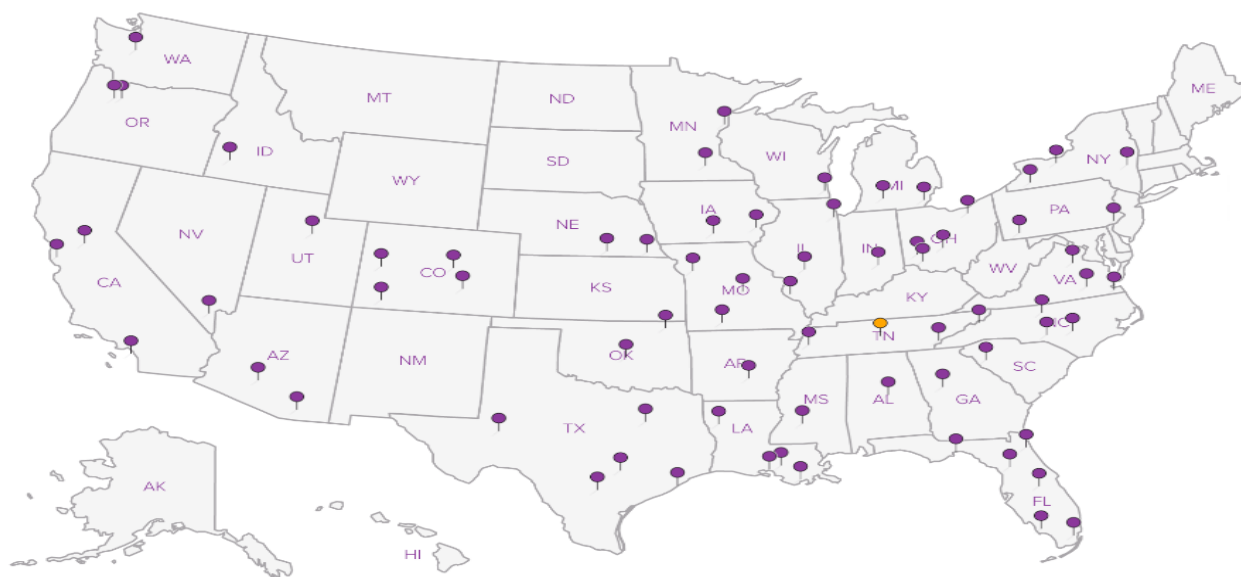
Third Party & Federal Accreditations

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 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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]
 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

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
506	Grab	GW	NA	5/23/16	1550	3

Total Metals** 500mHDPE-HN03

Radium 226, Radium 228 ** 2x1L HDPE+HN03

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



YOUR LAB OF CHOICE

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



L # **837880**

G062

Ta

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

01

Radium To Outreach

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

Remarks: ****Metals=Li, Mo ****

****Ra 226&Ra228=Report Separatly and combined Please****

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: UPS

Hold #

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

FedEx Courier Other

Temp: °C Bottles Received:

COC Seal Intact: ___ Y ___ N ___ NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: Time:

pH Checked:

NCF:

0503712325

pH _____ Temp _____

Flow _____ Other _____

A SW7

<2

5/26/16 0900

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



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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]
 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	Total Metals**	500mlHDPE-HN03	Radium 226, Radium 228 **	2x1L HDPE+HN03
Duplicate	Grab	GW	NA	5/23/16	1550	1	X	X		
MS (506)	Grab	GW	NA	5/23/16	1600	1	X	X		
MSD (506)	Grab	GW	NA	5/23/16	1600	1	X	X		

L# ^{MS} *837801 837800*

B009

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	02 <i>MS</i>
	01 01
	01 01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other pH Temp
 Remarks: ****Metals=Li, Mo **** ****Ra 226&Ra228=Report Separatly and combined Please**** Flow Other Hold #

Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/25/16	Time: 1015	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"/> Other	Condition: (lab use only) <i>MS JW1</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/25/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: °C 3.6 Bottles Received: 3=DR	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature) <i>[Signature]</i>	Date: 5/26/16	Time: 900	Received for lab by: (Signature) <i>[Signature]</i>	Date: 5/26/16 Time: 900	pH Checked: 02 NCF: <u> </u>

Radium to outreach

Jared Morrison
December 20, 2022

ATTACHMENT 1-4
August 2016 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L855575
Samples Received: 08/24/2016
Project Number: 27213168.16
Description: KCPL - Montrose Generating Station

Report To: Jason 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.



¹Cp: Cover Page	1	
²Tc: Table of Contents	2	
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⁵Sr: Sample Results	7	
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601 L855575-02	8	
602 L855575-03	9	
603 L855575-04	10	
604 L855575-05	11	
605 L855575-06	12	
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703 L855575-09	15	
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Wet Chemistry by Method 9056A	22	
Mercury by Method 7470A	25	
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Metals (ICPMS) by Method 6020	27	
⁷Gl: Glossary of Terms	28	
⁸Al: Accreditations & Locations	29	
⁹Sc: Chain of Custody	30	

SAMPLE SUMMARY



506 L855575-01 GW

Collected by Adam Parris
Collected date/time 08/22/16 12:20
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:43	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:33	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:19	VSS
Wet Chemistry by Method 9056A	WG902301	1	08/27/16 17:23	08/27/16 17:23	KCF
Wet Chemistry by Method 9056A	WG903250	50	08/29/16 20:07	08/29/16 20:07	KCF



601 L855575-02 GW

Collected by Adam Parris
Collected date/time 08/22/16 13:05
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:46	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:36	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:22	VSS
Wet Chemistry by Method 9056A	WG902301	1	08/27/16 17:38	08/27/16 17:38	KCF
Wet Chemistry by Method 9056A	WG903250	50	08/29/16 20:21	08/29/16 20:21	KCF

602 L855575-03 GW

Collected by Adam Parris
Collected date/time 08/22/16 11:00
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:49	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:39	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:25	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 15:52	08/30/16 15:52	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/30/16 16:35	08/30/16 16:35	SAM

603 L855575-04 GW

Collected by Adam Parris
Collected date/time 08/22/16 11:25
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:52	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:42	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:28	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 16:50	08/30/16 16:50	SAM
Wet Chemistry by Method 9056A	WG902302	100	08/30/16 17:04	08/30/16 17:04	SAM

604 L855575-05 GW

Collected by Adam Parris
Collected date/time 08/22/16 11:40
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:55	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:45	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:31	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 19:43	08/30/16 19:43	SAM
Wet Chemistry by Method 9056A	WG902302	100	08/30/16 19:57	08/30/16 19:57	SAM

SAMPLE SUMMARY



605 L855575-06 GW

Collected by Adam Parris
Collected date/time 08/22/16 12:15
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:34	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:00	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:01	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 20:11	08/30/16 20:11	SAM
Wet Chemistry by Method 9056A	WG902302	100	08/30/16 20:26	08/30/16 20:26	SAM

1
Cp

2
Tc

3
Ss

4
Cn

701 L855575-07 GW

Collected by Adam Parris
Collected date/time 08/22/16 14:35
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 14:58	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:48	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:34	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 20:40	08/30/16 20:40	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/31/16 13:39	08/31/16 13:39	SAM
Wet Chemistry by Method 9056A	WG902302	25	08/31/16 15:06	08/31/16 15:06	SAM

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

702 L855575-08 GW

Collected by Adam Parris
Collected date/time 08/22/16 14:00
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:01	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:51	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:37	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 21:09	08/30/16 21:09	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/31/16 13:54	08/31/16 13:54	SAM

703 L855575-09 GW

Collected by Adam Parris
Collected date/time 08/22/16 13:15
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:12	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 13:59	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:40	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 22:07	08/30/16 22:07	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/30/16 22:21	08/30/16 22:21	SAM

704 L855575-10 GW

Collected by Adam Parris
Collected date/time 08/22/16 14:05
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902071	1	08/25/16 14:12	08/25/16 14:56	MMF
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:15	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 14:02	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:43	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/31/16 11:41	08/31/16 11:41	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/31/16 11:55	08/31/16 11:55	SAM

SAMPLE SUMMARY



705 L855575-11 GW

Collected by Adam Parris
Collected date/time 08/22/16 14:50
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902233	1	08/26/16 02:16	08/26/16 04:30	JM
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:18	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 14:05	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:46	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 17:18	08/30/16 17:18	SAM
Wet Chemistry by Method 9056A	WG902302	10	08/30/16 17:33	08/30/16 17:33	SAM



706 L855575-12 GW

Collected by Adam Parris
Collected date/time 08/22/16 15:15
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902233	1	08/26/16 02:16	08/26/16 04:30	JM
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:21	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 14:07	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:56	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 17:47	08/30/16 17:47	SAM
Wet Chemistry by Method 9056A	WG902302	20	08/31/16 14:08	08/31/16 14:08	SAM

DUPLICATE L855575-13 GW

Collected by Adam Parris
Collected date/time 08/22/16 12:20
Received date/time 08/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG902233	1	08/26/16 02:16	08/26/16 04:30	JM
Mercury by Method 7470A	WG902095	1	08/25/16 09:57	08/25/16 15:24	TRB
Metals (ICP) by Method 6010B	WG902452	1	08/26/16 10:04	08/26/16 14:10	JDG
Metals (ICPMS) by Method 6020	WG902755	1	08/29/16 17:17	08/29/16 21:59	VSS
Wet Chemistry by Method 9056A	WG902302	1	08/30/16 18:45	08/30/16 18:45	SAM
Wet Chemistry by Method 9056A	WG902302	100	08/30/16 19:28	08/30/16 19:28	SAM



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	3260000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	77500		1000	1	08/27/2016 17:23	WG902301
Fluoride	ND		100	1	08/27/2016 17:23	WG902301
Sulfate	2280000		250000	50	08/29/2016 20:07	WG903250

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 14:43	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.2		5.00	1	08/26/2016 13:33	WG902452
Boron	ND		200	1	08/26/2016 13:33	WG902452
Calcium	393000		1000	1	08/26/2016 13:33	WG902452
Chromium	ND		10.0	1	08/26/2016 13:33	WG902452
Cobalt	ND		10.0	1	08/26/2016 13:33	WG902452
Lithium	252		15.0	1	08/26/2016 13:33	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:33	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:19	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:19	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:19	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:19	WG902755
Lead	ND		2.00	1	08/29/2016 21:19	WG902755
Selenium	7.68		2.00	1	08/29/2016 21:19	WG902755
Thallium	ND		2.00	1	08/29/2016 21:19	WG902755

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	4810000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	45500		1000	1	08/27/2016 17:38	WG902301
Fluoride	435		100	1	08/27/2016 17:38	WG902301
Sulfate	3590000		250000	50	08/29/2016 20:21	WG903250

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 14:46	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	13.1		5.00	1	08/26/2016 13:36	WG902452
Boron	203		200	1	08/26/2016 13:36	WG902452
Calcium	502000		1000	1	08/26/2016 13:36	WG902452
Chromium	ND		10.0	1	08/26/2016 13:36	WG902452
Cobalt	16.2		10.0	1	08/26/2016 13:36	WG902452
Lithium	308		15.0	1	08/26/2016 13:36	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:36	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:22	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:22	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:22	WG902755
Cadmium	2.01		1.00	1	08/29/2016 21:22	WG902755
Lead	ND		2.00	1	08/29/2016 21:22	WG902755
Selenium	3.25		2.00	1	08/29/2016 21:22	WG902755
Thallium	ND		2.00	1	08/29/2016 21:22	WG902755

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	2060000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4650		1000	1	08/30/2016 15:52	WG902302
Fluoride	114		100	1	08/30/2016 15:52	WG902302
Sulfate	1320000		100000	20	08/30/2016 16:35	WG902302

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 14:49	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	20.3		5.00	1	08/26/2016 13:39	WG902452
Boron	4620		200	1	08/26/2016 13:39	WG902452
Calcium	353000		1000	1	08/26/2016 13:39	WG902452
Chromium	ND		10.0	1	08/26/2016 13:39	WG902452
Cobalt	102		10.0	1	08/26/2016 13:39	WG902452
Lithium	88.5		15.0	1	08/26/2016 13:39	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:39	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:25	WG902755
Arsenic	3.81		2.00	1	08/29/2016 21:25	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:25	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:25	WG902755
Lead	ND		2.00	1	08/29/2016 21:25	WG902755
Selenium	ND		2.00	1	08/29/2016 21:25	WG902755
Thallium	ND		2.00	1	08/29/2016 21:25	WG902755

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	3350000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7900		1000	1	08/30/2016 16:50	WG902302
Fluoride	431		100	1	08/30/2016 16:50	WG902302
Sulfate	2710000		500000	100	08/30/2016 17:04	WG902302

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 14:52	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.9		5.00	1	08/26/2016 13:42	WG902452
Boron	6910		200	1	08/26/2016 13:42	WG902452
Calcium	445000		1000	1	08/26/2016 13:42	WG902452
Chromium	ND		10.0	1	08/26/2016 13:42	WG902452
Cobalt	41.0		10.0	1	08/26/2016 13:42	WG902452
Lithium	143		15.0	1	08/26/2016 13:42	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:42	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:28	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:28	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:28	WG902755
Cadmium	2.88		1.00	1	08/29/2016 21:28	WG902755
Lead	ND		2.00	1	08/29/2016 21:28	WG902755
Selenium	9.55		2.00	1	08/29/2016 21:28	WG902755
Thallium	ND		2.00	1	08/29/2016 21:28	WG902755

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	2890000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11700		1000	1	08/30/2016 19:43	WG902302
Fluoride	468		100	1	08/30/2016 19:43	WG902302
Sulfate	2290000		500000	100	08/30/2016 19:57	WG902302

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 14:55	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.4		5.00	1	08/26/2016 13:45	WG902452
Boron	5500		200	1	08/26/2016 13:45	WG902452
Calcium	440000		1000	1	08/26/2016 13:45	WG902452
Chromium	ND		10.0	1	08/26/2016 13:45	WG902452
Cobalt	ND		10.0	1	08/26/2016 13:45	WG902452
Lithium	101		15.0	1	08/26/2016 13:45	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:45	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:31	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:31	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:31	WG902755
Cadmium	1.06		1.00	1	08/29/2016 21:31	WG902755
Lead	ND		2.00	1	08/29/2016 21:31	WG902755
Selenium	2.28		2.00	1	08/29/2016 21:31	WG902755
Thallium	ND		2.00	1	08/29/2016 21:31	WG902755

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	2990000		10000	1	08/25/2016 14:56	WG902071

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	46500		1000	1	08/30/2016 20:11	WG902302
Fluoride	191		100	1	08/30/2016 20:11	WG902302
Sulfate	2230000		500000	100	08/30/2016 20:26	WG902302

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	08/25/2016 14:34	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.54		5.00	1	08/26/2016 13:00	WG902452
Boron	1890	<u>Q1</u>	200	1	08/26/2016 13:00	WG902452
Calcium	431000		1000	1	08/26/2016 13:00	WG902452
Chromium	ND		10.0	1	08/26/2016 13:00	WG902452
Cobalt	31.1		10.0	1	08/26/2016 13:00	WG902452
Lithium	131		15.0	1	08/26/2016 13:00	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:00	WG902452

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	08/29/2016 21:01	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:01	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:01	WG902755
Cadmium	1.48		1.00	1	08/29/2016 21:01	WG902755
Lead	ND		2.00	1	08/29/2016 21:01	WG902755
Selenium	ND		2.00	1	08/29/2016 21:01	WG902755
Thallium	ND		2.00	1	08/29/2016 21:01	WG902755



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	4030000		10000	1	08/25/2016 14:56	WG902071

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	592000		20000	20	08/31/2016 13:39	WG902302
Fluoride	1320		100	1	08/30/2016 20:40	WG902302
Sulfate	2020000		125000	25	08/31/2016 15:06	WG902302

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	0.223	<u>B</u>	0.200	1	08/25/2016 14:58	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.1		5.00	1	08/26/2016 13:48	WG902452
Boron	ND		200	1	08/26/2016 13:48	WG902452
Calcium	522000		1000	1	08/26/2016 13:48	WG902452
Chromium	ND		10.0	1	08/26/2016 13:48	WG902452
Cobalt	43.6		10.0	1	08/26/2016 13:48	WG902452
Lithium	244		15.0	1	08/26/2016 13:48	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:48	WG902452

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	08/29/2016 21:34	WG902755
Arsenic	2.25		2.00	1	08/29/2016 21:34	WG902755
Beryllium	2.40		2.00	1	08/29/2016 21:34	WG902755
Cadmium	5.98		1.00	1	08/29/2016 21:34	WG902755
Lead	ND		2.00	1	08/29/2016 21:34	WG902755
Selenium	12.6		2.00	1	08/29/2016 21:34	WG902755
Thallium	ND		2.00	1	08/29/2016 21:34	WG902755



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3300000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	337000		20000	20	08/31/2016 13:54	WG902302
Fluoride	214		100	1	08/30/2016 21:09	WG902302
Sulfate	1670000		100000	20	08/31/2016 13:54	WG902302

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 15:01	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.4		5.00	1	08/26/2016 13:51	WG902452
Boron	ND		200	1	08/26/2016 13:51	WG902452
Calcium	522000		1000	1	08/26/2016 13:51	WG902452
Chromium	ND		10.0	1	08/26/2016 13:51	WG902452
Cobalt	ND		10.0	1	08/26/2016 13:51	WG902452
Lithium	53.2		15.0	1	08/26/2016 13:51	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:51	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:37	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:37	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:37	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:37	WG902755
Lead	ND		2.00	1	08/29/2016 21:37	WG902755
Selenium	ND		2.00	1	08/29/2016 21:37	WG902755
Thallium	ND		2.00	1	08/29/2016 21:37	WG902755

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	1500000		10000	1	08/25/2016 14:56	WG902071

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	15300		1000	1	08/30/2016 22:07	WG902302
Fluoride	137		100	1	08/30/2016 22:07	WG902302
Sulfate	897000		100000	20	08/30/2016 22:21	WG902302

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/25/2016 15:12	WG902095

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	39.4		5.00	1	08/26/2016 13:59	WG902452
Boron	ND		200	1	08/26/2016 13:59	WG902452
Calcium	232000		1000	1	08/26/2016 13:59	WG902452
Chromium	ND		10.0	1	08/26/2016 13:59	WG902452
Cobalt	ND		10.0	1	08/26/2016 13:59	WG902452
Lithium	55.2		15.0	1	08/26/2016 13:59	WG902452
Molybdenum	ND		5.00	1	08/26/2016 13:59	WG902452

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/29/2016 21:40	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:40	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:40	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:40	WG902755
Lead	ND		2.00	1	08/29/2016 21:40	WG902755
Selenium	ND		2.00	1	08/29/2016 21:40	WG902755
Thallium	ND		2.00	1	08/29/2016 21:40	WG902755

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	1210000		10000	1	08/25/2016 14:56	WG902071

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4270		1000	1	08/31/2016 11:41	WG902302
Fluoride	116		100	1	08/31/2016 11:41	WG902302
Sulfate	748000		100000	20	08/31/2016 11:55	WG902302

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	08/25/2016 15:15	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	63.2		5.00	1	08/26/2016 14:02	WG902452
Boron	ND		200	1	08/26/2016 14:02	WG902452
Calcium	170000		1000	1	08/26/2016 14:02	WG902452
Chromium	ND		10.0	1	08/26/2016 14:02	WG902452
Cobalt	ND		10.0	1	08/26/2016 14:02	WG902452
Lithium	58.5		15.0	1	08/26/2016 14:02	WG902452
Molybdenum	ND		5.00	1	08/26/2016 14:02	WG902452

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	08/29/2016 21:43	WG902755
Arsenic	14.3		2.00	1	08/29/2016 21:43	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:43	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:43	WG902755
Lead	ND		2.00	1	08/29/2016 21:43	WG902755
Selenium	ND		2.00	1	08/29/2016 21:43	WG902755
Thallium	ND		2.00	1	08/29/2016 21:43	WG902755



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1130000		10000	1	08/26/2016 04:30	WG902233

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11000		1000	1	08/30/2016 17:18	WG902302
Fluoride	187		100	1	08/30/2016 17:18	WG902302
Sulfate	545000		50000	10	08/30/2016 17:33	WG902302

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	08/25/2016 15:18	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	48.1		5.00	1	08/26/2016 14:05	WG902452
Boron	ND		200	1	08/26/2016 14:05	WG902452
Calcium	139000		1000	1	08/26/2016 14:05	WG902452
Chromium	ND		10.0	1	08/26/2016 14:05	WG902452
Cobalt	ND		10.0	1	08/26/2016 14:05	WG902452
Lithium	57.8		15.0	1	08/26/2016 14:05	WG902452
Molybdenum	ND		5.00	1	08/26/2016 14:05	WG902452

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	08/29/2016 21:46	WG902755
Arsenic	5.52		2.00	1	08/29/2016 21:46	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:46	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:46	WG902755
Lead	ND		2.00	1	08/29/2016 21:46	WG902755
Selenium	ND		2.00	1	08/29/2016 21:46	WG902755
Thallium	ND		2.00	1	08/29/2016 21:46	WG902755



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1850000		10000	1	08/26/2016 04:30	WG902233

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	29500		1000	1	08/30/2016 17:47	WG902302
Fluoride	171		100	1	08/30/2016 17:47	WG902302
Sulfate	1140000		100000	20	08/31/2016 14:08	WG902302

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	08/25/2016 15:21	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	37.5		5.00	1	08/26/2016 14:07	WG902452
Boron	211		200	1	08/26/2016 14:07	WG902452
Calcium	309000		1000	1	08/26/2016 14:07	WG902452
Chromium	ND		10.0	1	08/26/2016 14:07	WG902452
Cobalt	ND		10.0	1	08/26/2016 14:07	WG902452
Lithium	51.4		15.0	1	08/26/2016 14:07	WG902452
Molybdenum	ND		5.00	1	08/26/2016 14:07	WG902452

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	08/29/2016 21:56	WG902755
Arsenic	12.9		2.00	1	08/29/2016 21:56	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:56	WG902755
Cadmium	ND		1.00	1	08/29/2016 21:56	WG902755
Lead	ND		2.00	1	08/29/2016 21:56	WG902755
Selenium	ND		2.00	1	08/29/2016 21:56	WG902755
Thallium	ND		2.00	1	08/29/2016 21:56	WG902755



Collected date/time: 08/22/16 12:20

L855575

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3010000		10000	1	08/26/2016 04:30	WG902233

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	46600		1000	1	08/30/2016 18:45	WG902302
Fluoride	192		100	1	08/30/2016 18:45	WG902302
Sulfate	2480000		500000	100	08/30/2016 19:28	WG902302

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	08/25/2016 15:24	WG902095

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.24		5.00	1	08/26/2016 14:10	WG902452
Boron	1890		200	1	08/26/2016 14:10	WG902452
Calcium	431000		1000	1	08/26/2016 14:10	WG902452
Chromium	ND		10.0	1	08/26/2016 14:10	WG902452
Cobalt	31.8		10.0	1	08/26/2016 14:10	WG902452
Lithium	127		15.0	1	08/26/2016 14:10	WG902452
Molybdenum	ND		5.00	1	08/26/2016 14:10	WG902452

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	08/29/2016 21:59	WG902755
Arsenic	ND		2.00	1	08/29/2016 21:59	WG902755
Beryllium	ND		2.00	1	08/29/2016 21:59	WG902755
Cadmium	1.64		1.00	1	08/29/2016 21:59	WG902755
Lead	ND		2.00	1	08/29/2016 21:59	WG902755
Selenium	ND		2.00	1	08/29/2016 21:59	WG902755
Thallium	ND		2.00	1	08/29/2016 21:59	WG902755



Method Blank (MB)

(MB) R3159732-1 08/25/16 14:56

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

L855575-01 Original Sample (OS) • Duplicate (DUP)

(OS) L855575-01 08/25/16 14:56 • (DUP) R3159732-4 08/25/16 14:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	3260000	3230000	1	0.771		5

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

(LCS) R3159732-2 08/25/16 14:56 • (LCSD) R3159732-3 08/25/16 14:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8590000	8560000	97.6	97.3	85.0-115			0.350	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3159733-1 08/26/16 04:30

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

L855575-11 Original Sample (OS) • Duplicate (DUP)

(OS) L855575-11 08/26/16 04:30 • (DUP) R3159733-4 08/26/16 04:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1130000	1090000	1	3.42		5

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

(LCS) R3159733-2 08/26/16 04:30 • (LCSD) R3159733-3 08/26/16 04:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8420000	8430000	95.7	95.8	85.0-115			0.119	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3159777-3 08/27/16 08:42

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

L855323-02 Original Sample (OS) • Duplicate (DUP)

(OS) L855323-02 08/27/16 10:11 • (DUP) R3159777-6 08/27/16 10:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	837000	856000	20	2		15
Fluoride	ND	486	20	0		15

L855441-06 Original Sample (OS) • Duplicate (DUP)

(OS) L855441-06 08/27/16 14:55 • (DUP) R3159777-7 08/27/16 15:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	131000	132000	10	1		15
Fluoride	2290	2240	10	2		15

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

(LCS) R3159777-4 08/27/16 08:57 • (LCSD) R3159777-5 08/27/16 09:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39400	39400	98	99	80-120			0	15
Fluoride	8000	7970	8010	100	100	80-120			0	15



Method Blank (MB)

(MB) R3160607-4 08/30/16 10:42

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

L855588-03 Original Sample (OS) • Duplicate (DUP)

(OS) L855588-03 08/30/16 22:36 • (DUP) R3160607-6 08/30/16 23:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7520	7450	1	1		15
Fluoride	326	340	1	4		15
Sulfate	67600	68200	1	1		15

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

(LCS) R3160607-2 08/30/16 09:19 • (LCSD) R3160607-3 08/30/16 09:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39000	38900	97	97	80-120			0	15
Fluoride	8000	7850	7800	98	98	80-120			1	15
Sulfate	40000	39900	39800	100	99	80-120			0	15

L855588-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L855588-05 08/30/16 18:16 • (MS) R3160607-5 08/30/16 18:31

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	19700	68900	98	1	80-120	
Fluoride	5000	747	5320	91	1	80-120	

L855575-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855575-06 08/30/16 20:11 • (MS) R3160607-7 08/31/16 12:10 • (MSD) R3160607-8 08/31/16 12:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	50000	46500	93700	93900	94	95	1	80-120			0	15
Fluoride	5000	191	4490	5010	86	96	1	80-120			11	15



Method Blank (MB)

(MB) R3159950-1 08/29/16 11:40

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

L855138-07 Original Sample (OS) • Duplicate (DUP)

(OS) L855138-07 08/29/16 14:35 • (DUP) R3159950-4 08/29/16 14:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	173000	170000	10	2		15

L855441-02 Original Sample (OS) • Duplicate (DUP)

(OS) L855441-02 08/29/16 18:40 • (DUP) R3159950-7 08/29/16 18:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	U	0.000	1	0		15

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

(LCS) R3159950-2 08/29/16 11:54 • (LCSD) R3159950-3 08/29/16 12:08

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39400	39600	98	99	80-120			1	15

L855220-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855220-06 08/29/16 17:14 • (MS) R3159950-5 08/29/16 17:28 • (MSD) R3159950-6 08/29/16 17:43

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	U	41500	40600	83	81	1	80-120			2	15

L855441-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L855441-01 08/29/16 20:50 • (MS) R3159950-8 08/29/16 21:04

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	34100	81200	94	1	80-120	



Method Blank (MB)

(MB) R3159259-1 08/25/16 14:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0535	J	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) R3159259-2 08/25/16 14:22 • (LCSD) R3159259-3 08/25/16 14:25

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	3.32	3.35	111	112	80-120			1	20

L855575-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855575-06 08/25/16 14:34 • (MS) R3159259-4 08/25/16 14:37 • (MSD) R3159259-5 08/25/16 14:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	3.47	3.12	114	102	1	75-125			11	20

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3159559-1 08/26/16 12:53

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	2.16	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

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

(LCS) R3159559-2 08/26/16 12:55 • (LCSD) R3159559-3 08/26/16 12:57

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	1010	102	101	80-120			1	20
Boron	1000	1020	1020	102	102	80-120			0	20
Calcium	10000	10200	10100	102	101	80-120			1	20
Chromium	1000	1000	987	100	99	80-120			1	20
Cobalt	1000	1020	1010	102	101	80-120			1	20
Lithium	1000	983	977	98	98	80-120			1	20
Molybdenum	1000	1010	994	101	99	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L855575-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855575-06 08/26/16 13:00 • (MS) R3159559-5 08/26/16 13:06 • (MSD) R3159559-6 08/26/16 13:09

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	9.54	1030	1030	102	102	1	75-125			0	20
Boron	1000	1890	2940	2960	104	107	1	75-125			1	20
Calcium	10000	431000	440000	443000	84	118	1	75-125			1	20
Chromium	1000	ND	985	993	98	99	1	75-125			1	20
Cobalt	1000	31.1	1100	1100	106	107	1	75-125			0	20
Lithium	1000	131	1150	1160	102	103	1	75-125			1	20
Molybdenum	1000	ND	1020	1010	102	101	1	75-125			1	20



Method Blank (MB)

(MB) R3160063-1 08/29/16 20:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	1.57	J	0.754	2.00
Arsenic	U		0.250	2.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Lead	0.308	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

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3160063-2 08/29/16 20:54 • (LCSD) R3160063-3 08/29/16 20:58

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	64.3	63.2	111	109	80-120			2	20
Arsenic	50.0	46.5	49.0	93	98	80-120			5	20
Beryllium	50.0	47.6	48.6	95	97	80-120			2	20
Cadmium	50.0	47.1	50.6	94	101	80-120			7	20
Lead	50.0	49.7	49.7	99	99	80-120			0	20
Selenium	50.0	52.8	50.2	106	100	80-120			5	20
Thallium	50.0	49.7	49.3	99	99	80-120			1	20

L855575-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L855575-06 08/29/16 21:01 • (MS) R3160063-5 08/29/16 21:07 • (MSD) R3160063-6 08/29/16 21:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	57.9	ND	64.8	65.3	110	111	1	75-125			1	20
Arsenic	50.0	ND	51.6	51.8	103	104	1	75-125			0	20
Beryllium	50.0	ND	45.8	45.6	92	91	1	75-125			1	20
Cadmium	50.0	1.48	53.0	52.9	103	103	1	75-125			0	20
Lead	50.0	ND	50.4	50.6	100	100	1	75-125			0	20
Selenium	50.0	ND	51.2	52.6	102	105	1	75-125			3	20
Thallium	50.0	ND	50.2	50.4	100	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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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		

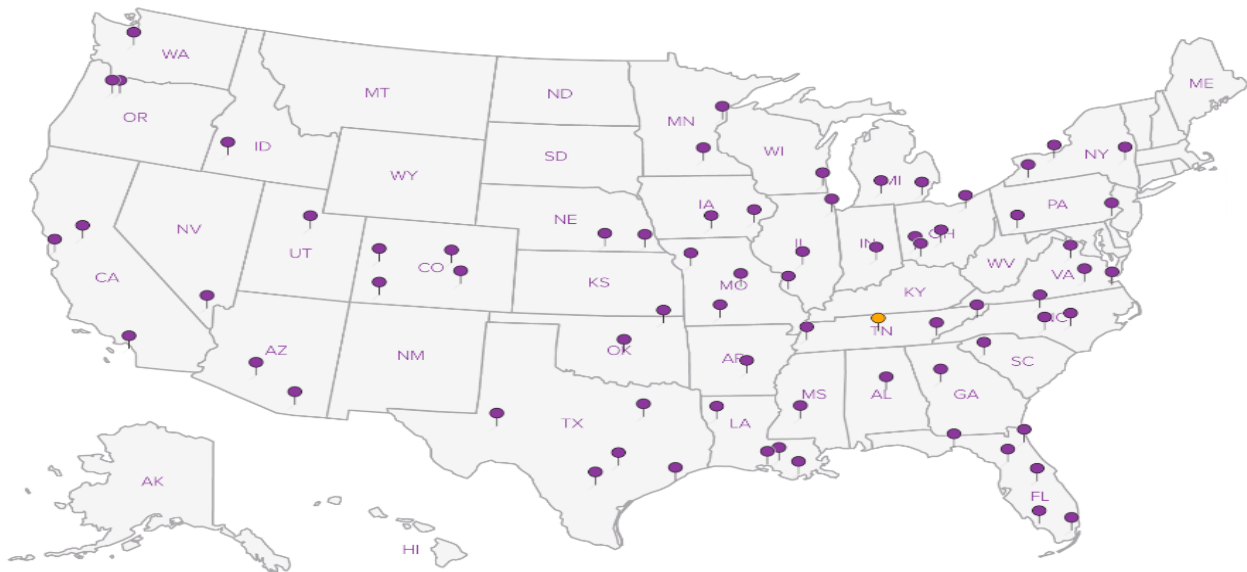
Third Party & Federal Accreditations

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

Analysis / Container / Preservative

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Generating Station

City/State Collected:

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Alan 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
 Email? ___ No Yes
 FAX? No ___ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250ml HDPE - HNO3	Chloride, F, SO4 125ml HDPE - NoPres	TDS 250ml HDPE - NoPres
506	Grab	GW	N/A	8/22	1220	3	X	X	X
601		GW			1305	3	X	X	X
602		GW			1100	3	X	X	X
603		GW			1125	3	X	X	X
604		GW			1140	3	X	X	X
605		GW			1215	3	X	X	X
701		GW			1435	3	X	X	X
702		GW			1400	3	X	X	X
703		GW			1315	3	X	X	X
704		GW			1405	3	X	X	X

L# **855575**
A185

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-jeff Carr**
 Cooler:

Shipped Via:

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

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 _____

Relinquished by: (Signature)

 Relinquished by: (Signature)

 Relinquished by: (Signature)

Date: **8/23/16** Time: **0822**
 Date: **8/23/16** Time: **1700**
 Date: _____ Time: _____

Received by: (Signature)

 Received by: (Signature)

 Received for lab by: (Signature)

Samples returned via: UPS
 FedEx Courier **RSWA**
 Temp: _____ °C Bottles Received: **45**
3.1
 Date: **8-24-16** Time: **0900**

Hold #
 Condition: (lab use only) **A**
 COC Seal Intact: ___ Y ___ N ___ NA
 pH Checked: **<2**
 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

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



Report to:
Jason Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Generating Station

City/State Collected:
 Lab Project #
AQUAOPKS-MONTROSE

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

Client Project #
27213168.16

P.O. #

Collected by (print):
Adam Parris

Site/Facility ID #

Date Results Needed
Standard

Collected by (signature):

Rush? (Lab MUST Be Notified)
 ___ 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	No. of Cntrs	CCR Metals 250ml HDPE - HNO3	Chloride, F, SO4 125ml HDPE - NoPres	TDS 250ml HDPE - NoPres										
705	Grab	GW	N/A	8/22	1450	3	X	X	X										11
706	↓	GW	↓	↓	1515	3	X	X	X										12
Duplicate	↓	GW	↓	↓	1220	3	X	X	X										13
MS (605)	↓	GW	↓	↓	1225	3	X	X	X										06
MSD (605)	↓	GW	↓	↓	1230	3	X	X	X										06

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

pH _____ Temp _____

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

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date: **8/22/16**
 Time: **1522**

Received by: (Signature)

Samples returned via: UPS
 FedEx Courier **MSWA**

Condition: (lab use only)
R

Relinquished by: (Signature)

Date: **8/23/16**
 Time: **1700**

Received by: (Signature)

Temp: °C **3.1** Bottles Received: **45**

COC Seal Intact: ___ Y ___ N ___ NA

Relinquished by: (Signature)

Date: _____
 Time: _____

Received for lab by: (Signature)

Date: **8.24.16** Time: **0900**

pH Checked: **<7** NCF: _____



YOUR LAB OF CHOICE

Cooler Receipt Checklist

Client: AQUAOPKS SDG# 855975

Cooler Received/Opened On: 8/24/16 By Nikki Farmer

Temperature Upon Receipt: 3.1 °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.)					<input checked="" type="checkbox"/>
If applicable, was an observable VOA headspace present?					<input checked="" type="checkbox"/>
Non Conformance Generated? (If yes see attached NCF)					<input checked="" type="checkbox"/>



...Green Technology through Innovation

12065 LEBANON ROAD • MOUNT JULIET, TENNESSEE 37122
800.767.5859 • 615.758.5858 • FAX 615.758.5859
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O-N-E L-A-B



N-A-T-I-O-N-W-I-D-E

Case Narrative

Lab No: 20160818

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 8/24/2016 2:00:00 PM. These samples are associated with your KCPL Montrose 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 Aquaterra
 Client Project : KCPL Montrose Generating Station
 Lab Number : 20160818
 Date Reported : 09/16/16
 Date Received : 08/24/16
 Page Number : 2 of 5

Analytical Report

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

Lab ID : 20160818-01
Client ID : 506
Date Sampled : 8/22/2016 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.321 +/- 0.860	0.556	pCi/l			
Radium-226	SM 7500 Ra B M*	0.321 +/- 0.129	0.096	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	-0.241 +/- 0.731	0.460	pCi/l	09/12/16	09/15/16	JR

Lab ID : 20160818-02
Client ID : 601
Date Sampled : 8/22/2016 1:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.540 +/- 0.819	0.593	pCi/l			
Radium-226	SM 7500 Ra B M*	0.308 +/- 0.165	0.201	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	0.232 +/- 0.654	0.392	pCi/l	09/12/16	09/15/16	JR

Lab ID : 20160818-03
Client ID : 602
Date Sampled : 8/22/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.02 +/- 0.695	0.811	pCi/l			
Radium-226	SM 7500 Ra B M*	0.280 +/- 0.148	0.143	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	0.738 +/- 0.547	0.668	pCi/l	09/12/16	09/15/16	JR

Lab ID : 20160818-04
Client ID : 603
Date Sampled : 8/22/2016 11:25:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.52 +/- 0.571	0.658	pCi/l			
Radium-226	SM 7500 Ra B M*	0.402 +/- 0.161	0.172	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	1.12 +/- 0.410	0.486	pCi/l	09/12/16	09/15/16	JR



Client : SCS Aquaterra
 Client Project : KCPL Montrose Generating Station
 Lab Number : 20160818
 Date Reported : 09/16/16
 Date Received : 08/24/16
 Page Number : 3 of 5

Analytical Report

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

Lab ID : 20160818-05
Client ID : 604
Date Sampled : 8/22/2016 11:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.217 +/- 0.495	0.594	pCi/l			
Radium-226	SM 7500 Ra B M*	0.217 +/- 0.113	0.095	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	-0.135 +/- 0.382	0.499	pCi/l	09/12/16	09/15/16	JR

Lab ID : 20160818-06
Client ID : 605
Date Sampled : 8/22/2016 12:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.275 +/- 0.646	0.794	pCi/l			
Radium-226	SM 7500 Ra B M*	0.134 +/- 0.113	0.149	pCi/l	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	0.141 +/- 0.532	0.645	pCi/l	09/12/16	09/15/16	JR

Lab ID : 20160818-07
Client ID : MS (605)
Date Sampled : 8/22/2016 12:25:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	86.5		% Rec	08/31/16	09/09/16	AK
Radium-228	EPA 904*/9320*	96.8		% Rec	09/12/16	09/15/16	JR

Lab ID : 20160818-08
Client ID : MSD (605)
Date Sampled : 8/22/2016 12:30:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	13.8		RPD	08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	1.6		RPD	09/12/16	09/15/16	JR

Lab ID : 20160818-09
Client ID : 701
Date Sampled : 8/22/2016 2:35:00 PM
Matrix : NPW

*NELAC Certified Parameter BDL = Below Detection Limit



Client : SCS Aquaterra
 Client Project : KCPL Montrose Generating Station
 Lab Number : 20160818
 Date Reported : 09/16/16
 Date Received : 08/24/16
 Page Number : 4 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses							
Combined Radium	0.855 +/- 0.602	0.710	pCi/l				
Radium-226 SM 7500 Ra B M*	0.231 +/- 0.148	0.190	pCi/l		08/31/16	09/13/16	AK
Radium-228 EPA 904*/9320*	0.624 +/- 0.455	0.520	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-10
Client ID : 702
Date Sampled : 8/22/2016 2:00:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	0.165 +/- 0.573	0.705	pCi/l				
Radium-226 SM 7500 Ra B M*	0.165 +/- 0.106	0.106	pCi/l		08/31/16	09/13/16	AK
Radium-228 EPA 904*/9320*	-0.112 +/- 0.467	0.599	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-11
Client ID : 703
Date Sampled : 8/22/2016 1:15:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.33 +/- 0.696	0.801	pCi/l				
Radium-226 SM 7500 Ra B M*	0.386 +/- 0.165	0.148	pCi/l		08/31/16	09/13/16	AK
Radium-228 EPA 904*/9320*	0.944 +/- 0.531	0.653	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-12
Client ID : 704
Date Sampled : 8/22/2016 2:05:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.18 +/- 0.671	0.697	pCi/l				
Radium-226 SM 7500 Ra B M*	0.614 +/- 0.191	0.115	pCi/l		08/31/16	09/13/16	AK
Radium-228 EPA 904*/9320*	0.564 +/- 0.480	0.582	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-13
Client ID : 705
Date Sampled : 8/22/2016 2:50:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.19 +/- 0.750	0.699	pCi/l				

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Aquaterra
 Client Project : KCPL Montrose Generating Station
 Lab Number : 20160818
 Date Reported : 09/16/16
 Date Received : 08/24/16
 Page Number : 5 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.884 +/- 0.234	0.048	pCi/l		08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.310 +/- 0.516	0.650	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-14
 Client ID : 706
 Date Sampled : 8/22/2016 3:15:00 PM
 Matrix : NPW

Radiochemical Analyses

Combined Radium		1.26 +/- 0.668	0.774	pCi/l				
Radium-226	SM 7500 Ra B M*	0.526 +/- 0.186	0.152	pCi/l		08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.733 +/- 0.481	0.622	pCi/l		09/12/16	09/15/16	JR

Lab ID : 20160818-15
 Client ID : Duplicate
 Date Sampled : 8/22/2016 12:20:00 PM
 Matrix : NPW

Radiochemical Analyses

Combined Radium		0.717 +/- 0.512	0.668	pCi/l				
Radium-226	SM 7500 Ra B M*	0.115 +/- 0.138	0.207	pCi/l		08/31/16	09/13/16	AK
Radium-228	EPA 904*/9320*	0.602 +/- 0.374	0.461	pCi/l		09/12/16	09/15/16	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	0.009	99.1			NC	1.670	86.5	99.4	13.8	R1128
Radium-228	-0.059	101.0			12.2	0.113	96.8	98.3	1.6	R3853

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# 685583

Table #
Account: **AQUAOPKS**
Template:
Prelogit:
ISR: **206-Jeff Carr**
Cooler:

Shipped Via:
Rem./Contaminant
Sample # (lab only)

506	GW	Grab	N/A	8/22	1220	2	X
601	GW				1305	2	X
602	GW				1100	2	X
603	GW				1125	2	X
604	GW				1140	2	X
605	GW				1215	2	X
701	GW				1435	2	X
702	GW				1400	2	X
703	GW				1315	2	X
704	GW				1405	2	X

Analysis / Container / Preservative

<i>[Handwritten Signature]</i>							
RA-226, RA-228 1LHDPPE - Add HNO3							

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

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

Project Description:
KCPL Montrose Generating Station

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Site/Facility ID #

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

Date Results Needed
Standard

Email? No Yes
FAX? No Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs
506	GW	Grab	N/A	8/22	1220	2
601	GW				1305	2
602	GW				1100	2
603	GW				1125	2
604	GW				1140	2
605	GW				1215	2
701	GW				1435	2
702	GW				1400	2
703	GW				1315	2
704	GW				1405	2

Hold #
Condition: 20110818
COC Seal Intact: Y N NA
pH Checked: Y N NA

Temp: Amo
Date: 8/22/16 Time: 1400

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

Date: 8/23/16 Time: 0800
Date: 8/23/16 Time: 1700
Date: _____ Time: _____

Relinquished by: (Signature) *[Signature]*
Relinquished by: (Signature) *[Signature]*
Relinquished by: (Signature) *[Signature]*

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

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

Analysis / Container / Preservative

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@sccsengineers.com

Project: **KCPL Montrose Generating Station**
 Description: **AQUAOPKS-MONTROSE**

Client Project #
27213168.16

Site/Facility ID #

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

Collected by (print):
Adam Paris

Collected by (signature):


Immediately Packed on Ice N Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Date Results Needed		No. of Cntrs
						Standard	Standard	
705	Grab	GW	N/A	8/22	1450			2
706		GW			1515			2
Duplicate		GW			1220			2
MS (605)		GW			1225			2
MSD (605)		GW			1230			2

Rem./Contaminant	Sample # (lab only)
	-13
	-14
	-15
	-07
	-08

RA-226, RA-228 1LHDPF - Add HNO3

Hold #

Condition: (lab use only)
 20160818

COC Seal Intact: Y N NA

pH Checked: NGF:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS FedEx Courier Bottles received:

Date: 8/23/16 Time: 1400

Received by: (Signature) *Amber Taylor*

Received for lab by: (Signature) *Amber Taylor*

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

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

Remarks: RA 226/228 - Report separately and combined

SAMPLE LOGIN

Date Received: 8/24/2016 2:00:00

Lab Number: 20160818

Due: 9/21/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
0160818-01 B	506	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-01 A	506	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-02 A	601	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-02 B	601	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-03 A	602	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-03 B	602	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-04 A	603	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-04 B	603	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-05 A	604	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-05 B	604	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-06 A	605	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-06 B	605	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-07 B	MS (605)	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
0160818-07 A	MS (605)	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
0160818-08 B	MSD (605)	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	<input type="checkbox"/>	No	No

Sample ID	MSD (605)	NPW	Date	Material	Volume	Parameter	Result	Pass/Fail
:0160818-08 A Radium-226 Radium-228		NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-09 A :0160818-09 B Radium-226 Radium-228	701	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	701	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-10 A :0160818-10 B Radium-226 Radium-228	702	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	702	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-11 A :0160818-11 B Radium-226 Radium-228	703	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	703	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-12 A :0160818-12 B Radium-226 Radium-228	704	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	704	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-13 A :0160818-13 B Radium-226 Radium-228	705	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	705	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-14 A :0160818-14 B Radium-226 Radium-228	706	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	706	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					
:0160818-15 B :0160818-15 A Radium-226 Radium-228	Duplicate	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
	Duplicate	NPW	08/22/16	Plastic	1 L	HNO ₃ , pH < 2	No	No
			SM 7500 Ra B M* EPA 904*/9320*					

CONTAINER INSPECTION

Coolers Custody Seals Broken Temperature: Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete *PA*

Anomalies

Inspected By: *JDL* DATE *8/25/16*

QA or Designee Review: *Raymond Thomas* DATE *08/25/16*

Sample Custodian Review: *Julie Naudu* DATE *8/26/16*

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-5
November 2016 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L871945
Samples Received: 11/10/2016
Project Number: 27213167.16
Description: KCPL - Montrose 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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603 L871945-03	9	
604 L871945-04	10	
605 L871945-05	11	
701 L871945-06	12	
702 L871945-07	13	
703 L871945-08	14	
704 L871945-09	15	
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SAMPLE SUMMARY



601 L871945-01 GW

Collected by Jason R Franks
Collected date/time 11/08/16 12:10
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG926009	1	11/15/16 14:09	11/15/16 15:42	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 14:57	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:32	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 13:37	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 19:17	11/14/16 19:17	SAM
Wet Chemistry by Method 9056A	WG925907	50	11/14/16 18:31	11/14/16 18:31	SAM

1
Cp

2
Tc

3
Ss

4
Cn

602 L871945-02 GW

Collected by Jason R Franks
Collected date/time 11/07/16 12:40
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:06	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:35	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 13:41	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 19:32	11/14/16 19:32	SAM
Wet Chemistry by Method 9056A	WG925907	20	11/14/16 19:48	11/14/16 19:48	SAM

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

603 L871945-03 GW

Collected by Jason R Franks
Collected date/time 11/07/16 13:00
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:15	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:38	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 13:51	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 20:03	11/14/16 20:03	SAM
Wet Chemistry by Method 9056A	WG925907	100	11/14/16 20:49	11/14/16 20:49	SAM

604 L871945-04 GW

Collected by Jason R Franks
Collected date/time 11/07/16 14:10
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:18	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:41	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:00	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 20:19	11/14/16 20:19	SAM
Wet Chemistry by Method 9056A	WG925907	100	11/14/16 21:05	11/14/16 21:05	SAM

605 L871945-05 GW

Collected by Jason R Franks
Collected date/time 11/07/16 14:55
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:21	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:45	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:04	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 20:34	11/14/16 20:34	SAM
Wet Chemistry by Method 9056A	WG925907	100	11/14/16 21:20	11/14/16 21:20	SAM

SAMPLE SUMMARY



701 L871945-06 GW

Collected by Jason R Franks
Collected date/time 11/08/16 12:45
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:24	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:48	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:07	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 22:06	11/14/16 22:06	SAM
Wet Chemistry by Method 9056A	WG925907	100	11/14/16 22:53	11/14/16 22:53	SAM

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

702 L871945-07 GW

Collected by Jason R Franks
Collected date/time 11/07/16 12:20
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:27	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:51	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:11	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 22:22	11/14/16 22:22	SAM
Wet Chemistry by Method 9056A	WG925907	20	11/14/16 23:08	11/14/16 23:08	SAM

703 L871945-08 GW

Collected by Jason R Franks
Collected date/time 11/07/16 15:30
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:30	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:54	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:14	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 22:37	11/14/16 22:37	SAM
Wet Chemistry by Method 9056A	WG925907	20	11/14/16 23:24	11/14/16 23:24	SAM

704 L871945-09 GW

Collected by Jason R Franks
Collected date/time 11/07/16 15:30
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG925705	1	11/11/16 11:09	11/11/16 11:54	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:33	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 19:57	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:18	LAT
Wet Chemistry by Method 9056A	WG925907	1	11/14/16 23:39	11/14/16 23:39	SAM
Wet Chemistry by Method 9056A	WG926853	10	11/16/16 12:00	11/16/16 12:00	CM

705 L871945-10 GW

Collected by Jason R Franks
Collected date/time 11/08/16 11:45
Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG926009	1	11/15/16 14:09	11/15/16 15:42	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:36	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 20:06	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:21	LAT
Wet Chemistry by Method 9056A	WG926104	1	11/14/16 19:29	11/14/16 19:29	CM
Wet Chemistry by Method 9056A	WG926104	20	11/14/16 19:44	11/14/16 19:44	CM

SAMPLE SUMMARY



706 L871945-11 GW

Collected by
Jason R Franks

Collected date/time
11/08/16 13:30

Received date/time
11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG926009	1	11/15/16 14:09	11/15/16 15:42	MMF
Mercury by Method 7470A	WG925597	1	11/11/16 08:54	11/11/16 15:39	NJB
Metals (ICP) by Method 6010B	WG925713	1	11/11/16 11:09	11/11/16 20:09	LTB
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:25	LAT
Wet Chemistry by Method 9056A	WG926104	1	11/14/16 20:00	11/14/16 20:00	CM
Wet Chemistry by Method 9056A	WG926104	20	11/14/16 20:15	11/14/16 20:15	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	4370000		10000	1	11/15/2016 15:42	WG926009

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	47500		1000	1	11/14/2016 19:17	WG925907
Fluoride	446		100	1	11/14/2016 19:17	WG925907
Sulfate	3160000		250000	50	11/14/2016 18:31	WG925907

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	11/11/2016 14:57	WG925597

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	25.3		5.00	1	11/11/2016 19:32	WG925713
Boron	ND		200	1	11/11/2016 19:32	WG925713
Calcium	481000		1000	1	11/11/2016 19:32	WG925713
Chromium	ND		10.0	1	11/11/2016 19:32	WG925713
Cobalt	13.2		10.0	1	11/11/2016 19:32	WG925713
Lithium	289		15.0	1	11/11/2016 19:32	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:32	WG925713

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 13:37	WG926033
Arsenic	ND		2.00	1	11/17/2016 13:37	WG926033
Beryllium	ND		2.00	1	11/17/2016 13:37	WG926033
Cadmium	1.97		1.00	1	11/17/2016 13:37	WG926033
Lead	3.26		2.00	1	11/17/2016 13:37	WG926033
Selenium	4.88		2.00	1	11/17/2016 13:37	WG926033
Thallium	ND		2.00	1	11/17/2016 13:37	WG926033



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1990000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4350		1000	1	11/14/2016 19:32	WG925907
Fluoride	ND		100	1	11/14/2016 19:32	WG925907
Sulfate	1370000		100000	20	11/14/2016 19:48	WG925907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:06	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	21.0		5.00	1	11/11/2016 19:35	WG925713
Boron	4840		200	1	11/11/2016 19:35	WG925713
Calcium	353000		1000	1	11/11/2016 19:35	WG925713
Chromium	ND		10.0	1	11/11/2016 19:35	WG925713
Cobalt	112		10.0	1	11/11/2016 19:35	WG925713
Lithium	82.3		15.0	1	11/11/2016 19:35	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:35	WG925713

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 13:41	WG926033
Arsenic	4.13		2.00	1	11/17/2016 13:41	WG926033
Beryllium	ND		2.00	1	11/17/2016 13:41	WG926033
Cadmium	ND		1.00	1	11/17/2016 13:41	WG926033
Lead	ND		2.00	1	11/17/2016 13:41	WG926033
Selenium	ND		2.00	1	11/17/2016 13:41	WG926033
Thallium	ND		2.00	1	11/17/2016 13:41	WG926033

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	3240000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7670		1000	1	11/14/2016 20:03	WG925907
Fluoride	442		100	1	11/14/2016 20:03	WG925907
Sulfate	2760000		500000	100	11/14/2016 20:49	WG925907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:15	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.5		5.00	1	11/11/2016 19:38	WG925713
Boron	6430		200	1	11/11/2016 19:38	WG925713
Calcium	437000		1000	1	11/11/2016 19:38	WG925713
Chromium	ND		10.0	1	11/11/2016 19:38	WG925713
Cobalt	39.7		10.0	1	11/11/2016 19:38	WG925713
Lithium	132		15.0	1	11/11/2016 19:38	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:38	WG925713

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 13:51	WG926033
Arsenic	ND		2.00	1	11/17/2016 13:51	WG926033
Beryllium	ND		2.00	1	11/17/2016 13:51	WG926033
Cadmium	3.42		1.00	1	11/17/2016 13:51	WG926033
Lead	ND		2.00	1	11/17/2016 13:51	WG926033
Selenium	14.4		2.00	1	11/17/2016 13:51	WG926033
Thallium	ND		2.00	1	11/17/2016 13:51	WG926033

- 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	2270000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12500		1000	1	11/14/2016 20:19	WG925907
Fluoride	468		100	1	11/14/2016 20:19	WG925907
Sulfate	2070000		500000	100	11/14/2016 21:05	WG925907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:18	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.9		5.00	1	11/11/2016 19:41	WG925713
Boron	4980		200	1	11/11/2016 19:41	WG925713
Calcium	412000		1000	1	11/11/2016 19:41	WG925713
Chromium	ND		10.0	1	11/11/2016 19:41	WG925713
Cobalt	ND		10.0	1	11/11/2016 19:41	WG925713
Lithium	91.1		15.0	1	11/11/2016 19:41	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:41	WG925713

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 14:00	WG926033
Arsenic	ND		2.00	1	11/17/2016 14:00	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:00	WG926033
Cadmium	1.14		1.00	1	11/17/2016 14:00	WG926033
Lead	ND		2.00	1	11/17/2016 14:00	WG926033
Selenium	ND		2.00	1	11/17/2016 14:00	WG926033
Thallium	ND		2.00	1	11/17/2016 14:00	WG926033

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	2760000		10000	1	11/11/2016 11:54	WG925705

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48200		1000	1	11/14/2016 20:34	WG925907
Fluoride	203		100	1	11/14/2016 20:34	WG925907
Sulfate	2280000		500000	100	11/14/2016 21:20	WG925907

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	11/11/2016 15:21	WG925597

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.04		5.00	1	11/11/2016 19:45	WG925713
Boron	1850		200	1	11/11/2016 19:45	WG925713
Calcium	407000		1000	1	11/11/2016 19:45	WG925713
Chromium	ND		10.0	1	11/11/2016 19:45	WG925713
Cobalt	38.2		10.0	1	11/11/2016 19:45	WG925713
Lithium	116		15.0	1	11/11/2016 19:45	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:45	WG925713

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 14:04	WG926033
Arsenic	ND		2.00	1	11/17/2016 14:04	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:04	WG926033
Cadmium	1.95		1.00	1	11/17/2016 14:04	WG926033
Lead	ND		2.00	1	11/17/2016 14:04	WG926033
Selenium	ND		2.00	1	11/17/2016 14:04	WG926033
Thallium	ND		2.00	1	11/17/2016 14:04	WG926033



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3250000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	367000		100000	100	11/14/2016 22:53	WG925907
Fluoride	1180		100	1	11/14/2016 22:06	WG925907
Sulfate	2270000		500000	100	11/14/2016 22:53	WG925907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:24	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.1		5.00	1	11/11/2016 19:48	WG925713
Boron	ND		200	1	11/11/2016 19:48	WG925713
Calcium	435000		1000	1	11/11/2016 19:48	WG925713
Chromium	ND		10.0	1	11/11/2016 19:48	WG925713
Cobalt	29.4		10.0	1	11/11/2016 19:48	WG925713
Lithium	205		15.0	1	11/11/2016 19:48	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:48	WG925713

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 14:07	WG926033
Arsenic	2.36		2.00	1	11/17/2016 14:07	WG926033
Beryllium	2.08		2.00	1	11/17/2016 14:07	WG926033
Cadmium	5.75		1.00	1	11/17/2016 14:07	WG926033
Lead	ND		2.00	1	11/17/2016 14:07	WG926033
Selenium	12.9		2.00	1	11/17/2016 14:07	WG926033
Thallium	ND		2.00	1	11/17/2016 14:07	WG926033

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	2940000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	346000		20000	20	11/14/2016 23:08	WG925907
Fluoride	244		100	1	11/14/2016 22:22	WG925907
Sulfate	1710000		100000	20	11/14/2016 23:08	WG925907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:27	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.47		5.00	1	11/11/2016 19:51	WG925713
Boron	ND		200	1	11/11/2016 19:51	WG925713
Calcium	490000		1000	1	11/11/2016 19:51	WG925713
Chromium	ND		10.0	1	11/11/2016 19:51	WG925713
Cobalt	ND		10.0	1	11/11/2016 19:51	WG925713
Lithium	39.0		15.0	1	11/11/2016 19:51	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:51	WG925713

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 14:11	WG926033
Arsenic	ND		2.00	1	11/17/2016 14:11	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:11	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:11	WG926033
Lead	ND		2.00	1	11/17/2016 14:11	WG926033
Selenium	ND		2.00	1	11/17/2016 14:11	WG926033
Thallium	ND		2.00	1	11/17/2016 14:11	WG926033

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	1540000		10000	1	11/11/2016 11:54	WG925705

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20000		1000	1	11/14/2016 22:37	WG925907
Fluoride	139		100	1	11/14/2016 22:37	WG925907
Sulfate	1060000		100000	20	11/14/2016 23:24	WG925907

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	11/11/2016 15:30	WG925597

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	39.0		5.00	1	11/11/2016 19:54	WG925713
Boron	ND		200	1	11/11/2016 19:54	WG925713
Calcium	245000		1000	1	11/11/2016 19:54	WG925713
Chromium	ND		10.0	1	11/11/2016 19:54	WG925713
Cobalt	ND		10.0	1	11/11/2016 19:54	WG925713
Lithium	51.7		15.0	1	11/11/2016 19:54	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:54	WG925713

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 14:14	WG926033
Arsenic	ND		2.00	1	11/17/2016 14:14	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:14	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:14	WG926033
Lead	ND		2.00	1	11/17/2016 14:14	WG926033
Selenium	ND		2.00	1	11/17/2016 14:14	WG926033
Thallium	ND		2.00	1	11/17/2016 14:14	WG926033



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1150000		10000	1	11/11/2016 11:54	WG925705

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4610		1000	1	11/14/2016 23:39	WG925907
Fluoride	131		100	1	11/14/2016 23:39	WG925907
Sulfate	755000		50000	10	11/16/2016 12:00	WG926853

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	11/11/2016 15:33	WG925597

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	59.1		5.00	1	11/11/2016 19:57	WG925713
Boron	ND		200	1	11/11/2016 19:57	WG925713
Calcium	164000		1000	1	11/11/2016 19:57	WG925713
Chromium	ND		10.0	1	11/11/2016 19:57	WG925713
Cobalt	ND		10.0	1	11/11/2016 19:57	WG925713
Lithium	51.6		15.0	1	11/11/2016 19:57	WG925713
Molybdenum	ND		5.00	1	11/11/2016 19:57	WG925713

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 14:18	WG926033
Arsenic	12.8		2.00	1	11/17/2016 14:18	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:18	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:18	WG926033
Lead	ND		2.00	1	11/17/2016 14:18	WG926033
Selenium	ND		2.00	1	11/17/2016 14:18	WG926033
Thallium	ND		2.00	1	11/17/2016 14:18	WG926033

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	869000		10000	1	11/15/2016 15:42	WG926009

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11500		1000	1	11/14/2016 19:29	WG926104
Fluoride	176		100	1	11/14/2016 19:29	WG926104
Sulfate	521000		100000	20	11/14/2016 19:44	WG926104

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	11/11/2016 15:36	WG925597

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	52.4		5.00	1	11/11/2016 20:06	WG925713
Boron	ND		200	1	11/11/2016 20:06	WG925713
Calcium	105000		1000	1	11/11/2016 20:06	WG925713
Chromium	ND		10.0	1	11/11/2016 20:06	WG925713
Cobalt	ND		10.0	1	11/11/2016 20:06	WG925713
Lithium	42.1		15.0	1	11/11/2016 20:06	WG925713
Molybdenum	ND		5.00	1	11/11/2016 20:06	WG925713

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 14:21	WG926033
Arsenic	5.28		2.00	1	11/17/2016 14:21	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:21	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:21	WG926033
Lead	ND		2.00	1	11/17/2016 14:21	WG926033
Selenium	ND		2.00	1	11/17/2016 14:21	WG926033
Thallium	ND		2.00	1	11/17/2016 14:21	WG926033



Collected date/time: 11/08/16 13:30

L871945

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1810000		10000	1	11/15/2016 15:42	WG926009

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	29500		1000	1	11/14/2016 20:00	WG926104
Fluoride	177		100	1	11/14/2016 20:00	WG926104
Sulfate	1130000		100000	20	11/14/2016 20:15	WG926104

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	11/11/2016 15:39	WG925597

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	35.1		5.00	1	11/11/2016 20:09	WG925713
Boron	221		200	1	11/11/2016 20:09	WG925713
Calcium	301000		1000	1	11/11/2016 20:09	WG925713
Chromium	ND		10.0	1	11/11/2016 20:09	WG925713
Cobalt	ND		10.0	1	11/11/2016 20:09	WG925713
Lithium	45.0		15.0	1	11/11/2016 20:09	WG925713
Molybdenum	ND		5.00	1	11/11/2016 20:09	WG925713

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 14:25	WG926033
Arsenic	13.5		2.00	1	11/17/2016 14:25	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:25	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:25	WG926033
Lead	ND		2.00	1	11/17/2016 14:25	WG926033
Selenium	ND		2.00	1	11/17/2016 14:25	WG926033
Thallium	ND		2.00	1	11/17/2016 14:25	WG926033



Method Blank (MB)

(MB) R3177879-1 11/11/16 11:54

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

L871908-15 Original Sample (OS) • Duplicate (DUP)

(OS) L871908-15 11/11/16 11:54 • (DUP) R3177879-4 11/11/16 11:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	122000	124000	1	1.63		5

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

(LCS) R3177879-2 11/11/16 11:54 • (LCSD) R3177879-3 11/11/16 11:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8490000	8530000	96.5	96.9	85.0-115			0.470	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3178647-1 11/15/16 15:42

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

L871908-07 Original Sample (OS) • Duplicate (DUP)

(OS) L871908-07 11/15/16 15:42 • (DUP) R3178647-4 11/15/16 15:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	5830000	5700000	1	2.25		5

⁷ Gl

⁸ Al

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

(LCS) R3178647-2 11/15/16 15:42 • (LCSD) R3178647-3 11/15/16 15:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8380000	8140000	95.2	92.5	85.0-115			2.91	5

⁹ Sc



Method Blank (MB)

(MB) R3178064-1 11/14/16 13:09

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

L871908-16 Original Sample (OS) • Duplicate (DUP)

(OS) L871908-16 11/14/16 15:19 • (DUP) R3178064-4 11/14/16 15:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	U	0.000	1	0		15
Fluoride	U	0.000	1	0		15
Sulfate	149	182	1	20	J P1	15

L871928-02 Original Sample (OS) • Duplicate (DUP)

(OS) L871928-02 11/15/16 00:56 • (DUP) R3178064-8 11/15/16 01:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	86500	86100	1	1		15
Fluoride	149	149	1	0		15
Sulfate	92300	92200	1	0		15

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

(LCS) R3178064-2 11/14/16 13:24 • (LCSD) R3178064-3 11/14/16 13:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	38900	39000	97	98	80-120			0	15
Fluoride	8000	7850	7850	98	98	80-120			0	15
Sulfate	40000	39000	39000	97	97	80-120			0	15

L871928-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L871928-04 11/14/16 18:00 • (MS) R3178064-5 11/14/16 18:15

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	80400	127000	93	1	80-120	E
Fluoride	5000	128	4550	88	1	80-120	



L871928-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L871928-04 11/14/16 18:00 • (MS) R3178064-5 11/14/16 18:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	19500	68100	97	1	80-120	

L871945-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871945-09 11/14/16 23:39 • (MS) R3178064-6 11/14/16 23:54 • (MSD) R3178064-7 11/15/16 00:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	4610	55600	55800	102	102	1	80-120			0	15
Fluoride	5000	131	4650	5230	90	102	1	80-120			12	15

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3178059-1 11/14/16 13:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	55.6	J	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

L871983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-01 11/14/16 14:30 • (DUP) R3178059-4 11/14/16 14:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	2960	2920	1	1		15
Fluoride	630	626	1	1		15

L871983-03 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-03 11/14/16 22:34 • (DUP) R3178059-8 11/14/16 22:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7680	7470	1	3		15
Fluoride	395	406	1	3		15

L871983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-01 11/14/16 23:51 • (DUP) R3178059-9 11/15/16 00:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	203000	199000	5	2		15

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

(LCS) R3178059-2 11/14/16 13:28 • (LCSD) R3178059-3 11/14/16 13:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39200	39300	98	98	80-120			0	15
Fluoride	8000	7890	7890	99	99	80-120			0	15
Sulfate	40000	39300	39300	98	98	80-120			0	15



L871983-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L871983-02 11/14/16 15:01 • (MS) R3178059-5 11/14/16 15:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	7500	58500	102	1	80-120	
Fluoride	5000	216	5400	104	1	80-120	
Sulfate	50000	48600	97200	97	1	80-120	

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/14/16 20:30 • (MS) R3178059-6 11/14/16 21:01 • (MSD) R3178059-7 11/14/16 21:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	73100	119000	120000	92	94	1	80-120	E	E	1	15
Fluoride	5000	ND	4950	4930	97	97	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) R3178658-1 11/16/16 06:30

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

L872230-03 Original Sample (OS) • Duplicate (DUP)

(OS) L872230-03 11/16/16 12:45 • (DUP) R3178658-6 11/16/16 13:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	31400	31500	1	0		15

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

(LCS) R3178658-2 11/16/16 06:45 • (LCSD) R3178658-3 11/16/16 07:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39100	39200	98	98	80-120			0	15

L871446-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L871446-01 11/16/16 09:46 • (MS) R3178658-5 11/16/16 10:01

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	ND	51000	101	1	80-120	

L872230-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872230-05 11/16/16 14:00 • (MS) R3178658-7 11/16/16 14:15 • (MSD) R3178658-8 11/16/16 14:29

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	23800	73300	73300	99	99	1	80-120			0	15



Method Blank (MB)

(MB) R3177553-1 11/11/16 14:48

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

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3177553-2 11/11/16 14:51 • (LCSD) R3177553-3 11/11/16 14:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.67	2.70	89	90	80-120			1	20

L871945-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871945-01 11/11/16 14:57 • (MS) R3177553-4 11/11/16 15:00 • (MSD) R3177553-5 11/11/16 15:03

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	2.80	2.84	93	95	1	75-125			1	20



Method Blank (MB)

(MB) R3177711-1 11/11/16 18:53

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) R3177711-2 11/11/16 18:56 • (LCSD) R3177711-3 11/11/16 18:58

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	996	994	100	99	80-120			0	20
Boron	1000	996	999	100	100	80-120			0	20
Calcium	10000	9900	9870	99	99	80-120			0	20
Chromium	1000	985	987	98	99	80-120			0	20
Cobalt	1000	1020	1020	102	102	80-120			0	20
Lithium	1000	962	959	96	96	80-120			0	20
Molybdenum	1000	985	984	98	98	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L871993-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871993-01 11/11/16 19:01 • (MS) R3177711-5 11/11/16 19:07 • (MSD) R3177711-6 11/11/16 19:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Barium	1000	9.59	985	977	98	97	1	75-125			1	20
Boron	1000	ND	1170	1180	101	101	1	75-125			0	20
Calcium	10000	362000	364000	368000	26	62	1	75-125	V	V	1	20
Chromium	1000	ND	975	969	97	97	1	75-125			1	20
Cobalt	1000	ND	1070	1050	107	105	1	75-125			1	20
Lithium	1000	232	1210	1200	97	97	1	75-125			0	20
Molybdenum	1000	ND	986	980	99	98	1	75-125			1	20



Method Blank (MB)

(MB) R3178868-1 11/17/16 13:13

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) R3178868-2 11/17/16 13:16 • (LCSD) R3178868-3 11/17/16 13:20

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	%	%	%			%	%
Antimony	57.9	49.4	49.5	85	85	80-120			0	20
Arsenic	50.0	51.3	50.6	103	101	80-120			1	20
Beryllium	50.0	45.4	45.7	91	91	80-120			1	20
Cadmium	50.0	55.3	54.1	111	108	80-120			2	20
Lead	50.0	51.5	50.8	103	102	80-120			1	20
Selenium	50.0	49.8	49.4	100	99	80-120			1	20
Thallium	50.0	53.1	52.7	106	105	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/17/16 13:23 • (MS) R3178868-5 11/17/16 13:30 • (MSD) R3178868-6 11/17/16 13:34

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	%	%		%			%	%
Antimony	57.9	ND	50.0	50.1	86	87	1	75-125			0	20
Arsenic	50.0	ND	49.5	48.6	98	97	1	75-125			2	20
Beryllium	50.0	ND	44.2	44.0	88	88	1	75-125			1	20
Cadmium	50.0	ND	54.3	54.0	109	108	1	75-125			1	20
Lead	50.0	ND	49.6	49.8	98	98	1	75-125			0	20
Selenium	50.0	6.68	60.2	58.3	107	103	1	75-125			3	20
Thallium	50.0	ND	51.2	51.6	102	103	1	75-125			1	20



L872058-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872058-02 11/17/16 15:04 • (MS) R3178868-7 11/17/16 15:07 • (MSD) R3178868-8 11/17/16 15:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	57.9	U	48.8	49.6	84	86	1	75-125			2	20
Arsenic	50.0	0.409	48.6	49.3	96	98	1	75-125			1	20
Beryllium	50.0	U	48.2	47.9	96	96	1	75-125			1	20
Cadmium	50.0	U	54.4	55.3	109	111	1	75-125			2	20
Lead	50.0	0.264	50.5	50.9	100	101	1	75-125			1	20
Selenium	50.0	0.426	49.6	51.6	98	102	1	75-125			4	20
Thallium	50.0	U	51.9	52.5	104	105	1	75-125			1	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 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).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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

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Project Description:
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MONTROSE, MO

Phone: (913) 681-0030
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Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

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
 Email? ___ No Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y


Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HN03	Chloride, F, SO4 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Analysis / Container / Preservative										
601	GRAB	GW	-	11/8/16	1210	3	X	X	X											
602		GW	-	11/7/16	1240	3	X	X	X											
603		GW	-	11/7/16	1300	3	X	X	X											
604		GW	-	11/7/16	1410	3	X	X	X											
605		GW	-	11/7/16	1455	3	X	X	X											
701		GW	-	11/8/16	1245	3	X	X	X											
702		GW	-	11/7/16	1220	3	X	X	X											
703		GW	-	11/7/16	1530	3	X	X	X											
704		GW	-	11/7/16	1530	3	X	X	X											
705		GW	-	11/8/16	1145	3	X	X	X											

Chain of Custody Page **L2** of **2**



YOUR LAB OF CHOICE

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



L # **871985**

I111

Acctnum: **AQUAOPKS**
 Template: **T115189**
 Prelogin: **P574459**
 TSR: **206-Jeff Carr**
 Cooler:

Shipped Via:

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

Remarks: **6010 Metals-B,BA,CA,CR,CO,LI,MO 6020-Metals-SB,AS,BE,CH,PB,SE,TL 7470 Metals-HG**

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 11/9/16	Time: 1600	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/9/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>MWT</i>

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS
 FedEx Courier SWA

Temp: 1.9° C Bottles Received: 33

COC Seal Intact: ___ Y ___ N ___ NA

Date: 11-10-16 Time: 0900

Condition: (lab use only) **2 tall**

pH Checked: **L2** NCF:

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-Montrose Generating Station**

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

Phone: (913) 681-0030

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Fax: (913) 681-0012

Collected by (print): **JASON K. FRANKS**

Site/Facility ID #

P.O. #

Collected by (signature): *Jason K. Franks*

Rush? (Lab MUST Be Notified)

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

Date Results Needed

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

Email? ___ No Yes
FAX? ___ No ___ Yes

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Metals 250mlHDPE-HN03	Chloride, F, SO4 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Analysis / Container / Preservative
706	BRO	GW	-	11/8/16	1330	3	X	X	X	

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



LAB SCIENCES

YOUR LAB OF CHOICE

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



L# **671945**

Table #

Acctnum: **AQUAOPKS**

Template: **T115189**

Prelogin: **P574459**

TSR: **206-Jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	11

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

Remarks: **6010 Metals-B,BA,CA,CR,CO,LI,MO 6020-Metals-SB,AS,BE,CH,PB,SE,TL 7470 Metals-HG**

pH _____ Temp _____
Flow _____ Other _____

Hold #

Condition: (lab use only) **Toll**

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: **<2** NCF: _____

Relinquished by: (Signature) <i>Jason K. Franks</i>	Date: 11/9/16	Time: 1600	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input checked="" type="checkbox"/> SWA
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/9/16	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Temp: 19.0 °C Bottles Received: 33
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>Munt</i>	Date: 11-10-16 Time: 0900



L·A·B S·C·I·E·N·C·E·S

YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	<i>AQUOPKS</i>	SDG#	<i>871945</i>
Cooler Received/Opened On:	<i>11/10 /16</i>	Temperature Upon Receipt:	<i>1.9 °c</i>
Received By: Michael Witherspoon			
Signature: <i>MWet</i>			
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?	<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 all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	<input checked="" type="checkbox"/>		
If applicable, was an observable VOA headspace present?			<input checked="" type="checkbox"/>
Non Conformance Generated. (If yes see attached NCF)			<input checked="" type="checkbox"/>

Case Narrative

Lab No: 20161096

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 11/10/2016 1:45:47 PM. These samples are associated with your 27213168.16 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

L871861



Client : SCS Engineers
 Client Project : 27213168.16
 Lab Number : 20161096
 Date Reported : 11/29/16
 Date Received : 11/10/16
 Page Number : 2 of 6

Analytical Report

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

Lab ID : 20161096-01
Client ID : 601
Date Sampled : 11/8/2016 12:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.12 +/- 0.587	0.649	pCi/l			
Radium-226	SM 7500 Ra B M*	0.368 +/- 0.149	0.118	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.749 +/- 0.438	0.531	pCi/l	11/17/16	11/22/16	JR

Lab ID : 20161096-02
Client ID : 602
Date Sampled : 11/7/2016 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.881 +/- 0.525	0.618	pCi/l			
Radium-226	SM 7500 Ra B M*	0.160 +/- 0.114	0.110	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.721 +/- 0.411	0.508	pCi/l	11/17/16	11/22/16	JR

Lab ID : 20161096-03
Client ID : 603
Date Sampled : 11/7/2016 1:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.40 +/- 0.655	0.789	pCi/l			
Radium-226	SM 7500 Ra B M*	0.135 +/- 0.118	0.165	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	1.26 +/- 0.537	0.624	pCi/l	11/17/16	11/02/16	JR

Lab ID : 20161096-04
Client ID : 604
Date Sampled : 11/7/2016 2:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.931 +/- 0.517	0.686	pCi/l			
Radium-226	SM 7500 Ra B M*	0.104 +/- 0.114	0.168	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.827 +/- 0.403	0.518	pCi/l	11/17/16	11/22/16	JR



Client : SCS Engineers
 Client Project : 27213168.16
 Lab Number : 20161096
 Date Reported : 11/29/16
 Date Received : 11/10/16
 Page Number : 3 of 6

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20161096-05
Client ID : 605
Date Sampled : 11/7/2016 2:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.09 +/- 0.606	0.927	pCi/l				
Radium-226	SM 7500 Ra B M*	0.139 +/- 0.127	0.178	pCi/l		11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	1.95 +/- 0.479	0.749	pCi/l		11/17/16	11/22/16	JR

Lab ID : 20161096-06
Client ID : 701
Date Sampled : 11/7/2016 12:45:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.04 +/- 0.627	0.732	pCi/l				
Radium-226	SM 7500 Ra B M*	0.264 +/- 0.157	0.164	pCi/l		11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.776 +/- 0.470	0.568	pCi/l		11/17/16	11/22/16	JR

Lab ID : 20161096-07
Client ID : 702
Date Sampled : 11/8/2016 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.59 +/- 0.695	0.876	pCi/l				
Radium-226	SM 7500 Ra B M*	0.112 +/- 0.120	0.176	pCi/l		11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	2.48 +/- 0.575	0.700	pCi/l		11/17/16	11/22/16	JR

Lab ID : 20161096-08
Client ID : 703
Date Sampled : 11/7/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.41 +/- 0.776	0.901	pCi/l				
Radium-226	SM 7500 Ra B M*	0.407 +/- 0.156	0.102	pCi/l		11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	2.00 +/- 0.620	0.799	pCi/l		11/17/16	11/22/16	JR



Client : SCS Engineers
 Client Project : 27213168.16
 Lab Number : 20161096
 Date Reported : 11/29/16
 Date Received : 11/10/16
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20161096-09
Client ID : 704
Date Sampled : 11/7/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.907 +/- 0.774	0.890	pCi/l				
Radium-226	SM 7500 Ra B M*	0.732 +/- 0.239	0.169	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.175 +/- 0.535	0.721	pCi/l	11/17/16	11/22/16	JR

Lab ID : 20161096-10
Client ID : 705
Date Sampled : 11/8/2016 11:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.42 +/- 0.676	0.789	pCi/l				
Radium-226	SM 7500 Ra B M*	0.462 +/- 0.182	0.165	pCi/l	11/16/16	11/18/16	AK
Radium-228	EPA 904*/9320*	0.957 +/- 0.494	0.624	pCi/l	11/17/16	11/22/16	JR

Lab ID : 20161096-11
Client ID : 706
Date Sampled : 11/8/2016 1:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.47 +/- 0.743	0.885	pCi/l				
Radium-226	SM 7500 Ra B M*	0.613 +/- 0.221	0.212	pCi/l	11/16/16	11/20/16	AK
Radium-228	EPA 904*/9320*	0.855 +/- 0.522	0.673	pCi/l	11/17/16	11/22/16	JR

Lab ID : 20161096-12
Client ID : 506
Date Sampled : 11/8/2016 2:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.564 +/- 0.630	0.794	pCi/l				
Radium-226	SM 7500 Ra B M*	0.267 +/- 0.153	0.181	pCi/l	11/16/16	11/20/16	AK
Radium-228	EPA 904*/9320*	0.297 +/- 0.477	0.613	pCi/l	11/17/16	11/22/16	JR



Client : SCS Engineers
 Client Project : 27213168.16
 Lab Number : 20161096
 Date Reported : 11/29/16
 Date Received : 11/10/16
 Page Number : 5 of 6

Analytical Report

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

Lab ID : 20161096-13
Client ID : Duplicate
Date Sampled : 11/8/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.395 +/- 0.665	0.541	pCi/l			
Radium-226	SM 7500 Ra B M*	0.137 +/- 0.145	0.212	pCi/l	11/16/16	11/20/16	AK
Radium-228	EPA 904*/9320*	0.258 +/- 0.520	0.329	pCi/l	11/17/16	11/23/16	JR

Lab ID : 20161096-14
Client ID : MS - 506
Date Sampled : 11/8/2016 3:05:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	102		% Rec	11/16/16	11/20/16	AK
Radium-228	EPA 904*/9320*	83.2		% Rec	11/17/16	11/23/16	JR

Lab ID : 20161096-15
Client ID : MSD - 506
Date Sampled : 11/8/2016 3:10:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	7.6		RPD	11/16/16	11/20/16	AK
Radium-228	EPA 904*/9320*	0.5		RPD	11/17/16	11/23/16	JR



Client : SCS Engineers
 Client Project : 27213168.16
 Lab Number : 20161096
 Date Reported : 11/29/16
 Date Received : 11/10/16
 Page Number : 6 of 6

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.028	111.0			NC	0.711	102.0	110.0	7.6	R1161
Radium-228	0.307	95.9			NC	0.054	83.2	83.6	0.5	R3884

Lab Approval:

Ron Eidson
 Director of Radiochemistry

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-Montrose Generating Station

Client Project #
27213168.16

City/State Collected:
Montrose, MO

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
JASON K. FRANKS

Collected by (signature):
Jason K. Franks

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

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
601	Grab	Grab	-	11/8/16	12:10	2
602	Grab	Grab	-	11/7/16	12:40	2
603	Grab	Grab	-	11/7/16	13:00	2
604	Grab	Grab	-	11/7/16	14:10	2
605	Grab	Grab	-	11/7/16	14:55	2
701	Grab	Grab	-	11/8/16	12:45	2
702	Grab	Grab	-	11/7/16	12:20	2
703	Grab	Grab	-	11/7/16	15:30	2
704	Grab	Grab	-	11/7/16	15:30	2
705	Grab	Grab	-	11/8/16	11:45	2

RA226, RA228 1L-HDPF-Add HN03

L# **871861**

Table #

Account: **AQUAOPKS**

Template: **T115191**

Prelogit: **P574459**

TSR: **206-Jeff Carr**

Cooler:

Shipped Via:

Rem./Contaminant

Sample # (lab only)



Hold # **20161086**

Condition: **good** (lab use only)

COC Seal Intact: **Y** **N** **X** **N/A**

NCP:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS FedEx Courier

Temp: **63.0** °C Bottles Received:

Date: **11/10/16** Time: **1345**

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

Remarks: **RA 226/228-Report Separately and combined.**

Relinquished by: (Signature) *Jason K. Franks* Date: **11/9/16** Time: **1:00**

Relinquished by: (Signature) *Jason K. Franks* Date: **11/5/16** Time: **1:00**

Relinquished by: (Signature) *Jason K. Franks* Date: _____ Time: _____

Received by: (Signature) *Jason K. Franks*

Received by: (Signature) *Jason K. Franks*

Received for lab by: (Signature) *Jason K. Franks*

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

L# 871861
 Table #
 Acct#num: AQUAOPKS
 Template: T115191
 Prelogins: P574459
 TISR: 206-Jeff Carr
 Cooler:
 Shipped Via:
 Rem./Contaminant Sample # (lab only)

Analysis / Container / Preservative

Billing Information:
SCS Engineers
 7311 West 130th Street, Suite 100
 Overland Park, KS 66213

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

Report to:
Jason Franks
 jfranks@scsengineers.com

Project: **KCPL-Montrose Generating Station**
 Client Project #: **27213168.16**

City/State Collected: **Montrose, MO**
 Lab Project #: **AQUAOPKS-MONTROSE**

Site/Facility ID #
Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Sample ID	Comp/Grab	Matrix *	Depth	Date Results Needed		Cntrs
				Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	FAX? <input type="checkbox"/> No <input type="checkbox"/> Yes	
706	Grab	GW	-	11/8/16	1338	2
506	Grab	GW	-	11/8/16	1455	2
Duplicate	Grab	GW	-	11/8/16	1505	2
MS-506	Grab	GW	-	11/8/16	1510	2
MSD-506	Grab	GW	-	11/8/16	1510	2

PH _____ Temp _____
 Hold # 20161096
 Flow _____ Other _____
 Condition: good (lab use only)
 COC Seal Intact: Y N X NA
 pH Checked: NCF:

Temp _____ °C Bottles Received:
 Date: 11/10/16 1345
 Time: 11/10/16 1345

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

Time: 1000
 Time: 1700
 Time: 1700

Date: 11/9/16
 Date: 11/9/16
 Date: 11/9/16

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other: NPW
 Remarks: RA 226/228-Report Separately and combined.

SAMPLE LOGIN

Date Received: 11/10/2016 1:45:4

Lab Number: 20161096

Due: 12/8/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161096-01 B	601	NPW	11/08/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-01 A	601	NPW	11/08/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-02 A	602	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-02 B	602	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-03 A	603	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-03 B	603	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-04 A	604	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-04 B	604	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-05 A	605	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-05 B	605	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-06 A	701	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-06 B	701	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161096-07 B	702	NPW	11/08/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
20161096-07 A	702	NPW	11/07/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20161096-08 B	703	NPW	11/07/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-08 A	703	NPW	11/07/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-09 A	704	NPW	11/07/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-09 B	704	NPW	11/07/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-10 A	705	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-10 B	705	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-11 A	706	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-11 B	706	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-12 A	506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-12 B	506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-13 A	Duplicate	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-13 B	Duplicate	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-14 A	MS - 506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-14 B	MS - 506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20161096-15 B	MSD - 506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
20161096-15 A	MSD - 506	NPW	11/08/16	Plastic	1 L	HNO ₃ , pH < 2	Yes	Yes
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					

CONTAINER INSPECTION

Coolers Custody Seals Broken Temperature: Amb Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete N/A

Anomalies

Inspected By: [Signature] DATE 11/10/16
QA or Designee Review: [Signature] DATE 11/10/16
Sample Custodian Review: [Signature] DATE 11/10/16

Project Notes:

SCS Engineers - KS

Sample Delivery Group: L871959
Samples Received: 11/10/2016
Project Number: 27213168.16
Description: KCPL - Montrose 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



506 L871959-01 GW

Collected by
Jason R. Franks
Collected date/time
11/08/16 14:55
Received date/time
11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG926010	1	11/15/16 14:02	11/15/16 15:02	MMF
Mercury by Method 7470A	WG925594	1	11/11/16 08:53	11/11/16 13:37	NJB
Metals (ICP) by Method 6010B	WG925714	1	11/11/16 14:52	11/12/16 00:14	JDG
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 13:23	RDS
Wet Chemistry by Method 9056A	WG926104	1	11/14/16 20:30	11/14/16 20:30	KCF
Wet Chemistry by Method 9056A	WG926104	50	11/14/16 20:46	11/14/16 20:46	KCF

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

DUP L871959-02 GW

Collected by
Jason R. Franks
Collected date/time
11/08/16 14:55
Received date/time
11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG926010	1	11/15/16 14:02	11/15/16 15:02	MMF
Mercury by Method 7470A	WG925594	1	11/11/16 08:53	11/11/16 14:45	NJB
Metals (ICP) by Method 6010B	WG925714	1	11/11/16 14:52	11/12/16 01:21	JDG
Metals (ICPMS) by Method 6020	WG926033	1	11/14/16 20:19	11/17/16 14:28	RDS
Wet Chemistry by Method 9056A	WG926104	1	11/14/16 22:03	11/14/16 22:03	KCF
Wet Chemistry by Method 9056A	WG926104	50	11/14/16 22:18	11/14/16 22:18	KCF

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	2710000		10000	1	11/15/2016 15:02	WG926010

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	73100		1000	1	11/14/2016 20:30	WG926104
Fluoride	ND		100	1	11/14/2016 20:30	WG926104
Sulfate	1930000		250000	50	11/14/2016 20:46	WG926104

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	11/11/2016 13:37	WG925594

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.99		5.00	1	11/12/2016 00:14	WG925714
Boron	ND		200	1	11/12/2016 00:14	WG925714
Calcium	363000	V	1000	1	11/12/2016 00:14	WG925714
Chromium	ND		10.0	1	11/12/2016 00:14	WG925714
Cobalt	ND		10.0	1	11/12/2016 00:14	WG925714

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 13:23	WG926033
Arsenic	ND		2.00	1	11/17/2016 13:23	WG926033
Beryllium	ND		2.00	1	11/17/2016 13:23	WG926033
Cadmium	ND		1.00	1	11/17/2016 13:23	WG926033
Lead	ND		2.00	1	11/17/2016 13:23	WG926033
Selenium	6.68		2.00	1	11/17/2016 13:23	WG926033
Thallium	ND		2.00	1	11/17/2016 13:23	WG926033



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2740000		10000	1	11/15/2016 15:02	WG926010

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	73400		1000	1	11/14/2016 22:03	WG926104
Fluoride	ND		100	1	11/14/2016 22:03	WG926104
Sulfate	2260000		250000	50	11/14/2016 22:18	WG926104

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	11/11/2016 14:45	WG925594

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	8.93		5.00	1	11/12/2016 01:21	WG925714
Boron	ND		200	1	11/12/2016 01:21	WG925714
Calcium	366000		1000	1	11/12/2016 01:21	WG925714
Chromium	ND		10.0	1	11/12/2016 01:21	WG925714
Cobalt	ND		10.0	1	11/12/2016 01:21	WG925714

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	11/17/2016 14:28	WG926033
Arsenic	ND		2.00	1	11/17/2016 14:28	WG926033
Beryllium	ND		2.00	1	11/17/2016 14:28	WG926033
Cadmium	ND		1.00	1	11/17/2016 14:28	WG926033
Lead	ND		2.00	1	11/17/2016 14:28	WG926033
Selenium	7.29		2.00	1	11/17/2016 14:28	WG926033
Thallium	ND		2.00	1	11/17/2016 14:28	WG926033



Method Blank (MB)

(MB) R3178651-1 11/15/16 15:02

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

1 Cp

2 Tc

3 Ss

4 Cn

L871959-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871959-01 11/15/16 15:02 • (DUP) R3178651-4 11/15/16 15:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2710000	2760000	1	1.65		5

5 Sr

6 Qc

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

(LCS) R3178651-2 11/15/16 15:02 • (LCSD) R3178651-3 11/15/16 15:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8230000	8210000	93.5	93.3	85.0-115			0.243	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3178059-1 11/14/16 13:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	55.6	J	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

L871983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-01 11/14/16 14:30 • (DUP) R3178059-4 11/14/16 14:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	2960	2920	1	1		15
Fluoride	630	626	1	1		15

L871983-03 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-03 11/14/16 22:34 • (DUP) R3178059-8 11/14/16 22:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7680	7470	1	3		15
Fluoride	395	406	1	3		15

L871983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L871983-01 11/14/16 23:51 • (DUP) R3178059-9 11/15/16 00:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	203000	199000	5	2		15

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

(LCS) R3178059-2 11/14/16 13:28 • (LCSD) R3178059-3 11/14/16 13:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39200	39300	98	98	80-120			0	15
Fluoride	8000	7890	7890	99	99	80-120			0	15
Sulfate	40000	39300	39300	98	98	80-120			0	15



L871983-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L871983-02 11/14/16 15:01 • (MS) R3178059-5 11/14/16 15:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	7500	58500	102	1	80-120	
Fluoride	5000	216	5400	104	1	80-120	
Sulfate	50000	48600	97200	97	1	80-120	

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/14/16 20:30 • (MS) R3178059-6 11/14/16 21:01 • (MSD) R3178059-7 11/14/16 21:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	73100	119000	120000	92	94	1	80-120	E	E	1	15
Fluoride	5000	ND	4950	4930	97	97	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) R3177552-1 11/11/16 13:28

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) R3177552-2 11/11/16 13:31 • (LCSD) R3177552-3 11/11/16 13:34

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.03	2.76	101	92	80-120			9	20

⁷Gl

⁸Al

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/11/16 13:37 • (MS) R3177552-4 11/11/16 13:40 • (MSD) R3177552-5 11/11/16 13:43

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	3.02	3.12	101	104	1	75-125			3	20

⁹Sc



Method Blank (MB)

(MB) R3177715-1 11/12/16 00:05

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3177715-2 11/12/16 00:08 • (LCSD) R3177715-3 11/12/16 00:11

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	985	993	98	99	80-120			1	20
Boron	1000	1000	1010	100	101	80-120			0	20
Calcium	10000	9830	9870	98	99	80-120			0	20
Chromium	1000	975	976	98	98	80-120			0	20
Cobalt	1000	1010	1010	101	101	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/12/16 00:14 • (MS) R3177715-5 11/12/16 00:20 • (MSD) R3177715-6 11/12/16 00:23

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	8.99	983	992	97	98	1	75-125			1	20
Boron	1000	ND	1190	1210	102	104	1	75-125			2	20
Calcium	10000	363000	366000	368000	26	46	1	75-125	V	V	1	20
Chromium	1000	ND	986	992	98	99	1	75-125			1	20
Cobalt	1000	ND	1060	1070	106	107	1	75-125			1	20

⁹ Sc



Method Blank (MB)

(MB) R3178868-1 11/17/16 13:13

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

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3178868-2 11/17/16 13:16 • (LCSD) R3178868-3 11/17/16 13:20

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	%	%	%			%	%
Antimony	57.9	49.4	49.5	85	85	80-120			0	20
Arsenic	50.0	51.3	50.6	103	101	80-120			1	20
Beryllium	50.0	45.4	45.7	91	91	80-120			1	20
Cadmium	50.0	55.3	54.1	111	108	80-120			2	20
Lead	50.0	51.5	50.8	103	102	80-120			1	20
Selenium	50.0	49.8	49.4	100	99	80-120			1	20
Thallium	50.0	53.1	52.7	106	105	80-120			1	20

L871959-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871959-01 11/17/16 13:23 • (MS) R3178868-5 11/17/16 13:30 • (MSD) R3178868-6 11/17/16 13:34

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	%	%		%			%	%
Antimony	57.9	ND	50.0	50.1	86	87	1	75-125			0	20
Arsenic	50.0	ND	49.5	48.6	98	97	1	75-125			2	20
Beryllium	50.0	ND	44.2	44.0	88	88	1	75-125			1	20
Cadmium	50.0	ND	54.3	54.0	109	108	1	75-125			1	20
Lead	50.0	ND	49.6	49.8	98	98	1	75-125			0	20
Selenium	50.0	6.68	60.2	58.3	107	103	1	75-125			3	20
Thallium	50.0	ND	51.2	51.6	102	103	1	75-125			1	20



L872058-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L872058-02 11/17/16 15:04 • (MS) R3178868-7 11/17/16 15:07 • (MSD) R3178868-8 11/17/16 15:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	57.9	U	48.8	49.6	84	86	1	75-125			2	20
Arsenic	50.0	0.409	48.6	49.3	96	98	1	75-125			1	20
Beryllium	50.0	U	48.2	47.9	96	96	1	75-125			1	20
Cadmium	50.0	U	54.4	55.3	109	111	1	75-125			2	20
Lead	50.0	0.264	50.5	50.9	100	101	1	75-125			1	20
Selenium	50.0	0.426	49.6	51.6	98	102	1	75-125			4	20
Thallium	50.0	U	51.9	52.5	104	105	1	75-125			1	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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).
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		

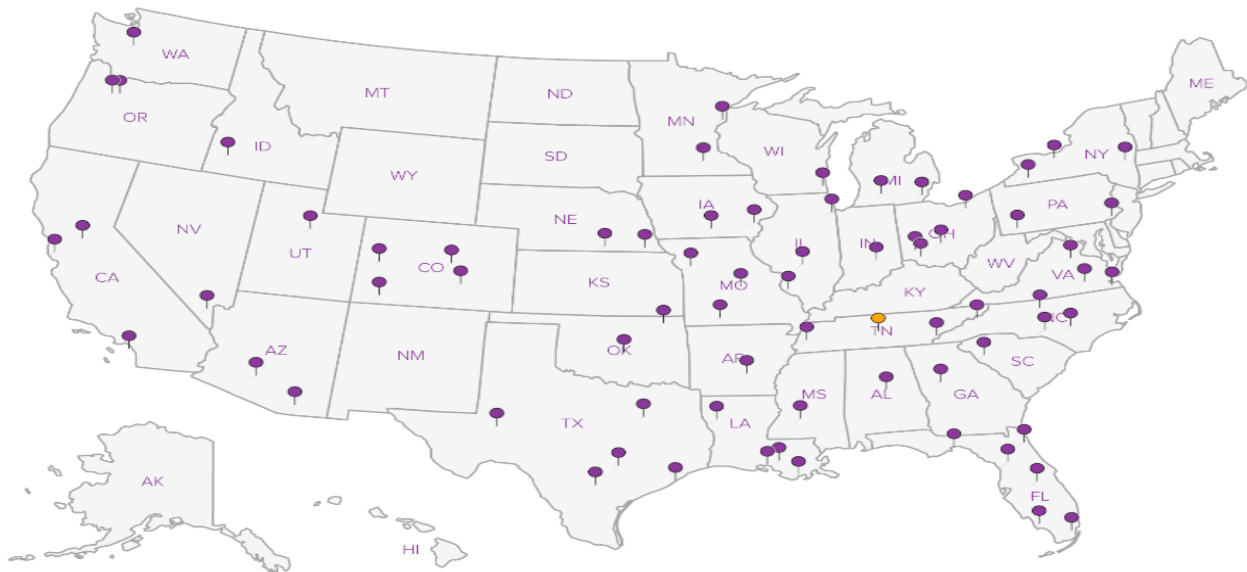
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	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

Chain of Custody Page **L2** 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

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

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

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

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Total Metals**	Chloride, Fluoride, Sulfate	TDS	500mlHDPE-HN03	125ml HDPE-NoPres
506	Grab	GW	NA	11/8/10	1455	3	X	X	X		

L# **871959**
1109
Acctnum: **AQUAOPKS**
Template:
Prelogin:
TSR: **206-Jeff Carr**
PB:
Shipped Via:

Rem./Contaminant	Sample # (lab only)
	01

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

Remarks: ****Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Hg, Se ****

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 11/9/10	Time: 10:00	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input checked="" type="checkbox"/> <i>SKG</i>	Condition: (lab use only) <i>fail</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/9/10	Time: 17:00	Received by: (Signature) <i>[Signature]</i>	Temp: 1.9°C Bottles Received: 12	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11-10-10	Time: 0900	Received for lab by: (Signature) <i>[Signature]</i>	Date: 11-10-10	Time: 0900

pH _____ Temp _____
Flow _____ Other _____

Hold # _____
pH Checked: **L2** 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

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.16

Lab Project #

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

Immediately Packed on Ice N ___ Y

No. of
 Entrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs	Total Metals**	500ml HDPE-HN03	Chloride, Fluoride, Sulfate	125ml HDPE-NoPres	TDS	250ml HDPE-NoPres
Duplicate	Grab	GW	NA	11/8/16		3	X	X	X			
MS	Grab	GW	NA	11/8/16	1500	3	X	X	X			
MSD	Grab	GW	NA	11/8/16	1505	3	X	X	X			

12

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



YOUR LAB OF CHOICE
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5658
 Phone: 800-767-5859
 Fax: 615-758-5859



L# **871959**
 Table #
 Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:
 Rem./Contaminant Sample # (lab only)

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

Remarks: ****Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Hg, Se****

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 11/9/16	Time: 10:00	Received by: (Signature) <i>MA</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input checked="" type="checkbox"/> <i>SWA</i>	Condition: (lab use only) <i>h 704</i>
Relinquished by: (Signature) <i>MA</i>	Date: 11/9/16	Time: 17:00	Received by: (Signature)	Temp: °C 1.9°C	Bottles Received: 12
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>M</i>	Date: 11-10-16	Time: 09:00
				pH Checked: LT	NCF:



Cooler Receipt Form			
Client:	AKWPK	SDG#	871959
Cooler Received/Opened On:	11/10/16	Temperature Upon Receipt:	1.9 °C
Received By: Michael Witherspoon			
Signature: <i>MW</i>			
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?	<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 all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	<input checked="" type="checkbox"/>		
If applicable, was an observable VOA headspace present?			<input checked="" type="checkbox"/>
Non Conformance Generated. (If yes see attached NCF)			

SCS Engineers - KS

Sample Delivery Group: L871990
Samples Received: 11/10/2016
Project Number: 27213168.16
Description: KCPL - Montrose 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.



¹Cp: Cover Page	1	¹Cp
²Tc: Table of Contents	2	²Tc
³Ss: Sample Summary	3	³Ss
⁴Cn: Case Narrative	4	⁴Cn
⁵Sr: Sample Results	5	⁴Cn
506 L871990-01	5	⁵Sr
DUPLICATE L871990-02	6	⁶Qc
⁶Qc: Quality Control Summary	7	⁶Qc
Metals (ICP) by Method 6010B	7	⁷Gl
⁷Gl: Glossary of Terms	8	⁸Al
⁸Al: Accreditations & Locations	9	⁹Sc
⁹Sc: Chain of Custody	10	

SAMPLE SUMMARY



506 L871990-01 GW

Collected by Jason R. Franks
 Collected date/time 11/08/16 14:55
 Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG925692	1	11/11/16 09:42	11/11/16 20:06	ST

¹ Cp

² Tc

³ Ss

DUPLICATE L871990-02 GW

Collected by Jason R. Franks
 Collected date/time 11/08/16 00:00
 Received date/time 11/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG925692	1	11/11/16 09:42	11/11/16 15:29	ST

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	255		15.0	1	11/11/2016 20:06	WG925692
Molybdenum	ND		5.00	1	11/11/2016 20:06	WG925692

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	283		15.0	1	11/11/2016 15:29	WG925692
Molybdenum	ND		5.00	1	11/11/2016 15:29	WG925692

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3177565-7 11/11/16 19:58

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
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) R3177565-8 11/11/16 20:01 • (LCSD) R3177565-9 11/11/16 20:03

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	%	%	%			%	%
Lithium	1000	976	973	98	97	80-120			0	20
Molybdenum	1000	1000	1010	100	101	80-120			1	20

L871990-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L871990-01 11/11/16 20:06 • (MS) R3177565-11 11/11/16 20:11 • (MSD) R3177565-12 11/11/16 20:13

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	%	%		%			%	%
Lithium	1000	255	1250	1240	99	99	1	75-125			0	20
Molybdenum	1000	ND	1020	1010	102	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
-----------	-------------

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



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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		

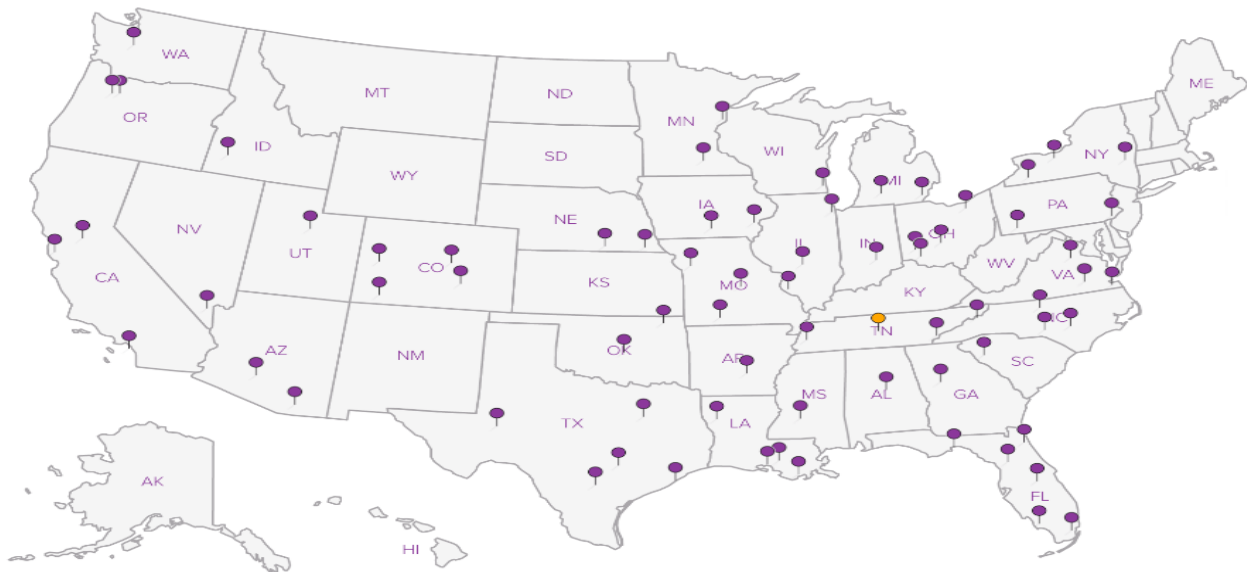
Third Party & Federal Accreditations

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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 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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

Phone: **913-681-0030**

Client Project #
27213168.16

Lab Project #

Fax: **913-681-0012**

Site/Facility ID #

P.O. #

Collected by (print):
Jason R. Franks

Date Results Needed
STD

Collected by (signature):
Jason R. Franks

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

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y

No. of Cntrs

Total Metals** 500mIHDPPE-HN03

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
506	Grab	GW	NA	11/9/16	1455	1 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# **87194**
1108

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	01

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

pH _____ Temp _____
 Flow _____ Other _____

Remarks: ****Metals=Li, Mo****

Relinquished by: (Signature) <i>Jason R. Franks</i>	Date: 11/9/16	Time: 1100	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input checked="" type="checkbox"/> SWA
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/9/16	Time: 1455	Received by: (Signature) <i>[Signature]</i>	Temp: 19°C Bottles Received: 4 = DL
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>M...</i>	Date: 11-10-16 Time: 0905

Hold #

Condition: (lab use only) *2 TALL*

COC Seal Intact: ___ Y ___ N NA

pH Checked: NCF:



YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	<i>AQUACOPUS</i>	SDG#	<i>871996</i>
Cooler Received/Opened On:	<i>11/10/16</i>	Temperature Upon Receipt:	<i>1.9 °c</i>
Received By: Michael Witherspoon			
Signature: <i>MW</i>			

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?	<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 all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	<input checked="" type="checkbox"/>		
If applicable, was an observable VOA headspace present?			<input checked="" type="checkbox"/>
Non Conformance Generated. (If yes see attached NCF)			

Jared Morrison
December 20, 2022

ATTACHMENT 1-6
February 2017 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L888885
Samples Received: 02/09/2017
Project Number: 27213167.16
Description: KCPL - Montrose Generating Station

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

Entire Report Reviewed By:

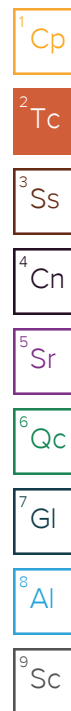


Jeff Carr
Technical Service Representative

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¹ Cp: Cover Page	1
² Tc: Table of Contents	2
³ Ss: Sample Summary	3
⁴ Cn: Case Narrative	6
⁵ Sr: Sample Results	7
506 L888885-01	7
601 L888885-02	8
602 L888885-03	9
603 L888885-04	10
604 L888885-05	11
605 L888885-06	12
701 L888885-07	13
702 L888885-08	14
703 L888885-09	15
704 L888885-10	16
705 L888885-11	17
706 L888885-12	18
DUPLICATE L888885-13	19
⁶ Qc: Quality Control Summary	20
Gravimetric Analysis by Method 2540 C-2011	20
Wet Chemistry by Method 9056A	23
Mercury by Method 7470A	26
Metals (ICP) by Method 6010B	27
Metals (ICPMS) by Method 6020	28
⁷ Gl: Glossary of Terms	29
⁸ Al: Accreditations & Locations	30
⁹ Sc: Chain of Custody	31



SAMPLE SUMMARY



506 L888885-01 GW

Collected by Adam Parris
Collected date/time 02/07/17 14:35
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG950936	1	02/13/17 16:17	02/13/17 17:02	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 14:11	RDS
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 17:36	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 11:26	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 12:09	02/11/17 12:09	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 12:22	02/11/17 12:22	NJM



601 L888885-02 GW

Collected by Adam Parris
Collected date/time 02/07/17 15:40
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG950936	1	02/13/17 16:17	02/13/17 17:02	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 14:18	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:00	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:22	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 13:02	02/11/17 13:02	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 13:42	02/11/17 13:42	NJM

602 L888885-03 GW

Collected by Adam Parris
Collected date/time 02/07/17 10:35
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 14:24	RDS
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:03	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:26	LAT
Metals (ICPMS) by Method 6020	WG951065	10	02/10/17 08:29	02/14/17 15:15	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 13:56	02/11/17 13:56	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 14:09	02/11/17 14:09	NJM

603 L888885-04 GW

Collected by Adam Parris
Collected date/time 02/07/17 11:00
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:46	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:06	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:29	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 14:22	02/11/17 14:22	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 14:36	02/11/17 14:36	NJM

604 L888885-05 GW

Collected by Adam Parris
Collected date/time 02/07/17 11:05
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:48	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:09	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:33	LAT
Metals (ICPMS) by Method 6020	WG951065	10	02/10/17 08:29	02/14/17 15:22	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 14:49	02/11/17 14:49	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 15:03	02/11/17 15:03	NJM

SAMPLE SUMMARY



605 L888885-06 GW

						Collected by Adam Parris	Collected date/time 02/07/17 11:40	Received date/time 02/09/17 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF			
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:50	TRB			
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:12	ST			
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:36	LAT			
Metals (ICPMS) by Method 6020	WG951065	10	02/10/17 08:29	02/14/17 15:26	LAT			
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 15:16	02/11/17 15:16	NJM			
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 15:30	02/11/17 15:30	NJM			

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

701 L888885-07 GW

						Collected by Adam Parris	Collected date/time 02/07/17 14:20	Received date/time 02/09/17 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF			
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:53	TRB			
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:15	ST			
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:40	LAT			
Metals (ICPMS) by Method 6020	WG951065	10	02/10/17 08:29	02/14/17 15:30	LAT			
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 16:10	02/11/17 16:10	NJM			
Wet Chemistry by Method 9056A	WG952281	1	02/15/17 13:44	02/15/17 13:44	KCF			

702 L888885-08 GW

						Collected by Adam Parris	Collected date/time 02/07/17 15:00	Received date/time 02/09/17 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF			
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:55	TRB			
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:18	ST			
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 12:43	LAT			
Metals (ICPMS) by Method 6020	WG951065	10	02/10/17 08:29	02/14/17 15:33	LAT			
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 19:58	02/11/17 19:58	NJM			
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 16:23	02/11/17 16:23	NJM			

703 L888885-09 GW

						Collected by Adam Parris	Collected date/time 02/07/17 11:35	Received date/time 02/09/17 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF			
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 17:58	TRB			
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:21	ST			
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 13:35	LAT			
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 16:37	02/11/17 16:37	NJM			
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 16:50	02/11/17 16:50	NJM			

704 L888885-10 GW

						Collected by Adam Parris	Collected date/time 02/07/17 12:15	Received date/time 02/09/17 11:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF			
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 18:00	TRB			
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:24	ST			
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 13:39	LAT			

SAMPLE SUMMARY



704 L888885-10 GW

Collected by Adam Parris
Collected date/time 02/07/17 12:15
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 17:03	02/11/17 17:03	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 17:17	02/11/17 17:17	NJM



705 L888885-11 GW

Collected by Adam Parris
Collected date/time 02/07/17 12:20
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG951810	1	02/13/17 15:30	02/13/17 16:05	MMF
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/13/17 18:02	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:27	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 13:42	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 18:37	02/11/17 18:37	NJM
Wet Chemistry by Method 9056A	WG951380	20	02/11/17 18:51	02/11/17 18:51	NJM



706 L888885-12 GW

Collected by Adam Parris
Collected date/time 02/07/17 12:40
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952010	1	02/14/17 20:35	02/14/17 21:33	JM
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/14/17 15:07	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:35	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 13:46	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 19:04	02/11/17 19:04	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 19:18	02/11/17 19:18	NJM



DUPLICATE L888885-13 GW

Collected by Adam Parris
Collected date/time 02/07/17 14:40
Received date/time 02/09/17 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952010	1	02/14/17 20:35	02/14/17 21:33	JM
Mercury by Method 7470A	WG950979	1	02/10/17 07:56	02/14/17 15:09	TRB
Metals (ICP) by Method 6010B	WG951155	1	02/10/17 10:54	02/10/17 18:38	ST
Metals (ICPMS) by Method 6020	WG951065	1	02/10/17 08:29	02/14/17 13:49	LAT
Wet Chemistry by Method 9056A	WG951380	1	02/11/17 19:31	02/11/17 19:31	NJM
Wet Chemistry by Method 9056A	WG951380	100	02/11/17 19:45	02/11/17 19:45	NJM



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	2790000		10000	1	02/13/2017 17:02	WG950936

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	79000		1000	1	02/11/2017 12:09	WG951380
Fluoride	ND		100	1	02/11/2017 12:09	WG951380
Sulfate	1920000		500000	100	02/11/2017 12:22	WG951380

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	02/13/2017 14:11	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.46		5.00	1	02/10/2017 17:36	WG951155
Boron	ND		200	1	02/10/2017 17:36	WG951155
Chromium	ND		10.0	1	02/10/2017 17:36	WG951155
Cobalt	ND		10.0	1	02/10/2017 17:36	WG951155
Lithium	256		15.0	1	02/10/2017 17:36	WG951155
Molybdenum	ND		5.00	1	02/10/2017 17:36	WG951155

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	02/14/2017 11:26	WG951065
Arsenic	ND		2.00	1	02/14/2017 11:26	WG951065
Beryllium	ND		2.00	1	02/14/2017 11:26	WG951065
Cadmium	ND		1.00	1	02/14/2017 11:26	WG951065
Calcium	322000	V	1000	1	02/14/2017 11:26	WG951065
Lead	ND		2.00	1	02/14/2017 11:26	WG951065
Selenium	6.27		2.00	1	02/14/2017 11:26	WG951065
Thallium	ND		2.00	1	02/14/2017 11:26	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	4640000		10000	1	02/13/2017 17:02	WG950936

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	49000		1000	1	02/11/2017 13:02	WG951380
Fluoride	399		100	1	02/11/2017 13:02	WG951380
Sulfate	3180000		500000	100	02/11/2017 13:42	WG951380

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	02/13/2017 14:18	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	16.9		5.00	1	02/10/2017 18:00	WG951155
Boron	ND		200	1	02/10/2017 18:00	WG951155
Chromium	ND		10.0	1	02/10/2017 18:00	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:00	WG951155
Lithium	323		15.0	1	02/10/2017 18:00	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:00	WG951155

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	02/14/2017 12:22	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:22	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:22	WG951065
Cadmium	1.50		1.00	1	02/14/2017 12:22	WG951065
Calcium	427000		1000	1	02/14/2017 12:22	WG951065
Lead	ND		2.00	1	02/14/2017 12:22	WG951065
Selenium	4.62		2.00	1	02/14/2017 12:22	WG951065
Thallium	ND		2.00	1	02/14/2017 12:22	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1890000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4040		1000	1	02/11/2017 13:56	WG951380
Fluoride	ND		100	1	02/11/2017 13:56	WG951380
Sulfate	1430000		500000	100	02/11/2017 14:09	WG951380

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	02/13/2017 14:24	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	20.4		5.00	1	02/10/2017 18:03	WG951155
Boron	4620		200	1	02/10/2017 18:03	WG951155
Chromium	ND		10.0	1	02/10/2017 18:03	WG951155
Cobalt	105		10.0	1	02/10/2017 18:03	WG951155
Lithium	97.8		15.0	1	02/10/2017 18:03	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:03	WG951155

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	02/14/2017 12:26	WG951065
Arsenic	3.53		2.00	1	02/14/2017 12:26	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:26	WG951065
Cadmium	ND		1.00	1	02/14/2017 12:26	WG951065
Calcium	314000		1000	1	02/14/2017 12:26	WG951065
Lead	ND		20.0	10	02/14/2017 15:15	WG951065
Selenium	ND		2.00	1	02/14/2017 12:26	WG951065
Thallium	ND		20.0	10	02/14/2017 15:15	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3150000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7350		1000	1	02/11/2017 14:22	WG951380
Fluoride	459		100	1	02/11/2017 14:22	WG951380
Sulfate	2500000		500000	100	02/11/2017 14:36	WG951380

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	02/13/2017 17:46	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.7		5.00	1	02/10/2017 18:06	WG951155
Boron	6390		200	1	02/10/2017 18:06	WG951155
Chromium	ND		10.0	1	02/10/2017 18:06	WG951155
Cobalt	39.8		10.0	1	02/10/2017 18:06	WG951155
Lithium	153		15.0	1	02/10/2017 18:06	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:06	WG951155

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	02/14/2017 12:29	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:29	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:29	WG951065
Cadmium	3.30		1.00	1	02/14/2017 12:29	WG951065
Calcium	409000		1000	1	02/14/2017 12:29	WG951065
Lead	ND		2.00	1	02/14/2017 12:29	WG951065
Selenium	14.1		2.00	1	02/14/2017 12:29	WG951065
Thallium	ND		2.00	1	02/14/2017 12:29	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2670000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12500		1000	1	02/11/2017 14:49	WG951380
Fluoride	467		100	1	02/11/2017 14:49	WG951380
Sulfate	1810000		500000	100	02/11/2017 15:03	WG951380

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	02/13/2017 17:48	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.7		5.00	1	02/10/2017 18:09	WG951155
Boron	5130		200	1	02/10/2017 18:09	WG951155
Chromium	ND		10.0	1	02/10/2017 18:09	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:09	WG951155
Lithium	110		15.0	1	02/10/2017 18:09	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:09	WG951155

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	02/14/2017 12:33	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:33	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:33	WG951065
Cadmium	1.08		1.00	1	02/14/2017 12:33	WG951065
Calcium	392000		1000	1	02/14/2017 12:33	WG951065
Lead	ND		20.0	10	02/14/2017 15:22	WG951065
Selenium	ND		2.00	1	02/14/2017 12:33	WG951065
Thallium	ND		20.0	10	02/14/2017 15:22	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2580000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48000		1000	1	02/11/2017 15:16	WG951380
Fluoride	187		100	1	02/11/2017 15:16	WG951380
Sulfate	2050000		500000	100	02/11/2017 15:30	WG951380

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	02/13/2017 17:50	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.91		5.00	1	02/10/2017 18:12	WG951155
Boron	1840		200	1	02/10/2017 18:12	WG951155
Chromium	ND		10.0	1	02/10/2017 18:12	WG951155
Cobalt	33.1		10.0	1	02/10/2017 18:12	WG951155
Lithium	137		15.0	1	02/10/2017 18:12	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:12	WG951155

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	02/14/2017 12:36	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:36	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:36	WG951065
Cadmium	1.79		1.00	1	02/14/2017 12:36	WG951065
Calcium	367000		1000	1	02/14/2017 12:36	WG951065
Lead	ND		20.0	10	02/14/2017 15:26	WG951065
Selenium	ND		2.00	1	02/14/2017 12:36	WG951065
Thallium	ND		20.0	10	02/14/2017 15:26	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3210000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	319000		100000	100	02/11/2017 16:10	WG951380
Fluoride	1120		100	1	02/15/2017 13:44	WG952281
Sulfate	1930000		500000	100	02/11/2017 16:10	WG951380

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	02/13/2017 17:53	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.06		5.00	1	02/10/2017 18:15	WG951155
Boron	ND		200	1	02/10/2017 18:15	WG951155
Chromium	ND		10.0	1	02/10/2017 18:15	WG951155
Cobalt	19.6		10.0	1	02/10/2017 18:15	WG951155
Lithium	216		15.0	1	02/10/2017 18:15	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:15	WG951155

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	02/14/2017 12:40	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:40	WG951065
Beryllium	2.05		2.00	1	02/14/2017 12:40	WG951065
Cadmium	4.60		1.00	1	02/14/2017 12:40	WG951065
Calcium	367000		1000	1	02/14/2017 12:40	WG951065
Lead	ND		20.0	10	02/14/2017 15:30	WG951065
Selenium	12.6		2.00	1	02/14/2017 12:40	WG951065
Thallium	ND		20.0	10	02/14/2017 15:30	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3050000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	304000		100000	100	02/11/2017 16:23	WG951380
Fluoride	208		100	1	02/11/2017 19:58	WG951380
Sulfate	1490000		500000	100	02/11/2017 16:23	WG951380

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	02/13/2017 17:55	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.5		5.00	1	02/10/2017 18:18	WG951155
Boron	ND		200	1	02/10/2017 18:18	WG951155
Chromium	ND		10.0	1	02/10/2017 18:18	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:18	WG951155
Lithium	52.8		15.0	1	02/10/2017 18:18	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:18	WG951155

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	02/14/2017 12:43	WG951065
Arsenic	ND		2.00	1	02/14/2017 12:43	WG951065
Beryllium	ND		2.00	1	02/14/2017 12:43	WG951065
Cadmium	ND		1.00	1	02/14/2017 12:43	WG951065
Calcium	450000		1000	1	02/14/2017 12:43	WG951065
Lead	ND		20.0	10	02/14/2017 15:33	WG951065
Selenium	ND		2.00	1	02/14/2017 12:43	WG951065
Thallium	ND		20.0	10	02/14/2017 15:33	WG951065



Collected date/time: 02/07/17 11:35

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1620000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	20200		1000	1	02/11/2017 16:37	WG951380
Fluoride	116		100	1	02/11/2017 16:37	WG951380
Sulfate	1090000		500000	100	02/11/2017 16:50	WG951380

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	02/13/2017 17:58	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	39.4		5.00	1	02/10/2017 18:21	WG951155
Boron	ND		200	1	02/10/2017 18:21	WG951155
Chromium	ND		10.0	1	02/10/2017 18:21	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:21	WG951155
Lithium	63.0		15.0	1	02/10/2017 18:21	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:21	WG951155

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	02/14/2017 13:35	WG951065
Arsenic	ND		2.00	1	02/14/2017 13:35	WG951065
Beryllium	ND		2.00	1	02/14/2017 13:35	WG951065
Cadmium	ND		1.00	1	02/14/2017 13:35	WG951065
Calcium	235000		1000	1	02/14/2017 13:35	WG951065
Lead	ND		2.00	1	02/14/2017 13:35	WG951065
Selenium	ND		2.00	1	02/14/2017 13:35	WG951065
Thallium	ND		2.00	1	02/14/2017 13:35	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1200000		10000	1	02/13/2017 16:05	WG951810

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4710		1000	1	02/11/2017 17:03	WG951380
Fluoride	105		100	1	02/11/2017 17:03	WG951380
Sulfate	794000		500000	100	02/11/2017 17:17	WG951380

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	02/13/2017 18:00	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	56.7		5.00	1	02/10/2017 18:24	WG951155
Boron	ND		200	1	02/10/2017 18:24	WG951155
Chromium	ND		10.0	1	02/10/2017 18:24	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:24	WG951155
Lithium	63.3		15.0	1	02/10/2017 18:24	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:24	WG951155

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	02/14/2017 13:39	WG951065
Arsenic	13.2		2.00	1	02/14/2017 13:39	WG951065
Beryllium	ND		2.00	1	02/14/2017 13:39	WG951065
Cadmium	ND		1.00	1	02/14/2017 13:39	WG951065
Calcium	154000		1000	1	02/14/2017 13:39	WG951065
Lead	ND		2.00	1	02/14/2017 13:39	WG951065
Selenium	ND		2.00	1	02/14/2017 13:39	WG951065
Thallium	ND		2.00	1	02/14/2017 13:39	WG951065



Collected date/time: 02/07/17 12:20

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1030000		10000	1	02/13/2017 16:05	WG951810

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	02/11/2017 18:37	WG951380
Fluoride	168		100	1	02/11/2017 18:37	WG951380
Sulfate	567000		100000	20	02/11/2017 18:51	WG951380

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	02/13/2017 18:02	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	55.8		5.00	1	02/10/2017 18:27	WG951155
Boron	ND		200	1	02/10/2017 18:27	WG951155
Chromium	ND		10.0	1	02/10/2017 18:27	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:27	WG951155
Lithium	64.2		15.0	1	02/10/2017 18:27	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:27	WG951155

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	02/14/2017 13:42	WG951065
Arsenic	5.29		2.00	1	02/14/2017 13:42	WG951065
Beryllium	ND		2.00	1	02/14/2017 13:42	WG951065
Cadmium	ND		1.00	1	02/14/2017 13:42	WG951065
Calcium	131000		1000	1	02/14/2017 13:42	WG951065
Lead	ND		2.00	1	02/14/2017 13:42	WG951065
Selenium	ND		2.00	1	02/14/2017 13:42	WG951065
Thallium	ND		2.00	1	02/14/2017 13:42	WG951065



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1780000		10000	1	02/14/2017 21:33	WG952010

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	29800		1000	1	02/11/2017 19:04	WG951380
Fluoride	168		100	1	02/11/2017 19:04	WG951380
Sulfate	1110000		500000	100	02/11/2017 19:18	WG951380

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 15:07	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	35.4		5.00	1	02/10/2017 18:35	WG951155
Boron	220		200	1	02/10/2017 18:35	WG951155
Chromium	ND		10.0	1	02/10/2017 18:35	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:35	WG951155
Lithium	55.7		15.0	1	02/10/2017 18:35	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:35	WG951155

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	02/14/2017 13:46	WG951065
Arsenic	14.0		2.00	1	02/14/2017 13:46	WG951065
Beryllium	ND		2.00	1	02/14/2017 13:46	WG951065
Cadmium	ND		1.00	1	02/14/2017 13:46	WG951065
Calcium	274000		1000	1	02/14/2017 13:46	WG951065
Lead	ND		2.00	1	02/14/2017 13:46	WG951065
Selenium	ND		2.00	1	02/14/2017 13:46	WG951065
Thallium	ND		2.00	1	02/14/2017 13:46	WG951065



Collected date/time: 02/07/17 14:40

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3170000		10000	1	02/14/2017 21:33	WG952010

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	79000		1000	1	02/11/2017 19:31	WG951380
Fluoride	ND		100	1	02/11/2017 19:31	WG951380
Sulfate	1890000		500000	100	02/11/2017 19:45	WG951380

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 15:09	WG950979

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.64		5.00	1	02/10/2017 18:38	WG951155
Boron	ND		200	1	02/10/2017 18:38	WG951155
Chromium	ND		10.0	1	02/10/2017 18:38	WG951155
Cobalt	ND		10.0	1	02/10/2017 18:38	WG951155
Lithium	258		15.0	1	02/10/2017 18:38	WG951155
Molybdenum	ND		5.00	1	02/10/2017 18:38	WG951155

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	02/14/2017 13:49	WG951065
Arsenic	ND		2.00	1	02/14/2017 13:49	WG951065
Beryllium	ND		2.00	1	02/14/2017 13:49	WG951065
Cadmium	ND		1.00	1	02/14/2017 13:49	WG951065
Calcium	338000		1000	1	02/14/2017 13:49	WG951065
Lead	ND		2.00	1	02/14/2017 13:49	WG951065
Selenium	7.00		2.00	1	02/14/2017 13:49	WG951065
Thallium	ND		2.00	1	02/14/2017 13:49	WG951065



Method Blank (MB)

(MB) R3196954-1 02/13/17 17:02

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L888885-02 Original Sample (OS) • Duplicate (DUP)

(OS) L888885-02 02/13/17 17:02 • (DUP) R3196954-4 02/13/17 17:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	4640000	4770000	1	2.66		5

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3196954-2 02/13/17 17:02 • (LCSD) R3196954-3 02/13/17 17:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8640000	8760000	98.2	99.5	85.0-115			1.38	5



Method Blank (MB)

(MB) R3196961-1 02/13/17 16:05

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

L888885-03 Original Sample (OS) • Duplicate (DUP)

(OS) L888885-03 02/13/17 16:05 • (DUP) R3196961-4 02/13/17 16:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1890000	1830000	1	3.01		5

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

(LCS) R3196961-2 02/13/17 16:05 • (LCSD) R3196961-3 02/13/17 16:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8490000	8670000	96.5	98.5	85.0-115			2.10	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3197046-1 02/14/17 21:33

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

¹ Cp

² Tc

³ Ss

L888885-12 Original Sample (OS) • Duplicate (DUP)

(OS) L888885-12 02/14/17 21:33 • (DUP) R3197046-4 02/14/17 21:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1780000	1790000	1	0.448		5

⁴ Cn

⁵ Sr

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

(LCS) R3197046-2 02/14/17 21:33 • (LCSD) R3197046-3 02/14/17 21:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8180000	8580000	93.0	97.5	85.0-115			4.77	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3196369-1 02/11/17 07:01

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

L888904-01 Original Sample (OS) • Duplicate (DUP)

(OS) L888904-01 02/11/17 17:30 • (DUP) R3196369-6 02/11/17 17:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	8660	8640	1	0		15
Fluoride	ND	112	1	19	P1	15
Sulfate	20100	20100	1	0		15

L888964-01 Original Sample (OS) • Duplicate (DUP)

(OS) L888964-01 02/11/17 20:11 • (DUP) R3196369-7 02/11/17 20:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	10300	10400	1	0		15
Fluoride	497	488	1	2		15
Sulfate	27100	26900	1	1		15

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

(LCS) R3196369-2 02/11/17 07:15 • (LCSD) R3196369-3 02/11/17 07:28

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	7910	7930	99	99	80-120			0	15
Sulfate	40000	38800	38900	97	97	80-120			0	15

L888885-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888885-01 02/11/17 12:09 • (MS) R3196369-4 02/11/17 12:35 • (MSD) R3196369-5 02/11/17 12:49

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	79000	129000	129000	100	100	1	80-120	E	E	0	15
Fluoride	5000	ND	4810	5010	95	99	1	80-120			4	15



L889050-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L889050-08 02/11/17 21:32 • (MS) R3196369-8 02/11/17 21:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	11700	63000	103	1	80-120	
Fluoride	5000	ND	5090	102	1	80-120	
Sulfate	50000	ND	54700	102	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) R3197065-1 02/15/17 09:09

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

L888970-01 Original Sample (OS) • Duplicate (DUP)

(OS) L888970-01 02/15/17 14:51 • (DUP) R3197065-5 02/15/17 15:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	606	604	1	0		15

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

(LCS) R3197065-2 02/15/17 09:22 • (LCSD) R3197065-3 02/15/17 09:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Fluoride	8000	8000	7980	100	100	80-120			0	15

L889456-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889456-05 02/15/17 15:58 • (MS) R3197065-6 02/15/17 16:12 • (MSD) R3197065-7 02/15/17 16:25

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	350	5360	5480	100	103	1	80-120			2	15

L889466-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L889466-06 02/15/17 17:32 • (MS) R3197065-8 02/15/17 18:12

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Fluoride	5000	1260	6290	101	1	80-120	



Method Blank (MB)

(MB) R3196737-7 02/13/17 14:04

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) R3196737-8 02/13/17 14:06 • (LCSD) R3196737-9 02/13/17 14:08

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.48	2.69	83	90	80-120			8	20

7 Gl

8 Al

L888885-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888885-01 02/13/17 14:11 • (MS) R3196737-10 02/13/17 14:13 • (MSD) R3196737-11 02/13/17 14:15

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	3.11	3.00	104	100	1	75-125			4	20

9 Sc



Method Blank (MB)

(MB) R3196192-1 02/10/17 17:28

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) R3196192-2 02/10/17 17:30 • (LCSD) R3196192-3 02/10/17 17:33

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	966	983	97	98	80-120			2	20
Boron	1000	992	1010	99	101	80-120			1	20
Chromium	1000	975	985	97	99	80-120			1	20
Cobalt	1000	992	1010	99	101	80-120			2	20
Lithium	1000	1030	1050	103	105	80-120			1	20
Molybdenum	1000	966	971	97	97	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L888885-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888885-01 02/10/17 17:36 • (MS) R3196192-5 02/10/17 17:41 • (MSD) R3196192-6 02/10/17 17:44

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	%	%		%			%	%
Barium	1000	8.46	960	961	95	95	1	75-125			0	20
Boron	1000	ND	1140	1150	101	102	1	75-125			1	20
Chromium	1000	ND	968	965	97	96	1	75-125			0	20
Cobalt	1000	ND	1040	1050	104	105	1	75-125			0	20
Lithium	1000	256	1320	1320	107	107	1	75-125			0	20
Molybdenum	1000	ND	973	974	97	97	1	75-125			0	20



Method Blank (MB)

(MB) R3196647-1 02/14/17 11:15

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	0.546	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

⁶ Qc

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

(LCS) R3196647-2 02/14/17 11:19 • (LCSD) R3196647-3 02/14/17 11:22

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	49.2	47.6	85	82	80-120			3	20
Arsenic	50.0	48.8	47.9	98	96	80-120			2	20
Beryllium	50.0	45.6	45.2	91	90	80-120			1	20
Cadmium	50.0	51.5	51.4	103	103	80-120			0	20
Calcium	5000	4900	4880	98	98	80-120			0	20
Lead	50.0	49.6	48.6	99	97	80-120			2	20
Selenium	50.0	49.7	49.7	99	99	80-120			0	20
Thallium	50.0	49.4	48.9	99	98	80-120			1	20

⁷ Gl

⁸ Al

⁹ Sc

L888885-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L888885-01 02/14/17 11:26 • (MS) R3196647-5 02/14/17 11:34 • (MSD) R3196647-6 02/14/17 11:38

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	52.0	53.1	90	92	1	75-125			2	20
Arsenic	50.0	ND	49.0	49.9	98	99	1	75-125			2	20
Beryllium	50.0	ND	46.2	45.6	92	91	1	75-125			1	20
Cadmium	50.0	ND	51.6	50.9	103	102	1	75-125			1	20
Calcium	5000	322000	327000	336000	99	272	1	75-125		V	3	20
Lead	50.0	ND	49.7	49.4	98	98	1	75-125			1	20
Selenium	50.0	6.27	57.3	57.8	102	103	1	75-125			1	20
Thallium	50.0	ND	49.5	49.2	99	98	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

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.
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		

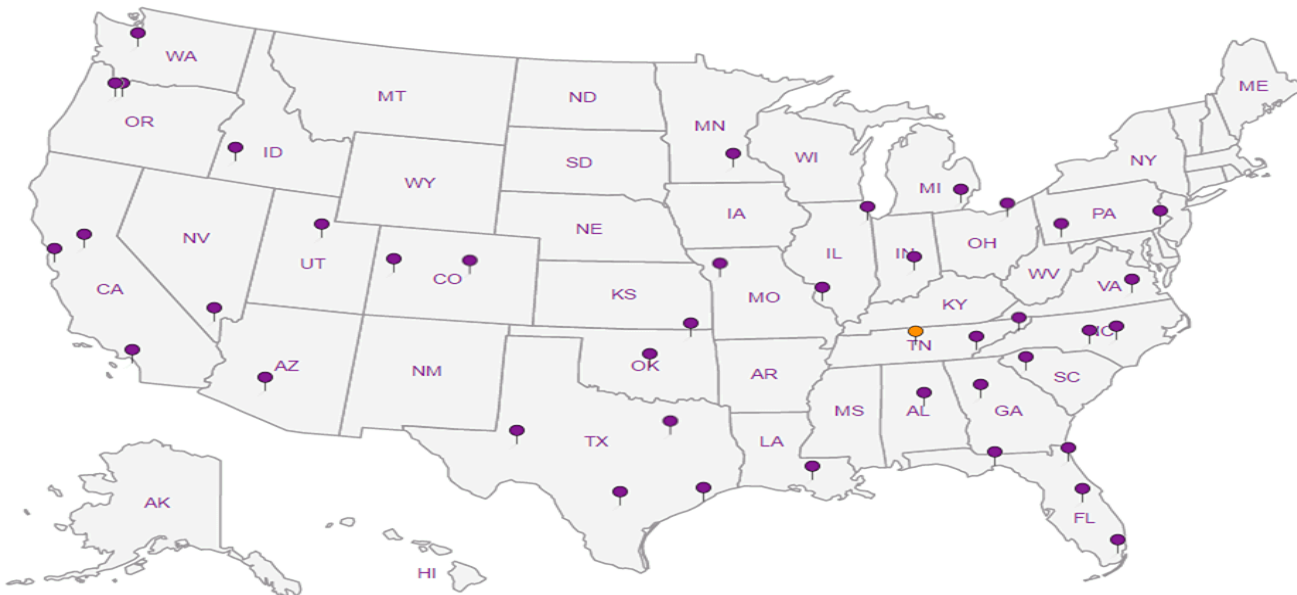
Third Party & Federal Accreditations

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 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



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



L# **1988885**

C147

Acctnum: **AQUAOPKS**

Template: **T115189**

Prelogin: **P585758**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Report to:
Jason Franks

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

Project Description: **KCPL - Montrose Generating Station - CCRGWBG**

City/State Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

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 #

Date Results Needed
Standard

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres														
506	Grab	GW	-	2/7/17	1435	3	X	X	X												-01		
601	↓	GW	-	↓	1540	3	X	X	X												-02		
602		GW	-		1035	3	X	X	X													-03	
603		GW	-		1100	3	X	X	X													-04	
604		GW	-		1105	3	X	X	X													-05	
605		GW	-		1140	3	X	X	X													-06	
701		GW	-		1420	3	X	X	X														-07
702		GW	-		1500	3	X	X	X														-08
703		GW	-		1135	3	X	X	X														-09
704		GW	-		1215	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 Check/Init
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 **SWT** Tracking #

Relinquished by: (Signature)	Date: 2/8/17	Time: 0839	Received by: (Signature)	Trip Blank Received: Yes/ <input checked="" type="checkbox"/> No HCL / MeOH TBR
Relinquished by: (Signature)	Date: 2/8/17	Time: 1740	Received by: (Signature)	Temp: _____ °C Bottles Received: 45 7011 19
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2-9-17 Time: 1100 Hold: Condition: NCF / <input checked="" type="checkbox"/> 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 1 of 1



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: **KCPL - Montrose Generating Station - C&E GW BG**

City/State
Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

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 #

Date Results Needed

Standard

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

No.
of
Cnts

Anions - Cl, F, SO4 125mlHDPE-NoPres

Metals 250mlHDPE-HNO3

TDS 250mlHDPE-NoPres

L # **L88885**
Table #
Acctnum: **AQUAOPKS**
Template: **T115189**
Prelogin: **P585758**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:
Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	1	2	3	4	5	6	7	8	9	10	11	12	
705	Grab	GW	-	2/7/17	1220	3	X	X	X										-11
706		GW	-		1240	3	X	X	X										-12
DUPLICATE		GW	-		1440	3	X	X	X										-13
MS 506		GW	-		1445	3	X	X	X										-01
MSD 506		GW	-		1450	3	X	X	X										-01

* 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: _____ Tracking #

Relinquished by: (Signature)	Date: 2/8/17	Time: 1839	Received by: (Signature)	Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HCL / MeOH TBR
Relinquished by: (Signature)	Date: 2/8/17	Time: 1700	Received by: (Signature)	Temp: 10.1 °C	Bottles Received: 46
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2-9-17	Time: 1100

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

Case Narrative

Lab No: 20170094

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 2/9/2017 1:13:04 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.

Observations / Nonconformances

L889743



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170094
 Date Reported : 03/09/17
 Date Received : 02/09/17
 Page Number : 2 of 6

Analytical Report

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

Lab ID : 20170094-01
Client ID : 506
Date Sampled : 2/7/2017 2:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.185 +/- 0.584	0.738	pCi/l				
Radium-226 SM 7500 Ra B M*	0.100 +/- 0.138	0.202	pCi/l		03/02/17	03/07/17	SD
Radium-228 EPA 904*/9320*	0.085 +/- 0.446	0.536	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-02
Client ID : 601
Date Sampled : 2/7/2017 3:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.167 +/- 0.566	0.700	pCi/l				
Radium-226 SM 7500 Ra B M*	0.167 +/- 0.141	0.133	pCi/l		03/02/17	03/07/17	SD
Radium-228 EPA 904*/9320*	-0.076 +/- 0.425	0.567	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-03
Client ID : 602
Date Sampled : 2/7/2017 10:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.993 +/- 0.710	0.938	pCi/l				
Radium-226 SM 7500 Ra B M*	0.262 +/- 0.271	0.360	pCi/l		03/02/17	03/07/17	SD
Radium-228 EPA 904*/9320*	0.731 +/- 0.439	0.578	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-04
Client ID : 603
Date Sampled : 2/7/2017 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.60 +/- 0.701	0.876	pCi/l				
Radium-226 SM 7500 Ra B M*	0.204 +/- 0.263	0.372	pCi/l		03/02/17	03/07/17	SD
Radium-228 EPA 904*/9320*	1.40 +/- 0.438	0.504	pCi/l		02/22/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170094
 Date Reported : 03/09/17
 Date Received : 02/09/17
 Page Number : 3 of 6

Analytical Report

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

Lab ID : 20170094-05
Client ID : 604
Date Sampled : 2/7/2017 11:05:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.084 +/- 0.591	0.773	pCi/l			
Radium-226	SM 7500 Ra B M*	0.084 +/- 0.135	0.215	pCi/l	03/02/17	03/07/17	SD
Radium-228	EPA 904*/9320*	-0.379 +/- 0.456	0.558	pCi/l	02/22/17	03/07/17	JR

Lab ID : 20170094-06
Client ID : 605
Date Sampled : 2/7/2017 11:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.517 +/- 0.866	1.13	pCi/l			
Radium-226	SM 7500 Ra B M*	0.231 +/- 0.416	0.594	pCi/l	03/02/17	03/07/17	SD
Radium-228	EPA 904*/9320*	0.286 +/- 0.450	0.534	pCi/l	02/22/17	03/07/17	JR

Lab ID : 20170094-07
Client ID : 701
Date Sampled : 2/7/2017 2:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.198 +/- 0.688	0.868	pCi/l			
Radium-226	SM 7500 Ra B M*	0.198 +/- 0.196	0.227	pCi/l	03/02/17	03/07/17	SD
Radium-228	EPA 904*/9320*	-0.313 +/- 0.492	0.641	pCi/l	02/22/17	03/07/17	JR

Lab ID : 20170094-08
Client ID : 702
Date Sampled : 2/7/2017 3:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.265 +/- 0.731	0.886	pCi/l			
Radium-226	SM 7500 Ra B M*	0.265 +/- 0.232	0.271	pCi/l	03/02/17	03/07/17	SD
Radium-228	EPA 904*/9320*	-0.231 +/- 0.499	0.615	pCi/l	02/22/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170094
 Date Reported : 03/09/17
 Date Received : 02/09/17
 Page Number : 4 of 6

Analytical Report

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

Lab ID : 20170094-09
Client ID : 703
Date Sampled : 2/7/2017 11:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.67 +/- 0.836	0.983	pCi/l				
Radium-226	SM 7500 Ra B M*	0.630 +/- 0.393	0.384	pCi/l		03/02/17	03/07/17	SD
Radium-228	EPA 904*/9320*	1.04 +/- 0.443	0.599	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-10
Client ID : 704
Date Sampled : 2/7/2017 12:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.18 +/- 1.19	0.780	pCi/l				
Radium-226	SM 7500 Ra B M*	0.949 +/- 0.493	0.392	pCi/l		03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.227 +/- 0.695	0.388	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-11
Client ID : 705
Date Sampled : 2/7/2017 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.57 +/- 1.24	0.719	pCi/l				
Radium-226	SM 7500 Ra B M*	1.57 +/- 0.583	0.334	pCi/l		03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.497 +/- 0.656	0.385	pCi/l		02/22/17	03/07/17	JR

Lab ID : 20170094-12
Client ID : 706
Date Sampled : 2/7/2017 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.384 +/- 1.00	0.641	pCi/l				
Radium-226	SM 7500 Ra B M*	0.384 +/- 0.276	0.227	pCi/l		03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.247 +/- 0.724	0.414	pCi/l		02/22/17	03/07/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170094
 Date Reported : 03/09/17
 Date Received : 02/09/17
 Page Number : 5 of 6

Analytical Report

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

Lab ID : 20170094-13
Client ID : DUPLICATE
Date Sampled : 2/7/2017 2:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.119 +/- 0.819	0.573	pCi/l			
Radium-226	SM 7500 Ra B M*	0.119 +/- 0.149	0.196	pCi/l	03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.201 +/- 0.670	0.377	pCi/l	02/22/17	03/07/17	JR

Lab ID : 20170094-14
Client ID : MS 506
Date Sampled : 2/7/2017 2:45:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*		110	% Rec	03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*		108	% Rec	02/22/17	03/07/17	JR

Lab ID : 20170094-15
Client ID : MSD 506
Date Sampled : 2/7/2017 2:50:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*		15.0	RPD	03/02/17	03/08/17	SD
Radium-228	EPA 904*/9320*		8.46	RPD	02/22/17	03/07/17	JR



Client : SCS Engineers
Client Project : 27213167.16
Lab Number : 20170094
Date Reported : 03/09/17
Date Received : 02/09/17
Page Number : 6 of 6

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	106.0			NC	0.087	110.0	94.3	15.0	R1195
Radium-228	0.397	83.1			NC	0.088	108.0	99.1	8.5	R3926

Lab Approval:

Ron Eidson
Director of Radiochemistry

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

Project

Description: **KCPL - Montrose Generating Station - CCLG and BG**

Client Project #
27213167.16

City/State
Collected:

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Adam Paris

P.O. #

Collected by (signature): 

Quote #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk
506	Grab	NPW	-	2/7/17	1435	2	X
601		NPW	-		1540	2	X
602		NPW	-		1035	2	X
603		NPW	-		1100	2	X
604		NPW	-		1105	2	X
605		NPW	-		1140	2	X
701		NPW	-		1420	2	X
702		NPW	-		1500	2	X
703		NPW	-		1135	2	X
704		NPW	-		1215	2	X

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

RA226, RA228 1L-HDPE-Add HNO3

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

Matrix:
 SS - Soil AIR - Air
 GW - Groundwater
 WW - Waste Water
 DW - Drinking Water
 OT - Other

Relinquished by: (Signature)  Date: 2/8/17 Time: 1859

Relinquished by: (Signature)  Date: 2/8/17 Time: 1700

Relinquished by: (Signature)  Date: 2/9/17 Time: 1313

Samples returned via: ___ UPS ___ FedEx ___ Courier

Tracking #
 Received by: (Signature)  Time: 1859
 Received by: (Signature)  Time: 1700
 Received by: (Signature)  Time: 1313

Trip Blank Received: Yes No
 HCL/MeOH TBR
 Temp: Amb °C 30
 Date: 2/9/17 1313

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

20170094



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

L# 889742

Table #

Acctnum: AQUAOPKS

Template: T115191

Prelogin: P585692

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Rem./Contaminant Sample # (lab only)

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


Report to:
Jason Franks

Project
 Description: **KCPL - Montrose Generating Station - CC ROWS**

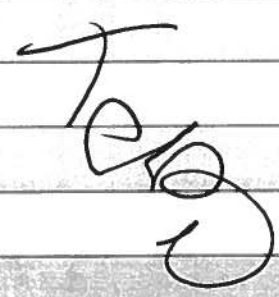
Client Project #
27213167.16

Site/Facility ID #

Collected by (print):
Adam Parris

Collected by (signature):

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

Immediately Packed on ice N Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Analysis / Container / Preservative		Chain of Custody Page 1 of 1
								Rem./Contaminant	Sample # (lab only)	
705	Grab	NPW	-	2/17/17	1220	2				RA226, RA228 1L-HDPE-Add HNO3 
706		NPW	-		1240	2				
DUPLICATE		NPW	-		1440	2				
MS		NPW	-		1445	2				
MSD		NPW	-		1450	2				

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

Email To: jfranks@sceengineers.com

City/State Collected:
 Lab Project #
AQUAOPKS-MONTROSE

P.O. #

Quote #

Date Results Needed
Standard

Pres Chk



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

L# **889743**

Tablet #

Acctnum: **AQUAOPKS**

Template: **T115191**

Prelogin: **P585692**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

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

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

pH Temp
 Flow Other

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

Temp: °C Bottles Received:
 Amb 30

Date: Time:
 2/17/17 1313

Relinquished by: (Signature)  Date: 2/18/17 Time: 10:30

Relinquished by: (Signature)  Date: 2/18/17 Time: 17:00

Relinquished by: (Signature)  Date: Time:

Tracking #
 Received by: (Signature) 
 Received by: (Signature) 
 Received for lab by: (Signature) 

Condition:
 NCF / OK

20170214

SAMPLE LOGIN

Date Received: 2/9/2017 1:13:04

Lab Number: 20170094

Due: 3/9/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170094-01 B	506	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-01 A	506	NPW	02/07/17	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*						
20170094-02 A	601	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-02 B	601	NPW	02/07/17	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*						
20170094-03 A	602	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-03 B	602	NPW	02/07/17	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*						
20170094-04 A	603	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-04 B	603	NPW	02/07/17	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*						
20170094-05 A	604	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-05 B	604	NPW	02/07/17	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*						
20170094-06 A	605	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-06 B	605	NPW	02/07/17	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*						
20170094-07 B	701	NPW	02/07/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-07 A	701	NPW	02/07/17	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*						

20170094-08 B	702	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-08 A	702	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-09 A	703	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-09 B	703	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-10 A	704	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-10 B	704	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-11 A	705	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-11 B	705	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-12 A	706	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-12 B	706	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-13 A	DUPLICATE	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-13 B	DUPLICATE	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-14 A	MS 506	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-14 B	MS 506	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170094-15 B	MSD 506	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170094-15 A	MSD 506	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 3 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 AAA

Anomalies

Inspected By: [Signature] DATE 2/19/17

QA or Designee Review: Raymond Thomas DATE 02/09/17

Sample Custodian Review: [Signature] DATE 2/09/17

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-7
May 2017 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L906909
Samples Received: 05/04/2017
Project Number: 27213167.16
Description: KCPL - Montrose Gen Station GW

Report To: Jason 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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SAMPLE SUMMARY



601 L906909-01 GW

Collected by
Alex McCormick Collected date/time
05/02/17 13:50 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977609	1	05/09/17 17:04	05/09/17 17:38	AS
Wet Chemistry by Method 9056A	WG976625	1	05/05/17 16:35	05/05/17 16:35	SAM
Wet Chemistry by Method 9056A	WG976625	100	05/05/17 16:47	05/05/17 16:47	SAM
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:08	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 17:37	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 16:51	JPD

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

602 L906909-02 GW

Collected by
Alex McCormick Collected date/time
05/02/17 10:50 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977609	1	05/09/17 17:04	05/09/17 17:38	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 20:27	05/06/17 20:27	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 19:41	05/06/17 19:41	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:19	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 17:40	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 16:54	JPD

603 L906909-03 GW

Collected by
Alex McCormick Collected date/time
05/02/17 11:00 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977609	1	05/09/17 17:04	05/09/17 17:38	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 20:43	05/06/17 20:43	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 20:58	05/06/17 20:58	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:22	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 17:43	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:15	VSS

604 L906909-04 GW

Collected by
Alex McCormick Collected date/time
05/02/17 11:20 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 21:13	05/06/17 21:13	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 21:29	05/06/17 21:29	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:24	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 17:46	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:18	VSS

605 L906909-05 GW

Collected by
Alex McCormick Collected date/time
05/02/17 11:30 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 22:31	05/06/17 22:31	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 21:44	05/06/17 21:44	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:26	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:06	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:22	VSS

SAMPLE SUMMARY



701 L906909-06 GW

Collected by
Alex McCormick Collected date/time
05/02/17 13:05 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 22:46	05/06/17 22:46	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 23:01	05/06/17 23:01	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 14:28	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:09	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:25	VSS



702 L906909-07 GW

Collected by
Alex McCormick Collected date/time
05/02/17 13:35 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 23:17	05/06/17 23:17	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/06/17 23:32	05/06/17 23:32	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 15:03	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:12	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:28	VSS

703 L906909-08 GW

Collected by
Alex McCormick Collected date/time
05/02/17 11:50 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/06/17 23:48	05/06/17 23:48	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/07/17 00:03	05/07/17 00:03	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 15:12	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:15	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:32	VSS

704 L906909-09 GW

Collected by
Alex McCormick Collected date/time
05/02/17 11:55 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/07/17 00:18	05/07/17 00:18	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/07/17 00:34	05/07/17 00:34	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 15:14	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:18	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:35	VSS

705 L906909-10 GW

Collected by
Alex McCormick Collected date/time
05/02/17 12:35 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/07/17 01:35	05/07/17 01:35	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/07/17 00:49	05/07/17 00:49	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 15:16	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 16:54	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 17:39	VSS

SAMPLE SUMMARY



706 L906909-11 GW

Collected by
Alex McCormick

Collected date/time
05/02/17 12:30

Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG977611	1	05/09/17 17:41	05/09/17 18:21	AS
Wet Chemistry by Method 9056A	WG976994	1	05/07/17 01:51	05/07/17 01:51	KCF
Wet Chemistry by Method 9056A	WG976994	50	05/07/17 02:06	05/07/17 02:06	KCF
Mercury by Method 7470A	WG976678	1	05/06/17 07:05	05/08/17 15:19	JGC
Metals (ICP) by Method 6010B	WG976707	1	05/05/17 13:23	05/05/17 18:21	ST
Metals (ICPMS) by Method 6020	WG976703	1	05/05/17 13:25	05/10/17 15:50	JPD

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.

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	4530000		10000	1	05/09/2017 17:38	WG977609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	51100		1000	1	05/05/2017 16:35	WG976625
Fluoride	360		100	1	05/05/2017 16:35	WG976625
Sulfate	3590000		500000	100	05/05/2017 16:47	WG976625

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/08/2017 14:08	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	30.4		5.00	1	05/05/2017 17:37	WG976707
Boron	ND		200	1	05/05/2017 17:37	WG976707
Chromium	ND		10.0	1	05/05/2017 17:37	WG976707
Cobalt	ND		10.0	1	05/05/2017 17:37	WG976707
Lithium	337		15.0	1	05/05/2017 17:37	WG976707
Molybdenum	ND		5.00	1	05/05/2017 17:37	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 16:51	WG976703
Arsenic	ND		2.00	1	05/10/2017 16:51	WG976703
Beryllium	ND		2.00	1	05/10/2017 16:51	WG976703
Cadmium	1.72		1.00	1	05/10/2017 16:51	WG976703
Calcium	430000		1000	1	05/10/2017 16:51	WG976703
Lead	2.82		2.00	1	05/10/2017 16:51	WG976703
Selenium	4.42		2.00	1	05/10/2017 16:51	WG976703
Thallium	ND		2.00	1	05/10/2017 16:51	WG976703

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	2080000		10000	1	05/09/2017 17:38	WG977609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4690		1000	1	05/06/2017 20:27	WG976994
Fluoride	122		100	1	05/06/2017 20:27	WG976994
Sulfate	1190000		250000	50	05/06/2017 19:41	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/08/2017 14:19	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	19.9		5.00	1	05/05/2017 17:40	WG976707
Boron	4350		200	1	05/05/2017 17:40	WG976707
Chromium	ND		10.0	1	05/05/2017 17:40	WG976707
Cobalt	99.0		10.0	1	05/05/2017 17:40	WG976707
Lithium	99.7		15.0	1	05/05/2017 17:40	WG976707
Molybdenum	ND		5.00	1	05/05/2017 17:40	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 16:54	WG976703
Arsenic	3.86		2.00	1	05/10/2017 16:54	WG976703
Beryllium	ND		2.00	1	05/10/2017 16:54	WG976703
Cadmium	ND		1.00	1	05/10/2017 16:54	WG976703
Calcium	310000		1000	1	05/10/2017 16:54	WG976703
Lead	ND		2.00	1	05/10/2017 16:54	WG976703
Selenium	ND		2.00	1	05/10/2017 16:54	WG976703
Thallium	ND		2.00	1	05/10/2017 16:54	WG976703

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	2880000		10000	1	05/09/2017 17:38	WG977609

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7670		1000	1	05/06/2017 20:43	WG976994
Fluoride	585		100	1	05/06/2017 20:43	WG976994
Sulfate	2220000		250000	50	05/06/2017 20:58	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/08/2017 14:22	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.3		5.00	1	05/05/2017 17:43	WG976707
Boron	5830		200	1	05/05/2017 17:43	WG976707
Chromium	ND		10.0	1	05/05/2017 17:43	WG976707
Cobalt	42.8		10.0	1	05/05/2017 17:43	WG976707
Lithium	164		15.0	1	05/05/2017 17:43	WG976707
Molybdenum	ND		5.00	1	05/05/2017 17:43	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 17:15	WG976703
Arsenic	ND		2.00	1	05/10/2017 17:15	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:15	WG976703
Cadmium	3.71		1.00	1	05/10/2017 17:15	WG976703
Calcium	405000		1000	1	05/10/2017 17:15	WG976703
Lead	ND		2.00	1	05/10/2017 17:15	WG976703
Selenium	18.9		2.00	1	05/10/2017 17:15	WG976703
Thallium	ND		2.00	1	05/10/2017 17:15	WG976703

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	2350000		10000	1	05/09/2017 18:21	WG977611

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13300		1000	1	05/06/2017 21:13	WG976994
Fluoride	450		100	1	05/06/2017 21:13	WG976994
Sulfate	1710000		250000	50	05/06/2017 21:29	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/08/2017 14:24	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	14.3		5.00	1	05/05/2017 17:46	WG976707
Boron	4740		200	1	05/05/2017 17:46	WG976707
Chromium	ND		10.0	1	05/05/2017 17:46	WG976707
Cobalt	ND		10.0	1	05/05/2017 17:46	WG976707
Lithium	122		15.0	1	05/05/2017 17:46	WG976707
Molybdenum	ND		5.00	1	05/05/2017 17:46	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 17:18	WG976703
Arsenic	ND		2.00	1	05/10/2017 17:18	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:18	WG976703
Cadmium	1.06		1.00	1	05/10/2017 17:18	WG976703
Calcium	381000		1000	1	05/10/2017 17:18	WG976703
Lead	ND		2.00	1	05/10/2017 17:18	WG976703
Selenium	ND		2.00	1	05/10/2017 17:18	WG976703
Thallium	ND		2.00	1	05/10/2017 17:18	WG976703

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	2500000		10000	1	05/09/2017 18:21	WG977611

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48700		1000	1	05/06/2017 22:31	WG976994
Fluoride	197		100	1	05/06/2017 22:31	WG976994
Sulfate	1910000		250000	50	05/06/2017 21:44	WG976994

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	05/08/2017 14:26	WG976678

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.17		5.00	1	05/05/2017 18:06	WG976707
Boron	1780		200	1	05/05/2017 18:06	WG976707
Chromium	ND		10.0	1	05/05/2017 18:06	WG976707
Cobalt	41.3		10.0	1	05/05/2017 18:06	WG976707
Lithium	146		15.0	1	05/05/2017 18:06	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:06	WG976707

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	05/10/2017 17:22	WG976703
Arsenic	ND		2.00	1	05/10/2017 17:22	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:22	WG976703
Cadmium	1.70		1.00	1	05/10/2017 17:22	WG976703
Calcium	376000		1000	1	05/10/2017 17:22	WG976703
Lead	ND		2.00	1	05/10/2017 17:22	WG976703
Selenium	ND		2.00	1	05/10/2017 17:22	WG976703
Thallium	ND		2.00	1	05/10/2017 17:22	WG976703



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2920000		10000	1	05/09/2017 18:21	WG977611

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	383000		50000	50	05/06/2017 23:01	WG976994
Fluoride	1090		100	1	05/06/2017 22:46	WG976994
Sulfate	1940000		250000	50	05/06/2017 23:01	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	0.243		0.200	1	05/08/2017 14:28	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.97		5.00	1	05/05/2017 18:09	WG976707
Boron	ND		200	1	05/05/2017 18:09	WG976707
Chromium	ND		10.0	1	05/05/2017 18:09	WG976707
Cobalt	19.9		10.0	1	05/05/2017 18:09	WG976707
Lithium	226		15.0	1	05/05/2017 18:09	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:09	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 17:25	WG976703
Arsenic	2.09		2.00	1	05/10/2017 17:25	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:25	WG976703
Cadmium	4.69		1.00	1	05/10/2017 17:25	WG976703
Calcium	399000		1000	1	05/10/2017 17:25	WG976703
Lead	ND		2.00	1	05/10/2017 17:25	WG976703
Selenium	8.83		2.00	1	05/10/2017 17:25	WG976703
Thallium	ND		2.00	1	05/10/2017 17:25	WG976703

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	3210000		10000	1	05/09/2017 18:21	WG977611

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	341000		50000	50	05/06/2017 23:32	WG976994
Fluoride	221		100	1	05/06/2017 23:17	WG976994
Sulfate	1600000		250000	50	05/06/2017 23:32	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/08/2017 15:03	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	12.4		5.00	1	05/05/2017 18:12	WG976707
Boron	ND		200	1	05/05/2017 18:12	WG976707
Chromium	ND		10.0	1	05/05/2017 18:12	WG976707
Cobalt	ND		10.0	1	05/05/2017 18:12	WG976707
Lithium	62.3		15.0	1	05/05/2017 18:12	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:12	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/10/2017 17:28	WG976703
Arsenic	ND		2.00	1	05/10/2017 17:28	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:28	WG976703
Cadmium	ND		1.00	1	05/10/2017 17:28	WG976703
Calcium	439000		1000	1	05/10/2017 17:28	WG976703
Lead	ND		2.00	1	05/10/2017 17:28	WG976703
Selenium	ND		2.00	1	05/10/2017 17:28	WG976703
Thallium	ND		2.00	1	05/10/2017 17:28	WG976703

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	1580000		10000	1	05/09/2017 18:21	WG977611

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	17100		1000	1	05/06/2017 23:48	WG976994
Fluoride	146		100	1	05/06/2017 23:48	WG976994
Sulfate	911000		250000	50	05/07/2017 00:03	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	05/08/2017 15:12	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	46.1		5.00	1	05/05/2017 18:15	WG976707
Boron	ND		200	1	05/05/2017 18:15	WG976707
Chromium	ND		10.0	1	05/05/2017 18:15	WG976707
Cobalt	ND		10.0	1	05/05/2017 18:15	WG976707
Lithium	65.7		15.0	1	05/05/2017 18:15	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:15	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	05/10/2017 17:32	WG976703
Arsenic	ND		2.00	1	05/10/2017 17:32	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:32	WG976703
Cadmium	ND		1.00	1	05/10/2017 17:32	WG976703
Calcium	208000		1000	1	05/10/2017 17:32	WG976703
Lead	ND		2.00	1	05/10/2017 17:32	WG976703
Selenium	ND		2.00	1	05/10/2017 17:32	WG976703
Thallium	ND		2.00	1	05/10/2017 17:32	WG976703

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	1230000		10000	1	05/09/2017 18:21	WG977611

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	3980		1000	1	05/07/2017 00:18	WG976994
Fluoride	120		100	1	05/07/2017 00:18	WG976994
Sulfate	736000		250000	50	05/07/2017 00:34	WG976994

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/08/2017 15:14	WG976678

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	59.1		5.00	1	05/05/2017 18:18	WG976707
Boron	ND		200	1	05/05/2017 18:18	WG976707
Chromium	ND		10.0	1	05/05/2017 18:18	WG976707
Cobalt	ND		10.0	1	05/05/2017 18:18	WG976707
Lithium	64.8		15.0	1	05/05/2017 18:18	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:18	WG976707

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/10/2017 17:35	WG976703
Arsenic	13.9		2.00	1	05/10/2017 17:35	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:35	WG976703
Cadmium	ND		1.00	1	05/10/2017 17:35	WG976703
Calcium	145000		1000	1	05/10/2017 17:35	WG976703
Lead	ND		2.00	1	05/10/2017 17:35	WG976703
Selenium	ND		2.00	1	05/10/2017 17:35	WG976703
Thallium	ND		2.00	1	05/10/2017 17:35	WG976703

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	958000		10000	1	05/09/2017 18:21	WG977611

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	13300		1000	1	05/07/2017 01:35	WG976994
Fluoride	180		100	1	05/07/2017 01:35	WG976994
Sulfate	460000		250000	50	05/07/2017 00:49	WG976994

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	05/08/2017 15:16	WG976678

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	48.5		5.00	1	05/05/2017 16:54	WG976707
Boron	ND		200	1	05/05/2017 16:54	WG976707
Chromium	ND		10.0	1	05/05/2017 16:54	WG976707
Cobalt	ND		10.0	1	05/05/2017 16:54	WG976707
Lithium	62.3		15.0	1	05/05/2017 16:54	WG976707
Molybdenum	ND		5.00	1	05/05/2017 16:54	WG976707

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	05/10/2017 17:39	WG976703
Arsenic	4.58		2.00	1	05/10/2017 17:39	WG976703
Beryllium	ND		2.00	1	05/10/2017 17:39	WG976703
Cadmium	ND		1.00	1	05/10/2017 17:39	WG976703
Calcium	113000		1000	1	05/10/2017 17:39	WG976703
Lead	ND		2.00	1	05/10/2017 17:39	WG976703
Selenium	ND		2.00	1	05/10/2017 17:39	WG976703
Thallium	ND		2.00	1	05/10/2017 17:39	WG976703



Collected date/time: 05/02/17 12:30

L906909

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1880000		10000	1	05/09/2017 18:21	WG977611

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	30800		1000	1	05/07/2017 01:51	WG976994
Fluoride	176		100	1	05/07/2017 01:51	WG976994
Sulfate	1080000		250000	50	05/07/2017 02:06	WG976994

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/08/2017 15:19	WG976678

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	35.6		5.00	1	05/05/2017 18:21	WG976707
Boron	224		200	1	05/05/2017 18:21	WG976707
Chromium	ND		10.0	1	05/05/2017 18:21	WG976707
Cobalt	ND		10.0	1	05/05/2017 18:21	WG976707
Lithium	59.0		15.0	1	05/05/2017 18:21	WG976707
Molybdenum	ND		5.00	1	05/05/2017 18:21	WG976707

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/10/2017 15:50	WG976703
Arsenic	13.5		2.00	1	05/10/2017 15:50	WG976703
Beryllium	ND		2.00	1	05/10/2017 15:50	WG976703
Cadmium	ND		1.00	1	05/10/2017 15:50	WG976703
Calcium	255000	V	1000	1	05/10/2017 15:50	WG976703
Lead	ND		2.00	1	05/10/2017 15:50	WG976703
Selenium	ND		2.00	1	05/10/2017 15:50	WG976703
Thallium	ND		2.00	1	05/10/2017 15:50	WG976703



Method Blank (MB)

(MB) R3217094-1 05/09/17 17:38

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

¹ Cp

² Tc

³ Ss

L906909-03 Original Sample (OS) • Duplicate (DUP)

(OS) L906909-03 05/09/17 17:38 • (DUP) R3217094-4 05/09/17 17:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2880000	2810000	1	2.46		5

⁴ Cn

⁵ Sr

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

(LCS) R3217094-2 05/09/17 17:38 • (LCSD) R3217094-3 05/09/17 17:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8380000	8700000	95.2	98.9	85.0-115			3.75	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3217104-1 05/09/17 18:21

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

¹ Cp

² Tc

³ Ss

L906909-06 Original Sample (OS) • Duplicate (DUP)

(OS) L906909-06 05/09/17 18:21 • (DUP) R3217104-4 05/09/17 18:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2920000	2890000	1	0.861		5

⁴ Cn

⁵ Sr

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

(LCS) R3217104-2 05/09/17 18:21 • (LCSD) R3217104-3 05/09/17 18:21

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8470000	8450000	96.3	96.0	85.0-115			0.236	5

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3216041-1 05/05/17 12:20

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

L906835-17 Original Sample (OS) • Duplicate (DUP)

(OS) L906835-17 05/05/17 15:13 • (DUP) R3216041-5 05/05/17 15:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	15200	15400	1	1		15
Fluoride	320	320	1	0		15
Sulfate	ND	1710	1	0		15

L906894-03 Original Sample (OS) • Duplicate (DUP)

(OS) L906894-03 05/05/17 17:22 • (DUP) R3216041-6 05/05/17 17:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7010	6840	1	3		15
Fluoride	152	152	1	0		15
Sulfate	41300	41300	1	0		15

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

(LCS) R3216041-2 05/05/17 12:32 • (LCSD) R3216041-3 05/05/17 12:44

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	8060	8080	101	101	80-120			0	15
Sulfate	40000	38100	38300	95	96	80-120			1	15

L906835-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L906835-15 05/05/17 14:27 • (MS) R3216041-4 05/05/17 14:38

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	72500	120000	95	1	80-120	E
Fluoride	5000	ND	4860	96	1	80-120	



L906835-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L906835-15 05/05/17 14:27 • (MS) R3216041-4 05/05/17 14:38

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	6370	54000	95	1	80-120	

L906897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-01 05/05/17 19:42 • (MS) R3216041-7 05/05/17 19:53 • (MSD) R3216041-8 05/05/17 20:05

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	79200	127000	127000	95	96	1	80-120	E	E	0	15
Fluoride	5000	ND	4960	4380	98	86	1	80-120			12	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3216167-1 05/06/17 05:10

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

L905258-01 Original Sample (OS) • Duplicate (DUP)

(OS) L905258-01 05/06/17 16:21 • (DUP) R3216167-4 05/06/17 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	33500	33300	1	1		15
Fluoride	933	956	1	2		15
Sulfate	42500	47100	1	10		15

L907570-01 Original Sample (OS) • Duplicate (DUP)

(OS) L907570-01 05/06/17 19:56 • (DUP) R3216167-6 05/06/17 20:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	19300	18500	1	4		15
Fluoride	ND	106	1	44	P1	15
Sulfate	ND	492	1	0		15

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

(LCS) R3216167-2 05/06/17 05:25 • (LCSD) R3216167-3 05/06/17 05:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	40000	39900	100	100	80-120			0	15
Fluoride	8000	8040	8000	100	100	80-120			0	15
Sulfate	40000	40300	40000	101	100	80-120			1	15

L905969-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L905969-09 05/06/17 16:52 • (MS) R3216167-5 05/06/17 17:07

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	2920	53800	102	1	80-120	
Fluoride	5000	223	5360	103	1	80-120	



Method Blank (MB)

(MB) R3216306-1 05/08/17 14:01

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) R3216306-2 05/08/17 14:03 • (LCSD) R3216306-3 05/08/17 14:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.99	2.87	100	96	80-120			4	20

L906909-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906909-01 05/08/17 14:08 • (MS) R3216306-4 05/08/17 14:15 • (MSD) R3216306-5 05/08/17 14:17

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	3.06	2.87	102	96	1	75-125			6	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3216102-1 05/05/17 16:45

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) R3216102-2 05/05/17 16:48 • (LCSD) R3216102-3 05/05/17 16:51

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			1	20
Boron	1000	952	953	95	95	80-120			0	20
Chromium	1000	992	997	99	100	80-120			1	20
Cobalt	1000	1020	1030	102	103	80-120			2	20
Lithium	1000	1010	1030	101	103	80-120			2	20
Molybdenum	1000	1000	1020	100	102	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L906909-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906909-10 05/05/17 16:54 • (MS) R3216102-5 05/05/17 16:59 • (MSD) R3216102-6 05/05/17 17:02

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	48.5	1050	1050	100	100	1	75-125			0	20
Boron	1000	ND	1090	1090	93	93	1	75-125			0	20
Chromium	1000	ND	970	973	97	97	1	75-125			0	20
Cobalt	1000	ND	1040	1040	104	104	1	75-125			0	20
Lithium	1000	62.3	1070	1090	101	103	1	75-125			2	20
Molybdenum	1000	ND	995	993	100	99	1	75-125			0	20



Method Blank (MB)

(MB) R3217099-1 05/10/17 15:40

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

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3217099-2 05/10/17 15:43 • (LCSD) R3217099-3 05/10/17 15:47

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	53.3	52.1	107	104	80-120			2	20
Arsenic	50.0	49.3	49.7	99	99	80-120			1	20
Beryllium	50.0	47.2	46.9	94	94	80-120			1	20
Cadmium	50.0	50.6	50.1	101	100	80-120			1	20
Calcium	5000	5020	5050	100	101	80-120			1	20
Lead	50.0	49.9	49.7	100	99	80-120			0	20
Selenium	50.0	52.2	50.7	104	101	80-120			3	20
Thallium	50.0	51.9	51.2	104	102	80-120			1	20

L906909-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906909-11 05/10/17 15:50 • (MS) R3217099-5 05/10/17 15:57 • (MSD) R3217099-6 05/10/17 16:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	53.3	53.8	107	108	1	75-125			1	20
Arsenic	50.0	13.5	61.9	62.7	97	98	1	75-125			1	20
Beryllium	50.0	ND	44.8	44.6	90	89	1	75-125			0	20
Cadmium	50.0	ND	50.8	51.4	102	103	1	75-125			1	20
Calcium	5000	255000	254000	258000	0	53	1	75-125	V	V	2	20
Lead	50.0	ND	48.9	49.3	97	98	1	75-125			1	20
Selenium	50.0	ND	50.9	50.2	102	100	1	75-125			1	20
Thallium	50.0	ND	50.6	51.3	101	103	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

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.
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		

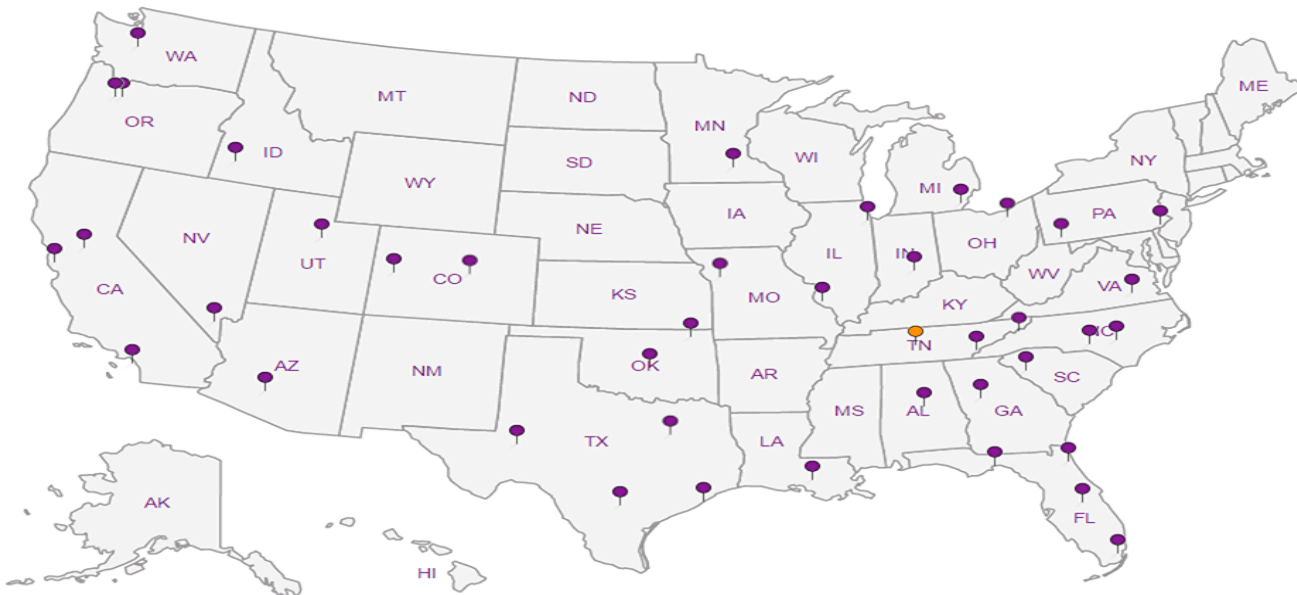
Third Party & Federal Accreditations

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



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;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project
Description: **KCPL - Montrose Generating Station**

City/State
Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Alex McCormick

Site/Facility ID #

P.O. #

Collected by (signature):
Alex McCormick

Rush? (Lab MUST Be Notified)

Quote #

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

Date Results Needed

Immediately
Packed on Ice N Y

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Analysis	Container	Preservative
601	Grab	GW		5/2/17	1350	3	X	X	X			
602		GW			1050	3	X	X	X			
603		GW			1100	3	X	X	X			
604		GW			1120	3	X	X	X			
605		GW			1130	3	X	X	X			
701		GW			1305	3	X	X	X			
702		GW			1335	3	X	X	X			
703		GW			1150	3	X	X	X			
704		GW			1155	3	X	X	X			
705		GW			1235	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,CR,CO,LI,MO, 6020 Metals-SB,AS,BE,CA,CD,PB,SE,TL, 7470 Metals-HG.

Samples returned via:
 UPS FedEx Courier *SW*

Tracking #

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

Relinquished by: (Signature)
Alex McCormick

Date: *5/3/17* Time: *0920*

Received by: (Signature)
[Signature]

Trip Blank Received: Yes/ No
HCL / MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date: *5/3/17* Time: *1900*

Received by: (Signature)
[Signature]

Temp: *3.0* °C Bottles Received: *33*

If preservation required by Login: Date/Time

Relinquished by: (Signature)
[Signature]

Date: _____ Time: _____

Received for lab by: (Signature)
[Signature]

Date: *5-4-17* Time: *0900*

Hold: _____
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



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;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project
Description: **KCPL - Montrose Generating Station**

City/State
Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Alex McComick

Site/Facility ID #

P.O. #

Collected by (signature):
Alex McComick

Rush? (Lab MUST Be Notified)

Quote #

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

Date Results Needed

No.
of
Cntrs

Immediately
Packed on Ice: N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl ⁻ , F ⁻ , SO ₄ ²⁻	Metals: 250mlHDPE-HNO ₃	TDS 250mlHDPE-NoPres									
706	Grab	GW		5/2/17	1230	3	X	X	X									

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - Waste Water
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.

Samples returned via:
 UPS FedEx Courier *SW*

Tracking #

pH _____ Temp _____

Flow _____ Other _____

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

Relinquished by: (Signature)
Alex McComick

Date: *5/3/17* Time: *0920*

Received by: (Signature)
[Signature]

Trip Blank Received: Yes No
HCL / MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date: *5/3/17* Time: *0900*

Received by: (Signature)
[Signature]

Temp: *7* °C Bottles Received: *33*

If preservation required by Login: Date/Time

Relinquished by: (Signature)
[Signature]

Date: _____ Time: _____

Received by: (Signature)
[Signature]

Date: *5-4-17* Time: *0900*

Hold: _____ Condition: *NCF 10*

Case Narrative

Lab No: 20170380

This report contains the analytical results for the 11 sample(s) received under chain of custody by ESC Lab Sciences on 5/4/2017 1:42:46 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

L907687



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170380
 Date Reported : 06/02/17
 Date Received : 05/04/17
 Page Number : 2 of 5

Analytical Report

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

Lab ID : 20170380-01
Client ID : 601
Date Sampled : 5/2/2017 1:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.415 +/- 0.773	0.904	pCi/l			
Radium-226	SM 7500 Ra B M*	0.239 +/- 0.130	0.122	pCi/l	05/22/17	05/25/17	SD
Radium-228	EPA 904*	0.176 +/- 0.643	0.782	pCi/l	05/22/17	05/30/17	JR

Lab ID : 20170380-02
Client ID : 602
Date Sampled : 5/2/2017 10:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.53 +/- 0.888	0.984	pCi/l			
Radium-226	SM 7500 Ra B M*	0.547 +/- 0.219	0.188	pCi/l	05/22/17	05/25/17	SD
Radium-228	EPA 904*	1.98 +/- 0.669	0.796	pCi/l	05/22/17	05/30/17	JR

Lab ID : 20170380-03
Client ID : 603
Date Sampled : 5/2/2017 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.38 +/- 0.871	1.15	pCi/l			
Radium-226	SM 7500 Ra B M*	0.255 +/- 0.271	0.397	pCi/l	05/22/17	05/25/17	SD
Radium-228	EPA 904*	1.12 +/- 0.600	0.753	pCi/l	05/22/17	05/30/17	JR

Lab ID : 20170380-04
Client ID : 604
Date Sampled : 5/2/2017 11:20:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.759 +/- 0.753	0.970	pCi/l			
Radium-226	SM 7500 Ra B M*	0.091 +/- 0.110	0.161	pCi/l	05/22/17	05/25/17	SD
Radium-228	EPA 904*	0.668 +/- 0.643	0.809	pCi/l	05/22/17	05/31/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170380
 Date Reported : 06/02/17
 Date Received : 05/04/17
 Page Number : 3 of 5

Analytical Report

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

Lab ID : 20170380-05
Client ID : 605
Date Sampled : 5/2/2017 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.581 +/- 0.681	0.860	pCi/l				
Radium-226 SM 7500 Ra B M*	0.519 +/- 0.302	0.397	pCi/l		05/22/17	05/24/17	SD
Radium-228 EPA 904*	0.062 +/- 0.379	0.463	pCi/l		05/22/17	05/31/17	JR

Lab ID : 20170380-06
Client ID : 701
Date Sampled : 5/2/2017 1:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.44 +/- 0.577	0.647	pCi/l				
Radium-226 SM 7500 Ra B M*	0.453 +/- 0.208	0.159	pCi/l		05/22/17	05/24/17	SD
Radium-228 EPA 904*	0.988 +/- 0.369	0.488	pCi/l		05/22/17	05/31/17	JR

Lab ID : 20170380-07
Client ID : 702
Date Sampled : 5/2/2017 1:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.24 +/- 0.714	1.03	pCi/l				
Radium-226 SM 7500 Ra B M*	0.166 +/- 0.197	0.294	pCi/l		05/22/17	05/24/17	SD
Radium-228 EPA 904*	1.07 +/- 0.517	0.732	pCi/l		05/22/17	05/31/17	JR

Lab ID : 20170380-08
Client ID : 703
Date Sampled : 5/2/2017 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.747 +/- 0.657	0.794	pCi/l				
Radium-226 SM 7500 Ra B M*	0.709 +/- 0.272	0.256	pCi/l		05/22/17	05/24/17	SD
Radium-228 EPA 904*	0.038 +/- 0.385	0.538	pCi/l		05/22/17	05/31/17	JR



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170380
 Date Reported : 06/02/17
 Date Received : 05/04/17
 Page Number : 4 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20170380-09
Client ID : 704
Date Sampled : 5/2/2017 11:55:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.79 +/- 0.678	0.897	pCi/l				
Radium-226	SM 7500 Ra B M*	0.863 +/- 0.258	0.214	pCi/l		05/22/17	05/24/17	SD
Radium-228	EPA 904*	0.930 +/- 0.420	0.683	pCi/l		05/22/17	05/31/17	JR

Lab ID : 20170380-10
Client ID : 705
Date Sampled : 5/2/2017 12:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.524 +/- 0.679	0.824	pCi/l				
Radium-226	SM 7500 Ra B M*	0.524 +/- 0.230	0.223	pCi/l		05/26/17	05/31/17	SD
Radium-228	EPA 904*	-0.171 +/- 0.449	0.601	pCi/l		05/22/17	05/31/17	JR

Lab ID : 20170380-11
Client ID : 706
Date Sampled : 5/2/2017 12:30:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.09 +/- 0.762	0.921	pCi/l				
Radium-226	SM 7500 Ra B M*	0.596 +/- 0.256	0.201	pCi/l		05/26/17	05/31/17	SD
Radium-228	EPA 904*	0.492 +/- 0.506	0.720	pCi/l		05/22/17	05/31/17	JR



Client : SCS Engineers
Client Project : 27213167.16
Lab Number : 20170380
Date Reported : 06/02/17
Date Received : 05/04/17
Page Number : 5 of 5

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.002	91.9			NC	0.313	114.0	114.0	0.2	R1230
Radium-226	-0.020	118.0			NC	0.252	123.0	113.0	8.2	R1227
Radium-228	0.213	98.3			20.4	0.243	78.8	83.9	6.7	R3962

Lab Approval:

Ron Eidson
Director of Radiochemistry



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

L# 907687
 Table #
 Acctnum: AQUAOPKS
 Template: T115191
 Prelogin: P598618
 TSR: 206 - Jeff Carr
 PB:

Shipped Via:
 Remarks
 Sample # (lab only)

Chain of Custody

Analysis / Container / Preservative

Pres Chk

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

Email To: jfranks@scsengineers.com;
 jay.martin@kcpl.com; jrockhold@scsengineers.com

Report to:
Jason Franks

Project Description: **KCPL - Montrose Generating Station**

Client Project #
27213167.16

Site/Facility ID #
AQUAOPKS-MONTROSE

Quote #
P.O. #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
601	Grab	NPW		5/2/17	1350	2
602		NPW			1050	2
603		NPW			1100	2
604		NPW			1120	2
605		NPW			1130	2
701		NPW			1305	2
702		NPW			1355	2
703		NPW			1150	2
704		NPW			1155	2
705		NPW			1255	2

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

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

Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Relinquished by: (Signature) *[Signature]* Date: 5/3/17 Time: 0920
 Relinquished by: (Signature) *[Signature]* Date: 5/3/17 Time: 1400
 Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____

pH _____ Temp _____
 Flow _____ Other _____

Trip Blank Received: Yes / No
 HCL / MeOH
 TBR
 °C Bottles Received: *22*
 Date: *5/4/17* Time: *1342*

Sample Receipt Checklist
 COC Beal Present/Intact: ___ NP ___ Y ___ N ___
 COC Signed/Accurate: ___ Y ___ N ___
 Bottles arrive intact: ___ Y ___ N ___
 Correct bottles used: ___ Y ___ N ___
 Sufficient volume sent: ___ Y ___ N ___
 If Applicable
 VOA Zero Headspace: ___ Y ___ N ___
 Preservation Correct/Checked: ___ Y ___ N ___

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

20170380

Analysis / Container / Preservative	Pres Chk
-------------------------------------	----------

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@sceengineers.com;
 jay.martin@kcpl.com; jrockhold@sceengineers.com

Project:
 Description: **KCPL - Montrose Generating Station**
 Client Project #
27213167.16

City/State Collected:
 Lab Project #
AQUAOPKS-MONTROSE
 P.O. #
 Quote #

Site/Facility ID #
 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
706	Grab	NPW		5/2/17	1230	2

Remarks: RA 226/228 - Report separately and combined.
 Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Acctnum: AQUAOPKS
 Template: T115191
 Prelogin: P598618
 TSR: 206 - Jeff Carr
 PB:

L # 967687
 Table #

Shipped Via:
 Remarks

Sample # (lab only)
 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 Headspace: ___ Y ___ N
 Preservation Correct/checked: ___ Y ___ N

pH _____ Temp _____
 Flow _____ Other _____
 Trip Blank Received: Yes / No
 HCL / MeOH
 TBR
 Temp: Ab °C Bottles Received: 22
 Date: 5/4/17 Time: 1342

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

Date: 5/3/17 Time: 0920
 Date: 5/3/17 Time: 1400
 Date: _____ Time: _____

SAMPLE LOGIN

Date Received: 5/4/2017 1:42:46

Lab Number: 20170380

Duc: 6/2/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170380-01 B	601	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-01 A	601	NPW	05/02/17	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*						
20170380-02 A	602	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-02 B	602	NPW	05/02/17	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*						
20170380-03 A	603	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-03 B	603	NPW	05/02/17	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*						
20170380-04 A	604	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-04 B	604	NPW	05/02/17	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*						
20170380-05 B	605	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-05 A	605	NPW	05/02/17	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*						
20170380-06 B	701	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-06 A	701	NPW	05/02/17	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*						
20170380-07 A	702	NPW	05/02/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170380-07 B	702	NPW	05/02/17	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*						

ID	Sample Type	NPW	Date	Material	Volume	NO3	pH	Other
20170380-08 A	Radium-226	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-08 B	Radium-228	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-09 A	Radium-226	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-09 B	Radium-228	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-10 A	Radium-226	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-10 B	Radium-228	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-11 A	Radium-226	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes
20170380-11 B	Radium-228	NPW	05/02/17	Plastic	1 L	HNO3, pH < 2		Yes

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken 0 Temperature: 16C Ice Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete NA

Anomalies

Inspected By: [Signature] DATE 5/14/17
 QA or Designee Review: [Signature] DATE 5/14/17
 Sample Custodian Review: _____ DATE _____

Project Notes:

SCS Engineers - KS

Sample Delivery Group: L906897
Samples Received: 05/04/2017
Project Number: 27213168.16
Description: KCPL - Montrose Generating Station

Report To: Jason 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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SAMPLE SUMMARY



506 L906897-01 GW

Collected by
Alex McCormick Collected date/time
05/01/17 12:25 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG976595	1	05/05/17 15:41	05/05/17 16:51	MMF
Wet Chemistry by Method 9056A	WG976625	1	05/05/17 19:42	05/05/17 19:42	SAM
Wet Chemistry by Method 9056A	WG976625	100	05/05/17 20:17	05/05/17 20:17	SAM
Mercury by Method 7470A	WG976674	1	05/05/17 11:40	05/06/17 10:31	TRB
Metals (ICP) by Method 6010B	WG976871	1	05/05/17 12:38	05/05/17 18:38	ST
Metals (ICPMS) by Method 6020	WG976708	1	05/05/17 11:49	05/10/17 01:31	LAT
Metals (ICPMS) by Method 6020	WG976708	1	05/05/17 11:49	05/10/17 10:13	LAT

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

DUPLICATE L906897-02 GW

Collected by
Alex McCormick Collected date/time
05/01/17 00:00 Received date/time
05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG976595	1	05/05/17 15:41	05/05/17 16:51	MMF
Wet Chemistry by Method 9056A	WG976625	1	05/05/17 16:12	05/05/17 16:12	SAM
Wet Chemistry by Method 9056A	WG976625	100	05/05/17 16:23	05/05/17 16:23	SAM
Mercury by Method 7470A	WG976674	1	05/05/17 11:40	05/06/17 09:08	TRB
Metals (ICP) by Method 6010B	WG976871	1	05/05/17 12:38	05/05/17 19:27	ST
Metals (ICPMS) by Method 6020	WG976708	1	05/05/17 11:49	05/10/17 02:34	LAT
Metals (ICPMS) by Method 6020	WG976708	1	05/05/17 11:49	05/10/17 12:01	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.

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	2760000		10000	1	05/05/2017 16:51	WG976595

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	79200		1000	1	05/05/2017 19:42	WG976625
Fluoride	ND		100	1	05/05/2017 19:42	WG976625
Sulfate	2170000		500000	100	05/05/2017 20:17	WG976625

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	05/06/2017 10:31	WG976674

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.1		5.00	1	05/05/2017 18:38	WG976871
Boron	ND		200	1	05/05/2017 18:38	WG976871
Calcium	361000		1000	1	05/05/2017 18:38	WG976871
Chromium	ND		10.0	1	05/05/2017 18:38	WG976871
Cobalt	ND		10.0	1	05/05/2017 18:38	WG976871

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	05/10/2017 01:31	WG976708
Arsenic	ND		2.00	1	05/10/2017 01:31	WG976708
Beryllium	ND		2.00	1	05/10/2017 01:31	WG976708
Cadmium	ND		1.00	1	05/10/2017 01:31	WG976708
Lead	ND		2.00	1	05/10/2017 10:13	WG976708
Selenium	6.90		2.00	1	05/10/2017 01:31	WG976708
Thallium	ND		2.00	1	05/10/2017 10:13	WG976708



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	2840000		10000	1	05/05/2017 16:51	WG976595

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	78900		1000	1	05/05/2017 16:12	WG976625
Fluoride	ND		100	1	05/05/2017 16:12	WG976625
Sulfate	2140000		500000	100	05/05/2017 16:23	WG976625

3 Ss

4 Cn

5 Sr

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/06/2017 09:08	WG976674

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	10.1		5.00	1	05/05/2017 19:27	WG976871
Boron	ND		200	1	05/05/2017 19:27	WG976871
Calcium	354000		1000	1	05/05/2017 19:27	WG976871
Chromium	ND		10.0	1	05/05/2017 19:27	WG976871
Cobalt	ND		10.0	1	05/05/2017 19:27	WG976871

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		2.00	1	05/10/2017 02:34	WG976708
Arsenic	ND		2.00	1	05/10/2017 02:34	WG976708
Beryllium	ND		2.00	1	05/10/2017 02:34	WG976708
Cadmium	ND		1.00	1	05/10/2017 02:34	WG976708
Lead	ND		2.00	1	05/10/2017 12:01	WG976708
Selenium	6.68		2.00	1	05/10/2017 02:34	WG976708
Thallium	ND		2.00	1	05/10/2017 12:01	WG976708



Method Blank (MB)

(MB) R3217027-1 05/05/17 16:51

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L906897-02 Original Sample (OS) • Duplicate (DUP)

(OS) L906897-02 05/05/17 16:51 • (DUP) R3217027-4 05/05/17 16:51

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2840000	2850000	1	0.351		5

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3217027-2 05/05/17 16:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8620000	98.0	85.0-115	

⁹Sc



Method Blank (MB)

(MB) R3216041-1 05/05/17 12:20

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

L906835-17 Original Sample (OS) • Duplicate (DUP)

(OS) L906835-17 05/05/17 15:13 • (DUP) R3216041-5 05/05/17 15:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	15200	15400	1	1		15
Fluoride	320	320	1	0		15
Sulfate	ND	1710	1	0		15

L906894-03 Original Sample (OS) • Duplicate (DUP)

(OS) L906894-03 05/05/17 17:22 • (DUP) R3216041-6 05/05/17 17:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7010	6840	1	3		15
Fluoride	152	152	1	0		15
Sulfate	41300	41300	1	0		15

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

(LCS) R3216041-2 05/05/17 12:32 • (LCSD) R3216041-3 05/05/17 12:44

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	8060	8080	101	101	80-120			0	15
Sulfate	40000	38100	38300	95	96	80-120			1	15

L906835-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L906835-15 05/05/17 14:27 • (MS) R3216041-4 05/05/17 14:38

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	72500	120000	95	1	80-120	E
Fluoride	5000	ND	4860	96	1	80-120	



L906835-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L906835-15 05/05/17 14:27 • (MS) R3216041-4 05/05/17 14:38

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	6370	54000	95	1	80-120	

L906897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-01 05/05/17 19:42 • (MS) R3216041-7 05/05/17 19:53 • (MSD) R3216041-8 05/05/17 20:05

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	79200	127000	127000	95	96	1	80-120	E	E	0	15
Fluoride	5000	ND	4960	4380	98	86	1	80-120			12	15

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3216031-1 05/06/17 09:02

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) R3216031-2 05/06/17 09:04 • (LCSD) R3216031-3 05/06/17 09:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.74	2.74	91	91	80-120			0	20

⁷Gl

L906897-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-02 05/06/17 09:08 • (MS) R3216031-4 05/06/17 09:11 • (MSD) R3216031-5 05/06/17 09:13

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	2.75	97	92	1	75-125			5	20

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3216103-1 05/05/17 18:30

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

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

(LCS) R3216103-2 05/05/17 18:32 • (LCSD) R3216103-3 05/05/17 18:35

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	1010	1030	101	103	80-120			1	20
Boron	1000	929	943	93	94	80-120			2	20
Calcium	10000	9670	9860	97	99	80-120			2	20
Chromium	1000	985	987	99	99	80-120			0	20
Cobalt	1000	1000	1020	100	102	80-120			2	20

⁶Qc

⁷Gl

⁸Al

⁹Sc

L906897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-01 05/05/17 18:38 • (MS) R3216103-5 05/05/17 18:44 • (MSD) R3216103-6 05/05/17 18:46

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	10.1	1000	1020	99	101	1	75-125			1	20
Boron	1000	ND	1050	1050	94	93	1	75-125			1	20
Calcium	10000	361000	354000	349000	0	0	1	75-125	V	V	1	20
Chromium	1000	ND	965	973	96	97	1	75-125			1	20
Cobalt	1000	ND	1050	1060	105	106	1	75-125			1	20



Method Blank (MB)

(MB) R3216794-1 05/10/17 01:21

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
Selenium	U		0.380	2.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Method Blank (MB)

(MB) R3216878-1 05/10/17 10:03

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead	U		0.240	2.00
Thallium	U		0.190	2.00

⁶ Qc

⁷ Gl

⁸ Al

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

(LCS) R3216794-2 05/10/17 01:24 • (LCSD) R3216794-3 05/10/17 01:28

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	%	%	%			%	%
Antimony	50.0	47.9	48.1	96	96	80-120			0	20
Arsenic	50.0	46.7	46.6	93	93	80-120			0	20
Beryllium	50.0	46.2	46.3	92	93	80-120			0	20
Cadmium	50.0	48.9	49.5	98	99	80-120			1	20
Selenium	50.0	47.9		96		80-120				

⁹ Sc

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

(LCS) R3216878-2 05/10/17 10:06 • (LCSD) R3216878-3 05/10/17 10:10

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	%	%	%			%	%
Lead	50.0	46.4	46.3	93	93	80-120			0	20
Thallium	50.0	46.9	46.8	94	94	80-120			0	20



[L906897-01.02](#)

L906897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-01 05/10/17 01:31 • (MS) R3216794-5 05/10/17 01:38 • (MSD) R3216794-6 05/10/17 01:42

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	50.3	49.8	101	100	1	75-125			1	20
Arsenic	50.0	ND	47.2	48.3	94	96	1	75-125			2	20
Beryllium	50.0	ND	43.3	42.2	87	84	1	75-125			3	20
Cadmium	50.0	ND	49.5	50.1	99	100	1	75-125			1	20
Selenium	50.0	6.90	56.2	55.4	99	97	1	75-125			1	20

¹ Cp

² Tc

³ Ss

⁴ Cn

L906897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906897-01 05/10/17 10:13 • (MS) R3216878-5 05/10/17 10:23 • (MSD) R3216878-6 05/10/17 10:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	ND	46.4	46.8	93	94	1	75-125			1	20
Thallium	50.0	ND	46.8	47.1	94	94	1	75-125			1	20

⁵ Sr

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).
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		

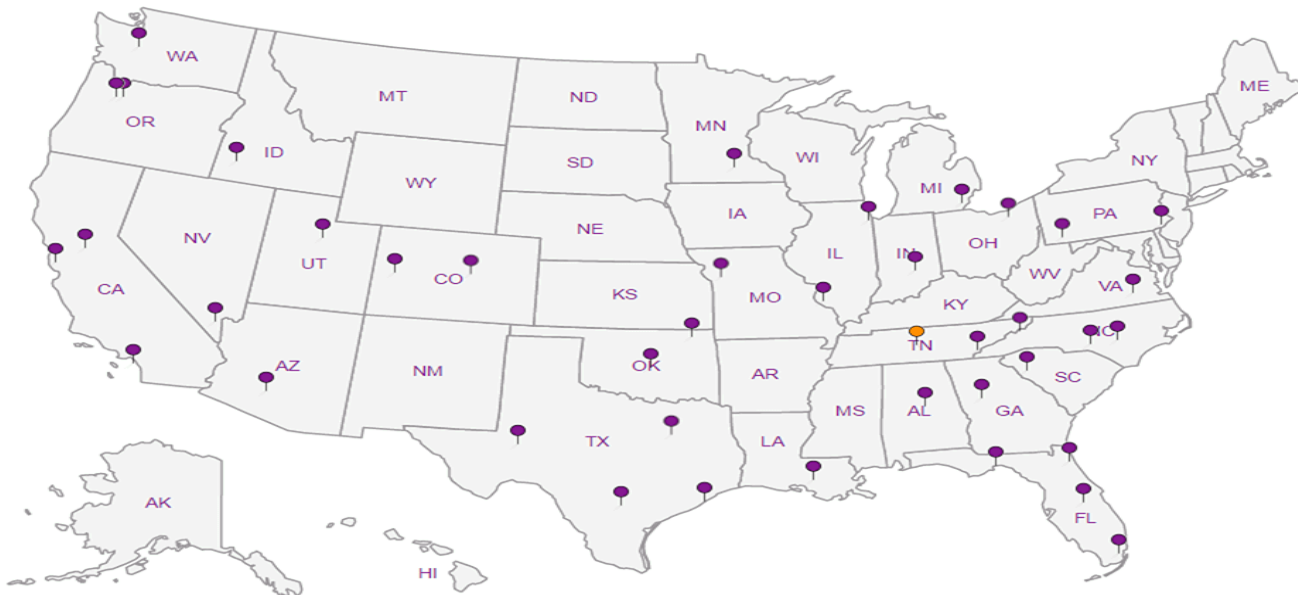
Third Party & Federal Accreditations

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

Fres
Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



YOUR LAB OF CHOICE

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



L# L960897

G037

Acctnum: AQUAOPKS

Template: T117365

Prelogin: P598656

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:
Jason Franks

Email To: jfranks@scsengineers.com;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project
Description: **KCPL - Montrose Generating Station**

City/State
Collected:

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Alex McBurnid

Site/Facility ID #

P.O. #

Collected by (signature):
Alex McBurnid

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	No. of Cntrs	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres										
506	Grab	GW		5/1/17	1225	3	X	X	X										
DUPLICATE		GW				3	X	X	X										01
506 MS		GW			1235	3	X	X	X										02
506 MSD		GW			1240	3	X	X	X										01

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

Remarks: 6010 Metals-Ba,B,Ca,Cr,Co 6020 metals-Sb,As,Be,Cd,Pb,Se,Tl 7470 metals-Hg

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
___ UPS ___ FedEx ___ Courier SW

Tracking #

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

Relinquished by: (Signature) *[Signature]*
Date: 5/3/17 Time: 0920

Received by: (Signature) *[Signature]*

Trip Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature) *[Signature]*
Date: 5/3/17 Time: 1400

Received by: (Signature) *[Signature]*

Temp: 3.0 °C Bottles Received: 12

If preservation required by Login: Date/Time

Relinquished by: (Signature) *[Signature]*
Date: _____ Time: _____

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

Date: 5-4-17 Time: 0900

Hold: _____ Condition: NCF / OK

SCS Engineers - KS

Sample Delivery Group: L906904
Samples Received: 05/04/2017
Project Number: 27213168.16
Description: KCPL - Montrose Generating Station

Report To: Jason 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.



¹Cp: Cover Page	1	
²Tc: Table of Contents	2	
³Ss: Sample Summary	3	
⁴Cn: Case Narrative	4	
⁵Sr: Sample Results	5	
506 L906904-01	5	
DUP L906904-02	6	
⁶Qc: Quality Control Summary	7	
Metals (ICP) by Method 6010B	7	
⁷Gl: Glossary of Terms	9	
⁸Al: Accreditations & Locations	10	
⁹Sc: Chain of Custody	11	

SAMPLE SUMMARY



506 L906904-01 GW

Collected by: Alex McCormick
 Collected date/time: 05/01/17 12:25
 Received date/time: 05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG977866	1	05/09/17 13:55	05/09/17 15:01	NJB

¹ Cp

² Tc

³ Ss

DUP L906904-02 GW

Collected by: Alex McCormick
 Collected date/time: 05/01/17 00:00
 Received date/time: 05/04/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG977525	1	05/08/17 17:44	05/09/17 00:00	CCE

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.

Jason Romer
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	254		15.0	1	05/09/2017 15:01	WG977866
Molybdenum	ND		5.00	1	05/09/2017 15:01	WG977866

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	267		15.0	1	05/09/2017 00:00	WG977525
Molybdenum	ND		5.00	1	05/09/2017 00:00	WG977525

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3216428-1 05/08/17 22:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

1 Cp

2 Tc

3 Ss

4 Cn

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

(LCS) R3216428-2 05/08/17 23:02 • (LCSD) R3216428-3 05/08/17 23:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Lithium	1000	1040	1040	104	104	80-120			0	20
Molybdenum	1000	1020	1020	102	102	80-120			0	20

5 Sr

6 Qc

L906903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906903-01 05/08/17 23:08 • (MS) R3216428-5 05/08/17 23:13 • (MSD) R3216428-6 05/08/17 23:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lithium	1000	U	1040	1050	104	105	1	75-125			1	20
Molybdenum	1000	U	1020	1030	102	103	1	75-125			1	20

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3216621-1 05/09/17 14:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lithium	ug/l		ug/l	ug/l
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

1 Cp

2 Tc

3 Ss

4 Cn

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

(LCS) R3216621-2 05/09/17 14:56 • (LCSD) R3216621-3 05/09/17 14:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Lithium	ug/l	ug/l	ug/l	%	%	%			%	%
Lithium	1000	986	982	99	98	80-120			0	20
Molybdenum	1000	981	987	98	99	80-120			1	20

5 Sr

6 Qc

L906904-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L906904-01 05/09/17 15:01 • (MS) R3216621-5 05/09/17 15:07 • (MSD) R3216621-6 05/09/17 15:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lithium	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lithium	1000	254	1300	1280	105	103	1	75-125			2	20
Molybdenum	1000	ND	981	974	98	97	1	75-125			1	20

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

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		

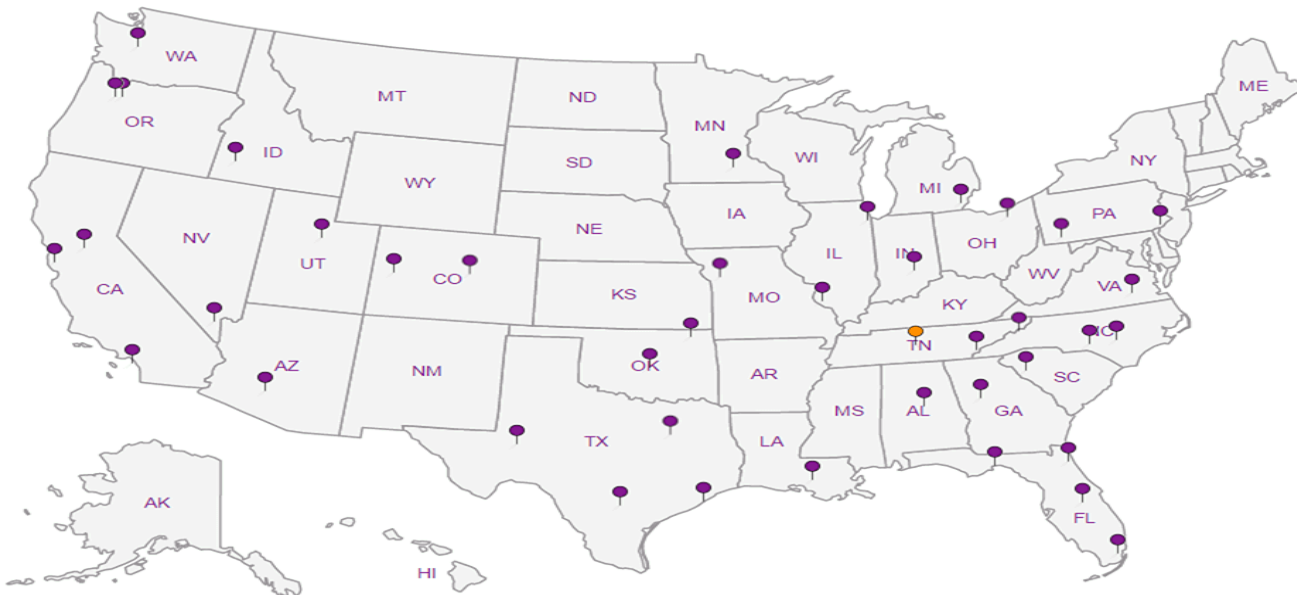
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Canada	1461.01	USDA	S-67674
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1 Cp

2 Tc

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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 ___ of ___



YOUR LAB OF CHOICE

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



L# L906904
G036

Acctnum: AQUAOPKS
Template: T123049
Prelogin: P598646
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:
Jason Franks

Email To: jfranks@scsengineers.com;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project Description: **KCPL - Montrose Generating Station**

City/State Collected:

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Alex McComick

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

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

Quote #
Date Results Needed

Immediately Packed on Ice N ___ Y X

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
506	<i>Grab</i>	GW		<i>5/1/17</i>	<i>1225</i>	1	X
DUP	<i>↓</i>	GW		<i>↓</i>	1225	1	X
506 MS/MSD	<i>↓</i>	GW		<i>↓</i>	<i>1235/1240</i>	1	X

Li, Mo - 6010 250mlHDPE-HNO3

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

Remarks:

Samples returned via:
___ UPS ___ FedEx ___ Courier SW

Tracking #

pH ___ Temp ___
Flow ___ Other ___

Sample Receipt Checklist

COC Seal Present/Intact: ___ NP Y ___ N

COC Signed/Accurate: Y ___ N

Bottles arrive intact: Y ___ N

Correct bottles used: Y ___ N

Sufficient volume sent: Y ___ N

If Applicable

VOA Zero Headspace: ___ Y ___ N

Preservation Correct/Checked: Y ___ N

Relinquished by: (Signature)
[Signature]

Date: *5/1/17* Time: *0920*

Received by: (Signature)
[Signature]

Trip Blank Received: Yes/No
HCL / MeOH TBR

Relinquished by: (Signature)
[Signature]

Date: *5/3/17* Time: *1700*

Received by: (Signature)

Temp: *17* °C Bottles Received: *3*

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)
[Signature]

Date: *5-4-17* Time: *0900*

Hold: Condition:
NCF / OK

Case Narrative

Lab No: 20170379

This report contains the analytical results for the 4 sample(s) received under chain of custody by ESC Lab Sciences on 5/4/2017 1:42:43 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

L907686



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170379
 Date Reported : 06/02/17
 Date Received : 05/04/17
 Page Number : 2 of 3

Analytical Report

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

Lab ID : 20170379-01
Client ID : 506
Date Sampled : 5/1/2017 12:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.287 +/- 0.568	0.708	pCi/l				
Radium-226 SM 7500 Ra B M*	0.094 +/- 0.096	0.135	pCi/l		05/22/17	05/25/17	SD
Radium-228 EPA 904*	0.193 +/- 0.472	0.573	pCi/l		05/18/17	05/24/17	JR

Lab ID : 20170379-02
Client ID : Dup
Date Sampled : 5/1/2017
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.165 +/- 0.685	0.970	pCi/l				
Radium-226 SM 7500 Ra B M*	0.066 +/- 0.112	0.183	pCi/l		05/22/17	05/25/17	SD
Radium-228 EPA 904*	0.099 +/- 0.573	0.787	pCi/l		05/18/17	05/24/17	JR

Lab ID : 20170379-03
Client ID : 506 MS
Date Sampled : 5/1/2017 12:35:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226 SM 7500 Ra B M*	123		% Rec		05/22/17	05/25/17	SD
Radium-228 EPA 904*	80.1		% Rec		05/18/17	05/24/17	JR

Lab ID : 20170379-04
Client ID : 506 MSD
Date Sampled : 5/1/2017 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226 SM 7500 Ra B M*	8.2		RPD		05/22/17	05/25/17	SD
Radium-228 EPA 904*	14.0		RPD		05/18/17	05/24/17	JR



Client : SCS Engineers
Client Project : 27213167.16
Lab Number : 20170379
Date Reported : 06/02/17
Date Received : 05/04/17
Page Number : 3 of 3

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.020	118.0			NC	0.252	123.0	113.0	8.2	R1227
Radium-228	-0.521	105.0			NC	0.341	80.1	92.5	14.0	R3961

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 Description: KCPL - Montrose Generating Station

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

Client Project #
27213167.16

Site/Facility ID #

Collected by (print):
Alex McDaniel

Collected by (signature):
Alex McDaniel

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

Billing Information:

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

Email To: jfranks@scsengineers.com;
jay.martin@kcpl.com; jrockhold@scsengineers.com

City/State Collected:

Lab Project #
AQUAOPKS-MONTROSE

P.O. #

Quote #

Date Results Needed

No. of Cntrs

Time

Date

Depth

Comp/Grab Matrix *

Sample ID

506 Gmb NPW 5/1/17 1235 2 X

DUP NPW 1235 2 X

506 MS NPW 1240 2 X

506 MSD NPW 1240 2 X

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

Samples returned via:
___ UPS ___ FedEx ___ Courier

Date: 5/3/17

Date: 5/3/17

Date: 5/3/17

Time: 0920

Time: 1400

Time: 1400

Time: 1342

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

Analysis / Container / Preservative

Pres Chk

Chain of Custody Page of



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

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

L # 967686

Table #

Accntnum: AQUAOPKS

Template: T123052

Prelogin: P598648

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 Headspace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

SAMPLE LOGIN

Date Received: 5/4/2017 1:42:43

Lab Number: 20170379

Due: 6/2/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170379-01 B	506	NPW	05/01/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170379-01 A	506	NPW	05/01/17	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*						
20170379-02 B	Dup	NPW	05/01/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170379-02 A	Dup	NPW	05/01/17	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*						
20170379-03 B	506 MS	NPW	05/01/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170379-03 A	506 MS	NPW	05/01/17	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*						
20170379-04 B	506 MSD	NPW	05/01/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170379-04 A	506 MSD	NPW	05/01/17	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*						

CONTAINER INSPECTION

Coolers 3 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 N/A

Anomalies

Inspected By: [Signature] DATE 5/14/17
QA or Designee Review: [Signature] DATE 5/14/17
Sample Custodian Review: _____ DATE _____

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-8
July 2017 Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L926228
Samples Received: 08/02/2017
Project Number: 27213167.16
Description: KCPL - Montrose Gen Station GW

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



506 L926228-01 GW

Collected by Adam Parris
Collected date/time 07/31/17 15:55
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 00:10	08/03/17 00:10	SAM
Wet Chemistry by Method 9056A	WG1005568	20	08/03/17 18:34	08/03/17 18:34	DR
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:01	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:14	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:15	LAT

1
Cp

2
Tc

3
Ss

4
Cn

601 L926228-02 GW

Collected by Adam Parris
Collected date/time 07/31/17 16:35
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 00:26	08/03/17 00:26	SAM
Wet Chemistry by Method 9056A	WG1005568	50	08/03/17 18:50	08/03/17 18:50	DR
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:03	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:17	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:20	LAT

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

602 L926228-03 GW

Collected by Adam Parris
Collected date/time 07/31/17 10:10
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 00:58	08/03/17 00:58	SAM
Wet Chemistry by Method 9056A	WG1005319	20	08/03/17 01:14	08/03/17 01:14	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:05	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:20	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:25	LAT

603 L926228-04 GW

Collected by Adam Parris
Collected date/time 07/31/17 10:30
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 01:30	08/03/17 01:30	SAM
Wet Chemistry by Method 9056A	WG1005568	50	08/03/17 19:06	08/03/17 19:06	DR
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 07:51	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:04	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 17:39	LAT

604 L926228-05 GW

Collected by Adam Parris
Collected date/time 07/31/17 11:20
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 02:50	08/03/17 02:50	SAM
Wet Chemistry by Method 9056A	WG1005319	20	08/03/17 03:06	08/03/17 03:06	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:07	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:28	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:28	LAT

SAMPLE SUMMARY



605 L926228-06 GW

Collected by Adam Parris
Collected date/time 07/31/17 12:05
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 03:22	08/03/17 03:22	SAM
Wet Chemistry by Method 9056A	WG1005319	20	08/03/17 03:38	08/03/17 03:38	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:10	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:31	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:32	LAT

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

701 L926228-07 GW

Collected by Adam Parris
Collected date/time 07/31/17 15:10
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 03:54	08/03/17 03:54	SAM
Wet Chemistry by Method 9056A	WG1005319	20	08/03/17 04:10	08/03/17 04:10	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:12	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:33	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:36	LAT

6
Qc

7
Gl

8
Al

9
Sc

702 L926228-08 GW

Collected by Adam Parris
Collected date/time 07/31/17 15:45
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005319	1	08/03/17 04:26	08/03/17 04:26	SAM
Wet Chemistry by Method 9056A	WG1005319	20	08/03/17 04:42	08/03/17 04:42	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:19	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:36	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:39	LAT

703 L926228-09 GW

Collected by Adam Parris
Collected date/time 07/31/17 12:25
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005315	1	08/03/17 17:37	08/03/17 18:37	EG
Wet Chemistry by Method 9056A	WG1005410	1	08/04/17 00:24	08/04/17 00:24	SAM
Wet Chemistry by Method 9056A	WG1005410	20	08/04/17 00:39	08/04/17 00:39	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:21	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:39	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:43	LAT

704 L926228-10 GW

Collected by Adam Parris
Collected date/time 07/31/17 13:40
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005317	1	08/03/17 21:17	08/03/17 21:42	EG
Wet Chemistry by Method 9056A	WG1005410	1	08/04/17 00:54	08/04/17 00:54	SAM
Wet Chemistry by Method 9056A	WG1005410	20	08/04/17 01:09	08/04/17 01:09	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:23	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:42	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:46	LAT

SAMPLE SUMMARY



705 L926228-11 GW

Collected by Adam Parris
Collected date/time 07/31/17 13:25
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005317	1	08/03/17 21:17	08/03/17 21:42	EG
Wet Chemistry by Method 9056A	WG1005410	1	08/04/17 01:54	08/04/17 01:54	SAM
Wet Chemistry by Method 9056A	WG1005410	20	08/04/17 02:09	08/04/17 02:09	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:25	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:44	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 18:57	LAT



706 L926228-12 GW

Collected by Adam Parris
Collected date/time 07/31/17 14:25
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005317	1	08/03/17 21:17	08/03/17 21:42	EG
Wet Chemistry by Method 9056A	WG1005410	1	08/04/17 02:24	08/04/17 02:24	SAM
Wet Chemistry by Method 9056A	WG1006085	20	08/04/17 18:44	08/04/17 18:44	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:28	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:47	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 19:01	LAT

DUPLICATE L926228-13 GW

Collected by Adam Parris
Collected date/time 07/31/17 10:35
Received date/time 08/02/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1005317	1	08/03/17 21:17	08/03/17 21:42	EG
Wet Chemistry by Method 9056A	WG1005410	1	08/04/17 02:53	08/04/17 02:53	SAM
Wet Chemistry by Method 9056A	WG1006085	50	08/04/17 18:59	08/04/17 18:59	SAM
Mercury by Method 7470A	WG1005098	1	08/02/17 14:07	08/03/17 08:30	TRB
Metals (ICP) by Method 6010B	WG1007102	1	08/08/17 13:40	08/08/17 20:50	ST
Metals (ICPMS) by Method 6020	WG1006976	1	08/08/17 08:12	08/10/17 19:04	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	2620000		10000	1	08/03/2017 18:37	WG1005315

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	71900		1000	1	08/03/2017 00:10	WG1005319
Fluoride	ND		100	1	08/03/2017 00:10	WG1005319
Sulfate	1650000		100000	20	08/03/2017 18:34	WG1005568

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	08/03/2017 08:01	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.68		5.00	1	08/08/2017 20:14	WG1007102
Boron	ND		200	1	08/08/2017 20:14	WG1007102
Calcium	346000		1000	1	08/08/2017 20:14	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:14	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:14	WG1007102
Lithium	210		15.0	1	08/08/2017 20:14	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:14	WG1007102

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	08/10/2017 18:15	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:15	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:15	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:15	WG1006976
Lead	ND		2.00	1	08/10/2017 18:15	WG1006976
Selenium	6.84		2.00	1	08/10/2017 18:15	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:15	WG1006976



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	4030000		10000	1	08/03/2017 18:37	WG1005315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	52700		1000	1	08/03/2017 00:26	WG1005319
Fluoride	526		100	1	08/03/2017 00:26	WG1005319
Sulfate	3110000		250000	50	08/03/2017 18:50	WG1005568

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/03/2017 08:03	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.0		5.00	1	08/08/2017 20:17	WG1007102
Boron	ND		200	1	08/08/2017 20:17	WG1007102
Calcium	480000		1000	1	08/08/2017 20:17	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:17	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:17	WG1007102
Lithium	275		15.0	1	08/08/2017 20:17	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:17	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 18:20	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:20	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:20	WG1006976
Cadmium	1.41		1.00	1	08/10/2017 18:20	WG1006976
Lead	ND		2.00	1	08/10/2017 18:20	WG1006976
Selenium	4.41		2.00	1	08/10/2017 18:20	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:20	WG1006976

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	1860000		10000	1	08/03/2017 18:37	WG1005315

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4280		1000	1	08/03/2017 00:58	WG1005319
Fluoride	116		100	1	08/03/2017 00:58	WG1005319
Sulfate	1210000		100000	20	08/03/2017 01:14	WG1005319

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	08/03/2017 08:05	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	20.0		5.00	1	08/08/2017 20:20	WG1007102
Boron	4630		200	1	08/08/2017 20:20	WG1007102
Calcium	354000		1000	1	08/08/2017 20:20	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:20	WG1007102
Cobalt	109		10.0	1	08/08/2017 20:20	WG1007102
Lithium	73.7		15.0	1	08/08/2017 20:20	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:20	WG1007102

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	08/10/2017 18:25	WG1006976
Arsenic	3.83		2.00	1	08/10/2017 18:25	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:25	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:25	WG1006976
Lead	ND		2.00	1	08/10/2017 18:25	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:25	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:25	WG1006976



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2920000		10000	1	08/03/2017 18:37	WG1005315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8030		1000	1	08/03/2017 01:30	WG1005319
Fluoride	388		100	1	08/03/2017 01:30	WG1005319
Sulfate	2330000		250000	50	08/03/2017 19:06	WG1005568

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/03/2017 07:51	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.4		5.00	1	08/08/2017 20:04	WG1007102
Boron	6900		200	1	08/08/2017 20:04	WG1007102
Calcium	434000	V	1000	1	08/08/2017 20:04	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:04	WG1007102
Cobalt	42.9		10.0	1	08/08/2017 20:04	WG1007102
Lithium	121		15.0	1	08/08/2017 20:04	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:04	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 17:39	WG1006976
Arsenic	ND		2.00	1	08/10/2017 17:39	WG1006976
Beryllium	ND		2.00	1	08/10/2017 17:39	WG1006976
Cadmium	3.11		1.00	1	08/10/2017 17:39	WG1006976
Lead	ND		2.00	1	08/10/2017 17:39	WG1006976
Selenium	12.6		2.00	1	08/10/2017 17:39	WG1006976
Thallium	ND		2.00	1	08/10/2017 17:39	WG1006976

- 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	2070000		10000	1	08/03/2017 18:37	WG1005315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	11100		1000	1	08/03/2017 02:50	WG1005319
Fluoride	601		100	1	08/03/2017 02:50	WG1005319
Sulfate	1470000		100000	20	08/03/2017 03:06	WG1005319

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/03/2017 08:07	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.3		5.00	1	08/08/2017 20:28	WG1007102
Boron	4750		200	1	08/08/2017 20:28	WG1007102
Calcium	369000		1000	1	08/08/2017 20:28	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:28	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:28	WG1007102
Lithium	75.5		15.0	1	08/08/2017 20:28	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:28	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 18:28	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:28	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:28	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:28	WG1006976
Lead	ND		2.00	1	08/10/2017 18:28	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:28	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:28	WG1006976

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	2170000		10000	1	08/03/2017 18:37	WG1005315

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	49100		1000	1	08/03/2017 03:22	WG1005319
Fluoride	200		100	1	08/03/2017 03:22	WG1005319
Sulfate	1890000		100000	20	08/03/2017 03:38	WG1005319

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	08/03/2017 08:10	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.54		5.00	1	08/08/2017 20:31	WG1007102
Boron	1740		200	1	08/08/2017 20:31	WG1007102
Calcium	415000		1000	1	08/08/2017 20:31	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:31	WG1007102
Cobalt	42.8		10.0	1	08/08/2017 20:31	WG1007102
Lithium	109		15.0	1	08/08/2017 20:31	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:31	WG1007102

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	08/10/2017 18:32	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:32	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:32	WG1006976
Cadmium	1.74		1.00	1	08/10/2017 18:32	WG1006976
Lead	ND		2.00	1	08/10/2017 18:32	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:32	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:32	WG1006976



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3270000		10000	1	08/03/2017 18:37	WG1005315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	353000		20000	20	08/03/2017 04:10	WG1005319
Fluoride	1220		100	1	08/03/2017 03:54	WG1005319
Sulfate	1870000		100000	20	08/03/2017 04:10	WG1005319

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	0.273		0.200	1	08/03/2017 08:12	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.17		5.00	1	08/08/2017 20:33	WG1007102
Boron	ND		200	1	08/08/2017 20:33	WG1007102
Calcium	420000		1000	1	08/08/2017 20:33	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:33	WG1007102
Cobalt	16.7		10.0	1	08/08/2017 20:33	WG1007102
Lithium	179		15.0	1	08/08/2017 20:33	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:33	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 18:36	WG1006976
Arsenic	2.01		2.00	1	08/10/2017 18:36	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:36	WG1006976
Cadmium	4.65		1.00	1	08/10/2017 18:36	WG1006976
Lead	ND		2.00	1	08/10/2017 18:36	WG1006976
Selenium	8.16		2.00	1	08/10/2017 18:36	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:36	WG1006976

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	2520000		10000	1	08/03/2017 18:37	WG1005315

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	263000		20000	20	08/03/2017 04:42	WG1005319
Fluoride	217		100	1	08/03/2017 04:26	WG1005319
Sulfate	1520000		100000	20	08/03/2017 04:42	WG1005319

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	08/03/2017 08:19	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	10.7		5.00	1	08/08/2017 20:36	WG1007102
Boron	ND		200	1	08/08/2017 20:36	WG1007102
Calcium	497000		1000	1	08/08/2017 20:36	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:36	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:36	WG1007102
Lithium	26.6		15.0	1	08/08/2017 20:36	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:36	WG1007102

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	08/10/2017 18:39	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:39	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:39	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:39	WG1006976
Lead	ND		2.00	1	08/10/2017 18:39	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:39	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:39	WG1006976



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	1520000		10000	1	08/03/2017 18:37	WG1005315

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	23000		1000	1	08/04/2017 00:24	WG1005410
Fluoride	124		100	1	08/04/2017 00:24	WG1005410
Sulfate	1010000		100000	20	08/04/2017 00:39	WG1005410

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/03/2017 08:21	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	36.2		5.00	1	08/08/2017 20:39	WG1007102
Boron	ND		200	1	08/08/2017 20:39	WG1007102
Calcium	264000		1000	1	08/08/2017 20:39	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:39	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:39	WG1007102
Lithium	49.2		15.0	1	08/08/2017 20:39	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:39	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 18:43	WG1006976
Arsenic	ND		2.00	1	08/10/2017 18:43	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:43	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:43	WG1006976
Lead	ND		2.00	1	08/10/2017 18:43	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:43	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:43	WG1006976

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	1090000		10000	1	08/03/2017 21:42	WG1005317

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4240		1000	1	08/04/2017 00:54	WG1005410
Fluoride	115		100	1	08/04/2017 00:54	WG1005410
Sulfate	730000		100000	20	08/04/2017 01:09	WG1005410

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	08/03/2017 08:23	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	60.2		5.00	1	08/08/2017 20:42	WG1007102
Boron	ND		200	1	08/08/2017 20:42	WG1007102
Calcium	167000		1000	1	08/08/2017 20:42	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:42	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:42	WG1007102
Lithium	50.5		15.0	1	08/08/2017 20:42	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:42	WG1007102

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	08/10/2017 18:46	WG1006976
Arsenic	12.9		2.00	1	08/10/2017 18:46	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:46	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:46	WG1006976
Lead	ND		2.00	1	08/10/2017 18:46	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:46	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:46	WG1006976



Collected date/time: 07/31/17 13:25

L926228

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	937000		10000	1	08/03/2017 21:42	WG1005317

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12600		1000	1	08/04/2017 01:54	WG1005410
Fluoride	185		100	1	08/04/2017 01:54	WG1005410
Sulfate	528000		100000	20	08/04/2017 02:09	WG1005410

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	08/03/2017 08:25	WG1005098

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	52.9		5.00	1	08/08/2017 20:44	WG1007102
Boron	ND		200	1	08/08/2017 20:44	WG1007102
Calcium	120000		1000	1	08/08/2017 20:44	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:44	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:44	WG1007102
Lithium	45.0		15.0	1	08/08/2017 20:44	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:44	WG1007102

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	08/10/2017 18:57	WG1006976
Arsenic	5.67		2.00	1	08/10/2017 18:57	WG1006976
Beryllium	ND		2.00	1	08/10/2017 18:57	WG1006976
Cadmium	ND		1.00	1	08/10/2017 18:57	WG1006976
Lead	ND		2.00	1	08/10/2017 18:57	WG1006976
Selenium	ND		2.00	1	08/10/2017 18:57	WG1006976
Thallium	ND		2.00	1	08/10/2017 18:57	WG1006976

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	1660000		10000	1	08/03/2017 21:42	WG1005317

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	29800		1000	1	08/04/2017 02:24	WG1005410
Fluoride	181		100	1	08/04/2017 02:24	WG1005410
Sulfate	1100000		100000	20	08/04/2017 18:44	WG1006085

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	08/03/2017 08:28	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	34.5		5.00	1	08/08/2017 20:47	WG1007102
Boron	226		200	1	08/08/2017 20:47	WG1007102
Calcium	298000		1000	1	08/08/2017 20:47	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:47	WG1007102
Cobalt	ND		10.0	1	08/08/2017 20:47	WG1007102
Lithium	36.7		15.0	1	08/08/2017 20:47	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:47	WG1007102

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	08/10/2017 19:01	WG1006976
Arsenic	14.1		2.00	1	08/10/2017 19:01	WG1006976
Beryllium	ND		2.00	1	08/10/2017 19:01	WG1006976
Cadmium	ND		1.00	1	08/10/2017 19:01	WG1006976
Lead	ND		2.00	1	08/10/2017 19:01	WG1006976
Selenium	ND		2.00	1	08/10/2017 19:01	WG1006976
Thallium	ND		2.00	1	08/10/2017 19:01	WG1006976



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	3200000		10000	1	08/03/2017 21:42	WG1005317

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	7850		1000	1	08/04/2017 02:53	WG1005410
Fluoride	516		100	1	08/04/2017 02:53	WG1005410
Sulfate	2370000		250000	50	08/04/2017 18:59	WG1006085

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	08/03/2017 08:30	WG1005098

6 Qc

7 Gl

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.7		5.00	1	08/08/2017 20:50	WG1007102
Boron	6550		200	1	08/08/2017 20:50	WG1007102
Calcium	440000		1000	1	08/08/2017 20:50	WG1007102
Chromium	ND		10.0	1	08/08/2017 20:50	WG1007102
Cobalt	42.4		10.0	1	08/08/2017 20:50	WG1007102
Lithium	121		15.0	1	08/08/2017 20:50	WG1007102
Molybdenum	ND		5.00	1	08/08/2017 20:50	WG1007102

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	08/10/2017 19:04	WG1006976
Arsenic	ND		2.00	1	08/10/2017 19:04	WG1006976
Beryllium	ND		2.00	1	08/10/2017 19:04	WG1006976
Cadmium	3.22		1.00	1	08/10/2017 19:04	WG1006976
Lead	ND		2.00	1	08/10/2017 19:04	WG1006976
Selenium	13.3		2.00	1	08/10/2017 19:04	WG1006976
Thallium	ND		2.00	1	08/10/2017 19:04	WG1006976



Method Blank (MB)

(MB) R3239336-1 08/03/17 18:37

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

L926228-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926228-01 08/03/17 18:37 • (DUP) R3239336-4 08/03/17 18:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	2620000	2640000	1	0.951		5

L926228-07 Original Sample (OS) • Duplicate (DUP)

(OS) L926228-07 08/03/17 18:37 • (DUP) R3239336-5 08/03/17 18:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	3270000	3280000	1	0.153		5

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

(LCS) R3239336-2 08/03/17 18:37 • (LCSD) R3239336-3 08/03/17 18:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8350000	8370000	94.9	95.1	85.0-115			0.239	5



Method Blank (MB)

(MB) R3239719-1 08/03/17 21:42

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

L926228-13 Original Sample (OS) • Duplicate (DUP)

(OS) L926228-13 08/03/17 21:42 • (DUP) R3239719-4 08/03/17 21:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	3200000	3200000	1	0.000		5

L926247-02 Original Sample (OS) • Duplicate (DUP)

(OS) L926247-02 08/03/17 21:42 • (DUP) R3239719-5 08/03/17 21:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1920000	1890000	1	1.84		5

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

(LCS) R3239719-2 08/03/17 21:42 • (LCSD) R3239719-3 08/03/17 21:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8410000	8410000	95.6	95.6	85.0-115			0.000	5



Method Blank (MB)

(MB) R3238190-1 08/02/17 07:12

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

L926204-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926204-01 08/02/17 20:58 • (DUP) R3238190-4 08/02/17 21:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	7670	7650	1	0		15
Fluoride	150	168	1	11		15
Sulfate	ND	1940	1	0		15

L926224-02 Original Sample (OS) • Duplicate (DUP)

(OS) L926224-02 08/02/17 23:38 • (DUP) R3238190-6 08/02/17 23:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	357	1	0		15
Fluoride	ND	0.000	1	0		15
Sulfate	ND	0.000	1	0		15

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

(LCS) R3238190-2 08/02/17 07:28 • (LCSD) R3238190-3 08/02/17 07:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	40200	40200	101	101	80-120			0	15
Fluoride	8000	8150	8170	102	102	80-120			0	15
Sulfate	40000	40500	40600	101	101	80-120			0	15

L926204-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926204-01 08/02/17 20:58 • (MS) R3238190-5 08/02/17 21:30

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	7670	50400	85	1	80-120	
Fluoride	5000	150	4490	87	1	80-120	



L926204-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926204-01 08/02/17 20:58 • (MS) R3238190-5 08/02/17 21:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	ND	44800	86	1	80-120	

L926228-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926228-04 08/03/17 01:30 • (MS) R3238190-7 08/03/17 01:46 • (MSD) R3238190-8 08/03/17 02:34

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	8030	55900	56200	96	96	1	80-120			0	15
Fluoride	5000	388	5070	5090	94	94	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) R3238539-1 08/03/17 21:50

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

L926168-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926168-01 08/03/17 23:40 • (DUP) R3238539-4 08/03/17 23:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	19600	19700	1	0		15
Fluoride	590	576	1	2		15
Sulfate	ND	153	1	0		15

L926259-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926259-01 08/04/17 05:08 • (DUP) R3238539-6 08/04/17 05:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	3490	3540	1	1		15
Fluoride	ND	98.7	1	0		15
Sulfate	ND	2750	1	0		15

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

(LCS) R3238539-2 08/03/17 22:05 • (LCSD) R3238539-3 08/03/17 22:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	40200	40200	101	100	80-120			0	15
Fluoride	8000	8100	8100	101	101	80-120			0	15
Sulfate	40000	40300	40100	101	100	80-120			0	15

L926168-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926168-01 08/03/17 23:40 • (MS) R3238539-5 08/04/17 00:09

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Chloride	50000	19600	65100	91	1	80-120	
Fluoride	5000	590	5150	91	1	80-120	



L926168-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926168-01 08/03/17 23:40 • (MS) R3238539-5 08/04/17 00:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	ND	45100	90	1	80-120	

L926259-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926259-01 08/04/17 05:08 • (MS) R3238539-7 08/04/17 05:37 • (MSD) R3238539-8 08/04/17 05:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	3490	50100	50000	93	93	1	80-120			0	15
Fluoride	5000	ND	4820	4790	95	94	1	80-120			1	15
Sulfate	50000	ND	48900	48600	92	92	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) R3238677-1 08/03/17 09:27

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

L926330-11 Original Sample (OS) • Duplicate (DUP)

(OS) L926330-11 08/03/17 22:01 • (DUP) R3238677-4 08/03/17 22:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	32300	32000	1	1		15

L926380-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926380-01 08/04/17 00:24 • (DUP) R3238677-6 08/04/17 00:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	10900	10700	1	2		15

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

(LCS) R3238677-2 08/03/17 09:59 • (LCSD) R3238677-3 08/03/17 10:15

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	40500	40600	101	102	80-120			0	15

L926330-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L926330-11 08/03/17 22:01 • (MS) R3238677-5 08/03/17 22:33

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	32300	73900	83	1	80-120	

L926380-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926380-01 08/04/17 00:24 • (MS) R3238677-7 08/04/17 00:56 • (MSD) R3238677-8 08/04/17 01:12

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	10900	58900	58500	96	95	1	80-120			1	15



Method Blank (MB)

(MB) R3238771-1 08/04/17 10:30

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

L926415-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926415-01 08/04/17 21:07 • (DUP) R3238771-4 08/04/17 21:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	15400	14800	1	4		15

L926860-01 Original Sample (OS) • Duplicate (DUP)

(OS) L926860-01 08/04/17 23:14 • (DUP) R3238771-6 08/05/17 00:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	6960	7090	1	2		15

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

(LCS) R3238771-2 08/04/17 11:02 • (LCSD) R3238771-3 08/04/17 11:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	40300	40200	101	101	80-120			0	15

L926415-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L926415-01 08/04/17 21:07 • (MS) R3238771-5 08/04/17 21:39

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	15400	61100	91	1	80-120	

L926860-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926860-01 08/04/17 23:14 • (MS) R3238771-7 08/05/17 00:18 • (MSD) R3238771-8 08/05/17 00:34

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	6960	52900	53000	92	92	1	80-120			0	15



Method Blank (MB)

(MB) R3238248-1 08/03/17 07:38

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) R3238248-2 08/03/17 07:40 • (LCSD) R3238248-3 08/03/17 07:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	2.87	2.96	96	99	80-120			3	20

L926228-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926228-04 08/03/17 07:51 • (MS) R3238248-4 08/03/17 07:54 • (MSD) R3238248-5 08/03/17 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
Mercury	3.00	ND	2.91	2.93	97	98	1	75-125			1	20

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3239467-1 08/08/17 19:56

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) R3239467-2 08/08/17 19:58 • (LCSD) R3239467-3 08/08/17 20:01

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	1010	1030	101	103	80-120			1	20
Boron	1000	964	980	96	98	80-120			2	20
Calcium	10000	9820	9850	98	99	80-120			0	20
Chromium	1000	986	996	99	100	80-120			1	20
Cobalt	1000	1020	1030	102	103	80-120			1	20
Lithium	1000	989	998	99	100	80-120			1	20
Molybdenum	1000	999	1010	100	101	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926228-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926228-04 08/08/17 20:04 • (MS) R3239467-5 08/08/17 20:09 • (MSD) R3239467-6 08/08/17 20:11

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	12.4	1010	984	100	97	1	75-125			3	20
Boron	1000	6900	7750	7780	84	88	1	75-125			0	20
Calcium	10000	434000	435000	437000	12	26	1	75-125	V	V	0	20
Chromium	1000	ND	996	964	100	96	1	75-125			3	20
Cobalt	1000	42.9	1150	1120	111	107	1	75-125			3	20
Lithium	1000	121	1140	1120	102	100	1	75-125			2	20
Molybdenum	1000	ND	1010	986	101	99	1	75-125			3	20



Method Blank (MB)

(MB) R3240272-1 08/10/17 17:28

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) R3240272-2 08/10/17 17:32 • (LCSD) R3240272-3 08/10/17 17:35

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	53.5	51.7	107	103	80-120			3	20
Arsenic	50.0	49.8	48.9	100	98	80-120			2	20
Beryllium	50.0	48.2	48.1	96	96	80-120			0	20
Cadmium	50.0	51.4	51.0	103	102	80-120			1	20
Lead	50.0	50.3	49.7	101	99	80-120			1	20
Selenium	50.0	52.1	52.6	104	105	80-120			1	20
Thallium	50.0	50.4	50.5	101	101	80-120			0	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L926228-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L926228-04 08/10/17 17:39 • (MS) R3240272-5 08/10/17 17:46 • (MSD) R3240272-6 08/10/17 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
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	57.7	54.8	115	110	1	75-125			5	20
Arsenic	50.0	ND	49.4	48.8	97	96	1	75-125			1	20
Beryllium	50.0	ND	48.7	49.3	95	96	1	75-125			1	20
Cadmium	50.0	3.11	54.9	54.9	103	104	1	75-125			0	20
Lead	50.0	ND	50.7	50.1	100	99	1	75-125			1	20
Selenium	50.0	12.6	67.5	66.0	110	107	1	75-125			2	20
Thallium	50.0	ND	50.0	49.5	100	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
-----------	-------------

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		

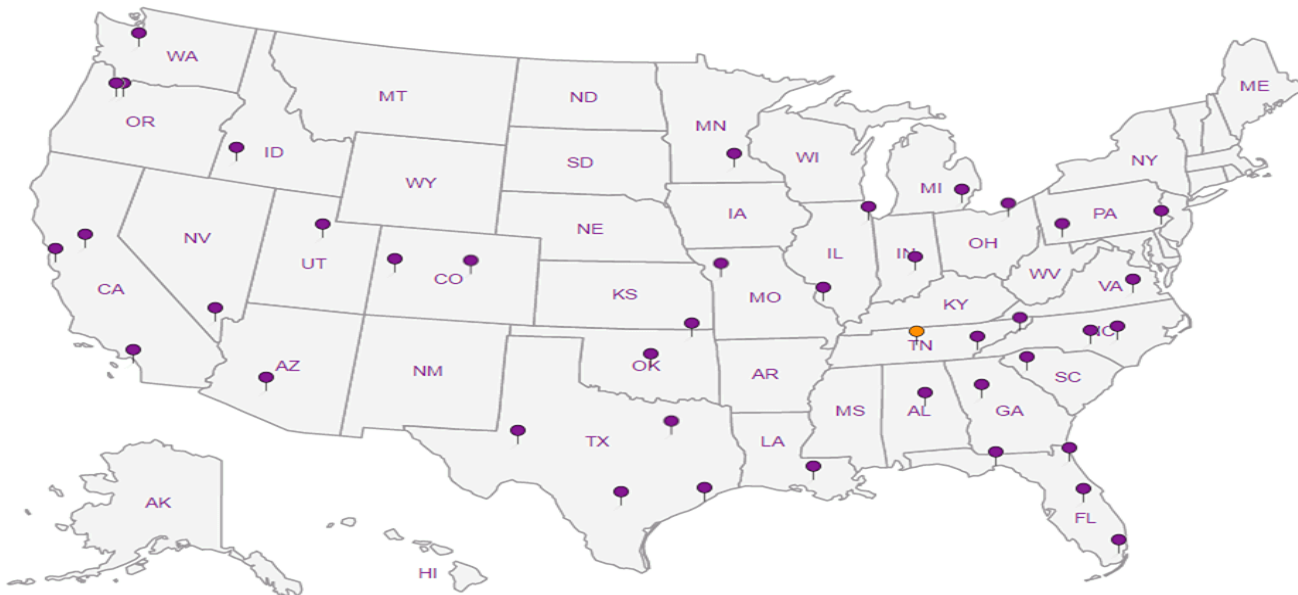
Third Party & Federal Accreditations

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.**



SCS Engineers - KS

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Overland Park, KS 66213

Billing Information:

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Overland Park, KS 66213

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Chk

Analysis / Container / Preservative



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



L# L926228
E230

Acctnum: **AQUAOPKS**
Template: **T115189**
Prelogin: **P610544**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Report to:
Jason Franks

Email To: jfranks@scsengineers.com;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project Description: **KCPL - Montrose Generating Station**

City/State Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Adam Parris

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

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

Date Results Needed

Standard

Immediately Packed on Ice N Y

No of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No of Cntrs	Anions - Cl ⁻ , F ⁻ , SO ₄ ²⁻	Metals 250mlHDPE-HNO ₃	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
506	Grab	GW	-	7/31/2017	1555	3	X	X	X		-01
601	↓	GW	-	↓	1635	3	X	X	X		02
602		GW	-		1010	3	X	X	X		03
603		GW	-		1030	3	X	X	X		04
604		GW	-		1120	3	X	X	X		05
605		GW	-		1205	3	X	X	X		06
701		GW	-		1510	3	X	X	X		07
702		GW	-		1545	3	X	X	X		08
703		GW	-		1225	3	X	X	X		09
704	↓	GW	-	↓	1340	3	X	X	X		10

* 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,LI,MO, 6020 Metals-SB,AS,BE,CD,PB,SE,TL, 7470
Metals-HG.

ESL KCO

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
 UPS FedEx Courier

Tracking # **7384 4200 1084**

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	
VQA Zero Headpace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Relinquished by: (Signature) *[Signature]*

Date: **8/1/2017**

Time: **1430**

Received by: (Signature) *[Signature]*

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Relinquished by: (Signature) *[Signature]*

Date: **8/1/17**

Time: **1700**

Received by: (Signature) *[Signature]*

Temp: **7.4° C**
Bottles Received: **1011 45**

If preservation required by Login: Date/Time

Relinquished by: (Signature) *[Signature]*

Date: **8/2/17**

Time: **0845**

Received by: (Signature) *[Signature]*

Date: **8/2/17**
Time: **0845**

Hold: _____ 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 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;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project
Description: **KCPL - Montrose Generating Station**

City/State
Collected:

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

Client Project #
27213167.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
Adam Parris

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

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

Date Results Needed

Standard

No.
of
Cntrs

Immediately
Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cl, F, SO4	Metals 250mlHDPE-HNO3	TDS 250mlHDPE-NoPres										
705	Grab	GW	-	7/31/2017	1325	3	X	X	X										
706	↓	GW	-	↓	1425	3	X	X	X										
DUPLICATE	↓	GW	-	↓	1035	3	X	X	X										
MS	↓	GW	-	↓	1040	3	X	X	X										
MSD	↓	GW	-	↓	1045	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, LI, MO, 6020 Metals-SB, AS, BE, CD, PB, SE, TL, 7470
Metals-HG.

MS / MSD From MW-603

ESC

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
 UPS FedEx Courier

Tracking # *7384 4200 1064*

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: *8/1/2017*

Time: *1430*

Received by: (Signature) *[Signature]*

Trip Blank Received: Yes No
HCL/MeOH
TBR

Relinquished by: (Signature) *[Signature]*

Date: *8/1/17*

Time: *1700*

Received by: (Signature) *[Signature]*

Temp: *7.4* °C Bottles Received: *45*

If preservation required by Login: Date/Time

Relinquished by: (Signature) *[Signature]*

Date: _____

Time: _____

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

Date: *8/2/17* Time: *0845*

Hold: _____ Condition: *NCF / OK*

Case Narrative

Lab No: 20170724

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 8/2/2017 2:24:31 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

L926660



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170724
 Date Reported : 08/29/17
 Date Received : 08/02/17
 Page Number : 2 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170724-01							
Client ID : 506							
Date Sampled : 7/31/2017 3:55:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.53 +/- 0.947	1.23	pCi/l				
Radium-226 SM 7500 Ra B M*	0.340 +/- 0.230	0.233	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	2.19 +/- 0.717	0.997	pCi/l		08/17/17	08/21/17	JR
Lab ID : 20170724-02							
Client ID : 601							
Date Sampled : 7/31/2017 4:35:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.08 +/- 0.909	1.19	pCi/l				
Radium-226 SM 7500 Ra B M*	0.271 +/- 0.219	0.217	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	0.808 +/- 0.690	0.974	pCi/l		08/17/17	08/21/17	JR
Lab ID : 20170724-03							
Client ID : 602							
Date Sampled : 7/31/2017 10:10:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.40 +/- 0.887	1.13	pCi/l				
Radium-226 SM 7500 Ra B M*	0.356 +/- 0.246	0.274	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	1.04 +/- 0.641	0.856	pCi/l		08/17/17	08/21/17	JR
Lab ID : 20170724-04							
Client ID : 603							
Date Sampled : 7/31/2017 10:30:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.53 +/- 0.727	0.880	pCi/l				
Radium-226 SM 7500 Ra B M*	0.265 +/- 0.198	0.201	pCi/l		08/11/17	08/15/17	RE
Radium-228 EPA 904*	2.26 +/- 0.529	0.679	pCi/l		08/17/17	08/21/17	JR

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170724
 Date Reported : 08/29/17
 Date Received : 08/02/17
 Page Number : 3 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170724-05							
Client ID : 603 MS							
Date Sampled : 7/31/2017 10:40:00 AM							
Matrix : NPW							

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	115		% Rec	08/11/17	08/15/17	RE
Radium-228	EPA 904*	73.9		% Rec	08/17/17	08/21/17	JR

Lab ID : 20170724-06
Client ID : 603 MSD
Date Sampled : 7/31/2017 10:45:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	6.2		RPD	08/11/17	08/15/17	RE
Radium-228	EPA 904*	0.1		RPD	08/17/17	08/23/17	JR

Lab ID : 20170724-07
Client ID : 604
Date Sampled : 7/31/2017 11:20:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.51 +/- 0.857	1.30	pCi/l			
Radium-226	SM 7500 Ra B M*	0.217 +/- 0.282	0.402	pCi/l	08/08/17	08/14/17	RE
Radium-228	EPA 904*	1.29 +/- 0.575	0.895	pCi/l	08/17/17	08/23/17	JR

Lab ID : 20170724-08
Client ID : 605
Date Sampled : 7/31/2017 12:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.257 +/- 0.771	1.10	pCi/l			
Radium-226	SM 7500 Ra B M*	0.257 +/- 0.230	0.280	pCi/l	08/08/17	08/14/17	RE
Radium-228	EPA 904*	-0.017 +/- 0.541	0.817	pCi/l	08/17/17	08/23/17	JR

Lab ID : 20170724-09
Client ID : 701
Date Sampled : 7/31/2017 3:10:00 PM
Matrix : NPW

*NELAC Certified Parameter

BDL = Below Detection Limit



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170724
 Date Reported : 08/29/17
 Date Received : 08/02/17
 Page Number : 4 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses							
Combined Radium	1.37 +/- 0.814	1.07	pCi/l				
Radium-226 SM 7500 Ra B M*	0.153 +/- 0.191	0.252	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	1.22 +/- 0.623	0.814	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-10
Client ID : 702
Date Sampled : 7/31/2017 3:45:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	4.08 +/- 0.854	1.14	pCi/l				
Radium-226 SM 7500 Ra B M*	0.214 +/- 0.267	0.370	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	3.87 +/- 0.587	0.769	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-11
Client ID : 703
Date Sampled : 7/31/2017 12:25:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.79 +/- 0.925	1.07	pCi/l				
Radium-226 SM 7500 Ra B M*	0.609 +/- 0.317	0.267	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	1.18 +/- 0.608	0.800	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-12
Client ID : 704
Date Sampled : 7/31/2017 1:40:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.99 +/- 1.00	1.17	pCi/l				
Radium-226 SM 7500 Ra B M*	1.03 +/- 0.411	0.262	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	0.958 +/- 0.588	0.903	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-13
Client ID : 705
Date Sampled : 7/31/2017 1:25:00 PM
Matrix : NPW

Radiochemical Analyses							
Combined Radium	1.11 +/- 0.876	1.09	pCi/l				



Client : SCS Engineers
 Client Project : 27213167.16
 Lab Number : 20170724
 Date Reported : 08/29/17
 Date Received : 08/02/17
 Page Number : 5 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226 SM 7500 Ra B M*	0.606 +/- 0.315	0.265	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	0.499 +/- 0.561	0.822	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-14
 Client ID : 706
 Date Sampled : 7/31/2017 2:25:00 PM
 Matrix : NPW

Radiochemical Analyses

Combined Radium	2.62 +/- 0.801	0.825	pCi/l				
Radium-226 SM 7500 Ra B M*	0.641 +/- 0.302	0.202	pCi/l		08/08/17	08/14/17	RE
Radium-228 EPA 904*	1.98 +/- 0.499	0.623	pCi/l		08/17/17	08/23/17	JR

Lab ID : 20170724-15
 Client ID : DUPLICATE
 Date Sampled : 7/31/2017 10:35:00 AM
 Matrix : NPW


Radiochemical Analyses

Combined Radium	2.02 +/- 0.721	0.989	pCi/l				
Radium-226 SM 7500 Ra B M*	0.136 +/- 0.153	0.202	pCi/l		08/11/17	08/15/17	RE
Radium-228 EPA 904*	1.88 +/- 0.568	0.787	pCi/l		08/17/17	08/23/17	JR

QC Report

Parameter	Blank	LCS %REC	LCS LCPD %REC	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.008	118.0		NC	0.726	115.0	122.0	6.2	R1266
Radium-226	0.004	119.0		NC	0.634	119.0	124.0	3.9	R1265
Radium-228	0.323	95.6		NC	0.378	73.9	74.0	0.1	R3992

Lab Approval:


 Ron Eidson
 Director of Radiochemistry

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: **KCPL - Montrose Generating Station**

Phone: 913-681-0030

Fax: 913-681-0012

Client Project #

27213167.16

City/State Collected:

AQUAOPKS-MONTROSE

Collected by (print):

Adam Harris

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

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

Sample ID

*Comp/Grab Matrix * Depth

Date

Time

No. of

Conrs

Time

506 Grab NPW - 7/31/2017 1555 2 X

601 NPW - 1635 2 X

602 NPW - 1010 2 X

603 NPW - 1030 2 X

604 NPW - 1120 2 X

605 NPW - 1205 2 X

701 NPW - 1510 2 X

702 NPW - 1545 2 X

703 NPW - 1225 2 X

704 NPW - 1340 2 X

Remarks

Sample # (lab only)

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

L #

92660

Table #

Acctnum: AQUAOPKS

Template: T115191

Prelogin: P610549

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks

Sample # (lab only)

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

ESCKC

Samples returned via:

___ UPS ___ FedEx ___ Courier

Relinquished by: (Signature)

Date: 8/1/2017

Relinquished by: (Signature)

Date: 8/1/17

Relinquished by: (Signature)

Date:

Received by: (Signature)

Time: 1430

Received by: (Signature)

Time: 1700

Received for lab by: (Signature)

Time:

pH _____ Temp _____

Flow _____ Other _____

Trip Blank Received: Yes / No

HCL / MeOH

TBR

Bottles Received: 30

Temp: 30 °C

Date: 8/2/17

Time: 1424

Sample Receipt Checklist

COC Seal Present/Intact: ___ NP ___ Y ___ N
COC Signed/Accurate: ___ NP ___ Y ___ N
Bottles arrive intact: ___ NP ___ Y ___ N
Correct bottles used: ___ NP ___ Y ___ N
Sufficient volume sent: ___ NP ___ 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

20170724

SAMPLE LOGIN

Date Received: 8/2/2017 2:24:31

Lab Number: 20170724

Due: 8/30/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170724-01 B	506	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-01 A	506	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-02 A	601	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-02 B	601	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-03 A	602	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-03 B	602	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-04 A	603	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-04 B	603	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-05 A	603 MS	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-05 B	603 MS	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-06 A	603 MSD	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-06 B	603 MSD	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-07 B	604	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-07 A	604	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170724-08 B	605	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-08 A	605	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-09 A	701	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-09 B	701	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-10 A	702	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-10 B	702	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-11 A	703	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-11 B	703	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-12 A	704	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-12 B	704	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-13 A	705	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-13 B	705	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-14 A	706	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-14 B	706	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170724-15 B	DUPLICATE	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170724-15 A	DUPLICATE	NPW	07/31/17	Plastic	1 L	HNO ₃ , pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken Temperature: Amb Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete AM

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:

Jared Morrison
December 20, 2022

ATTACHMENT 1-9
October 2017 Background Sampling Event Laboratory Report

October 16, 2017

SCS Engineers - KS

Sample Delivery Group: L941164
Samples Received: 10/04/2017
Project Number: 27213168.17
Description: KCPL - Montrose Generating Station

Report To: Jason 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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SAMPLE SUMMARY



601 L941164-01 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 11:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:39	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:12	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 17:35	JPD

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Cp

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602 L941164-02 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 11:45
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:42	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:15	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 17:38	JPD

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Sr

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Qc

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Gl

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Al

603 L941164-03 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 12:15
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:44	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:19	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 17:42	JPD

9
Sc

604 L941164-04 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 13:25
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:46	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:28	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 17:53	JPD

605 L941164-05 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 14:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:48	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:32	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 17:56	JPD

701 L941164-06 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 16:20
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:51	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:35	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:00	JPD

SAMPLE SUMMARY



702 L941164-07 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 15:40
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:53	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:39	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:03	JPD

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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

703 L941164-08 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 14:45
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 17:55	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:42	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:07	JPD

704 L941164-09 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 15:30
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 18:04	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:46	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:10	JPD

705 L941164-10 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 16:20
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 18:06	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:49	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:14	JPD

706 L941164-11 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 17:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028283	1	10/05/17 20:52	10/09/17 18:09	EL
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:52	CCE
Metals (ICPMS) by Method 6020	WG1029554	1	10/10/17 15:05	10/13/17 18:17	JPD

506 L941164-12 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 12:20
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 12:59	CCE

DUP L941164-13 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 12:25
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1029492	1	10/10/17 11:24	10/11/17 13:56	CCE



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.

Jason Romer
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	10/09/2017 17:39	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.9		5.00	1	10/11/2017 13:12	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:12	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:12	WG1029492
Lithium	324		15.0	1	10/11/2017 13:12	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:12	WG1029492

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	10/13/2017 17:35	WG1029554
Arsenic	ND		2.00	1	10/13/2017 17:35	WG1029554
Beryllium	ND		2.00	1	10/13/2017 17:35	WG1029554
Cadmium	1.40		1.00	1	10/13/2017 17:35	WG1029554
Lead	ND		2.00	1	10/13/2017 17:35	WG1029554
Selenium	5.34		2.00	1	10/13/2017 17:35	WG1029554
Thallium	ND		2.00	1	10/13/2017 17:35	WG1029554

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	10/09/2017 17:42	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	21.6		5.00	1	10/11/2017 13:15	WG1029492
Chromium	10.8		10.0	1	10/11/2017 13:15	WG1029492
Cobalt	111		10.0	1	10/11/2017 13:15	WG1029492
Lithium	99.8		15.0	1	10/11/2017 13:15	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:15	WG1029492

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	10/13/2017 17:38	WG1029554
Arsenic	3.97		2.00	1	10/13/2017 17:38	WG1029554
Beryllium	ND		2.00	1	10/13/2017 17:38	WG1029554
Cadmium	ND		1.00	1	10/13/2017 17:38	WG1029554
Lead	ND		2.00	1	10/13/2017 17:38	WG1029554
Selenium	ND		2.00	1	10/13/2017 17:38	WG1029554
Thallium	ND		2.00	1	10/13/2017 17:38	WG1029554

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	10/09/2017 17:44	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.0		5.00	1	10/11/2017 13:19	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:19	WG1029492
Cobalt	39.1		10.0	1	10/11/2017 13:19	WG1029492
Lithium	157		15.0	1	10/11/2017 13:19	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:19	WG1029492

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	10/13/2017 17:42	WG1029554
Arsenic	ND		2.00	1	10/13/2017 17:42	WG1029554
Beryllium	ND		2.00	1	10/13/2017 17:42	WG1029554
Cadmium	3.72		1.00	1	10/13/2017 17:42	WG1029554
Lead	ND		2.00	1	10/13/2017 17:42	WG1029554
Selenium	17.8		2.00	1	10/13/2017 17:42	WG1029554
Thallium	ND		2.00	1	10/13/2017 17:42	WG1029554

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	10/09/2017 17:46	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	12.2		5.00	1	10/11/2017 13:28	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:28	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:28	WG1029492
Lithium	109		15.0	1	10/11/2017 13:28	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:28	WG1029492

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	10/13/2017 17:53	WG1029554
Arsenic	ND		2.00	1	10/13/2017 17:53	WG1029554
Beryllium	ND		2.00	1	10/13/2017 17:53	WG1029554
Cadmium	1.01		1.00	1	10/13/2017 17:53	WG1029554
Lead	ND		2.00	1	10/13/2017 17:53	WG1029554
Selenium	ND		2.00	1	10/13/2017 17:53	WG1029554
Thallium	ND		2.00	1	10/13/2017 17:53	WG1029554

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	10/09/2017 17:48	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	8.93		5.00	1	10/11/2017 13:32	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:32	WG1029492
Cobalt	44.5		10.0	1	10/11/2017 13:32	WG1029492
Lithium	140		15.0	1	10/11/2017 13:32	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:32	WG1029492

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	10/13/2017 17:56	WG1029554
Arsenic	ND		2.00	1	10/13/2017 17:56	WG1029554
Beryllium	ND		2.00	1	10/13/2017 17:56	WG1029554
Cadmium	1.66		1.00	1	10/13/2017 17:56	WG1029554
Lead	ND		2.00	1	10/13/2017 17:56	WG1029554
Selenium	ND		2.00	1	10/13/2017 17:56	WG1029554
Thallium	ND		2.00	1	10/13/2017 17:56	WG1029554

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	10/09/2017 17:51	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.98		5.00	1	10/11/2017 13:35	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:35	WG1029492
Cobalt	37.0		10.0	1	10/11/2017 13:35	WG1029492
Lithium	245		15.0	1	10/11/2017 13:35	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:35	WG1029492

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	10/13/2017 18:00	WG1029554
Arsenic	2.07		2.00	1	10/13/2017 18:00	WG1029554
Beryllium	2.02		2.00	1	10/13/2017 18:00	WG1029554
Cadmium	5.23		1.00	1	10/13/2017 18:00	WG1029554
Lead	ND		2.00	1	10/13/2017 18:00	WG1029554
Selenium	9.22		2.00	1	10/13/2017 18:00	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:00	WG1029554

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	10/09/2017 17:53	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.98		5.00	1	10/11/2017 13:39	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:39	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:39	WG1029492
Lithium	53.6		15.0	1	10/11/2017 13:39	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:39	WG1029492

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	10/13/2017 18:03	WG1029554
Arsenic	ND		2.00	1	10/13/2017 18:03	WG1029554
Beryllium	ND		2.00	1	10/13/2017 18:03	WG1029554
Cadmium	ND		1.00	1	10/13/2017 18:03	WG1029554
Lead	ND		2.00	1	10/13/2017 18:03	WG1029554
Selenium	ND		2.00	1	10/13/2017 18:03	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:03	WG1029554

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	10/09/2017 17:55	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	39.4		5.00	1	10/11/2017 13:42	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:42	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:42	WG1029492
Lithium	60.7		15.0	1	10/11/2017 13:42	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:42	WG1029492

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	10/13/2017 18:07	WG1029554
Arsenic	ND		2.00	1	10/13/2017 18:07	WG1029554
Beryllium	ND		2.00	1	10/13/2017 18:07	WG1029554
Cadmium	ND		1.00	1	10/13/2017 18:07	WG1029554
Lead	ND		2.00	1	10/13/2017 18:07	WG1029554
Selenium	ND		2.00	1	10/13/2017 18:07	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:07	WG1029554

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	10/09/2017 18:04	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	63.7		5.00	1	10/11/2017 13:46	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:46	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:46	WG1029492
Lithium	64.6		15.0	1	10/11/2017 13:46	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:46	WG1029492

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	10/13/2017 18:10	WG1029554
Arsenic	13.0		2.00	1	10/13/2017 18:10	WG1029554
Beryllium	ND		2.00	1	10/13/2017 18:10	WG1029554
Cadmium	ND		1.00	1	10/13/2017 18:10	WG1029554
Lead	ND		2.00	1	10/13/2017 18:10	WG1029554
Selenium	ND		2.00	1	10/13/2017 18:10	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:10	WG1029554

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	10/09/2017 18:06	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	62.4		5.00	1	10/11/2017 13:49	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:49	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:49	WG1029492
Lithium	60.1		15.0	1	10/11/2017 13:49	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:49	WG1029492

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	10/13/2017 18:14	WG1029554
Arsenic	5.49		2.00	1	10/13/2017 18:14	WG1029554
Beryllium	ND		2.00	1	10/13/2017 18:14	WG1029554
Cadmium	ND		1.00	1	10/13/2017 18:14	WG1029554
Lead	ND		2.00	1	10/13/2017 18:14	WG1029554
Selenium	ND		2.00	1	10/13/2017 18:14	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:14	WG1029554

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	10/09/2017 18:09	WG1028283

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	37.2		5.00	1	10/11/2017 13:52	WG1029492
Chromium	ND		10.0	1	10/11/2017 13:52	WG1029492
Cobalt	ND		10.0	1	10/11/2017 13:52	WG1029492
Lithium	56.5		15.0	1	10/11/2017 13:52	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:52	WG1029492

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	10/13/2017 18:17	WG1029554
Arsenic	15.5		2.00	1	10/13/2017 18:17	WG1029554
Beryllium	ND		2.00	1	10/13/2017 18:17	WG1029554
Cadmium	ND		1.00	1	10/13/2017 18:17	WG1029554
Lead	ND		2.00	1	10/13/2017 18:17	WG1029554
Selenium	ND		2.00	1	10/13/2017 18:17	WG1029554
Thallium	ND		2.00	1	10/13/2017 18:17	WG1029554

7 Gl

8 Al

9 Sc



Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	245		15.0	1	10/11/2017 12:59	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 12:59	WG1029492

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	256		15.0	1	10/11/2017 13:56	WG1029492
Molybdenum	ND		5.00	1	10/11/2017 13:56	WG1029492

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255981-1 10/09/17 17:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
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) R3255981-2 10/09/17 17:21 • (LCSD) R3255981-3 10/09/17 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 %
Mercury	3.00	2.89	2.94	96	98	80-120			2	20

L941259-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941259-20 10/09/17 17:26 • (MS) R3255981-4 10/09/17 17:28 • (MSD) R3255981-5 10/09/17 17:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	2.87	2.90	96	97	1	75-125			1	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3256611-1 10/11/17 12:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
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) R3256611-2 10/11/17 12:52 • (LCSD) R3256611-3 10/11/17 12:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Barium	1000	1090	1060	109	106	80-120			3	20
Chromium	1000	1010	989	101	99	80-120			2	20
Cobalt	1000	1060	1040	106	104	80-120			2	20
Lithium	1000	1030	1010	103	101	80-120			2	20
Molybdenum	1000	1090	1070	109	107	80-120			2	20

⁶Qc

⁷Gl

⁸Al

⁹Sc

L941164-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941164-12 10/11/17 12:59 • (MS) R3256611-5 10/11/17 13:05 • (MSD) R3256611-6 10/11/17 13:08

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Barium	1000	9.19	1080	1060	107	105	1	75-125			2	20
Chromium	1000	ND	998	985	100	98	1	75-125			1	20
Cobalt	1000	ND	1080	1070	108	107	1	75-125			1	20
Lithium	1000	245	1320	1330	108	108	1	75-125			1	20
Molybdenum	1000	ND	1090	1070	109	107	1	75-125			2	20



Method Blank (MB)

(MB) R3257409-1 10/13/17 17:10

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) R3257409-2 10/13/17 17:14 • (LCSD) R3257409-3 10/13/17 17:17

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	50.3	50.1	101	100	80-120			0	20
Arsenic	50.0	49.1	49.3	98	99	80-120			0	20
Beryllium	50.0	40.7	41.4	81	83	80-120			2	20
Cadmium	50.0	52.0	51.3	104	103	80-120			1	20
Lead	50.0	49.7	49.1	99	98	80-120			1	20
Selenium	50.0	52.7	51.5	105	103	80-120			2	20
Thallium	50.0	49.1	48.6	98	97	80-120			1	20

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L941477-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941477-04 10/13/17 17:21 • (MS) R3257409-5 10/13/17 17:28 • (MSD) R3257409-6 10/13/17 17:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	50.8	52.7	102	105	1	75-125			4	20
Arsenic	50.0	ND	48.0	48.6	96	97	1	75-125			1	20
Beryllium	50.0	ND	42.2	43.3	84	87	1	75-125			3	20
Cadmium	50.0	ND	51.4	52.6	103	105	1	75-125			2	20
Lead	50.0	ND	49.3	50.0	99	100	1	75-125			1	20
Selenium	50.0	4.90	56.3	57.9	103	106	1	75-125			3	20
Thallium	50.0	ND	49.5	49.7	99	99	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

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		

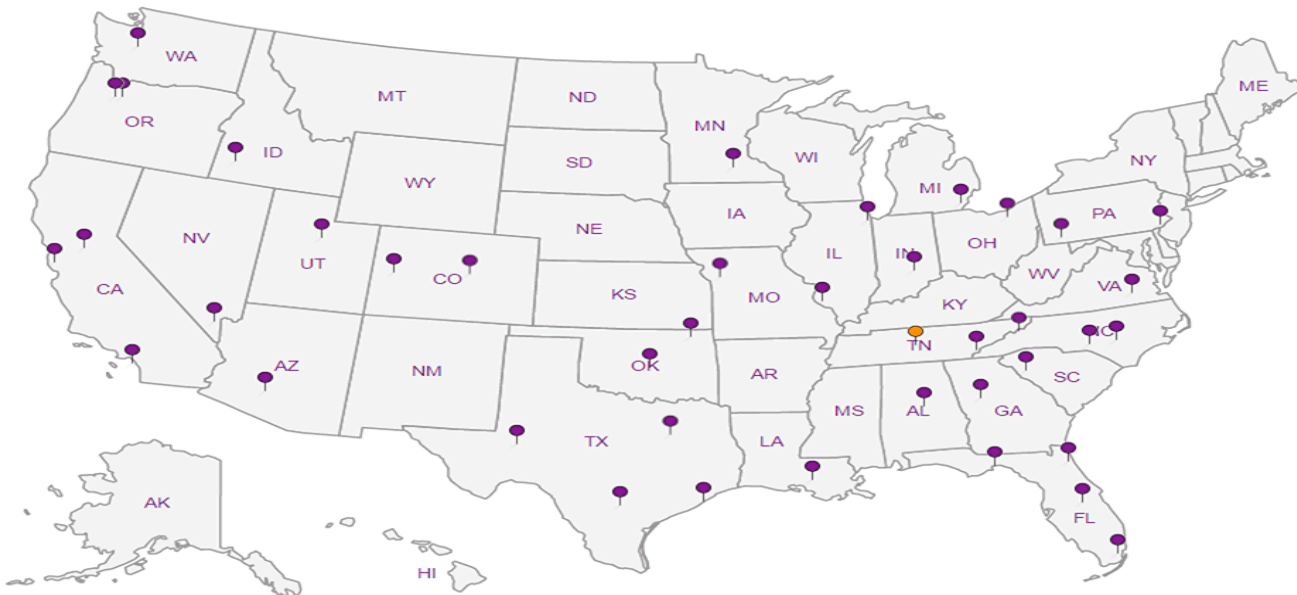
Third Party & Federal Accreditations

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

Analysis / Container / Preservative

Chain of Custody Page 1 of 3



YOUR LAB OF CHOICE
 12055 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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.10

Lab Project #

Collected by (print):
Jason R. Franks

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
STD
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
601	Grab	GW	NA	10/2/17	1220	1 X
602	Grab	GW	NA		1145	1 X
603	Grab	GW	NA		1215	1 X
604	Grab	GW	NA		1325	1 X
605	Grab	GW	NA		1410	1 X
701	Grab	GW	NA		1620	1 X
702	Grab	GW	NA		1540	1 X
703	Grab	GW	NA		1445	1 X
704	Grab	Other	NA		1530	1 X
705	Grab	Other	NA		1620	1 X

*CCR App IV Metals 250mIHDPE-HNO3

L# **941164**
F246

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:

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 _____

ESC KC

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature)
[Signature]
 Relinquished by: (Signature)
 Relinquished by: (Signature)

Date: **10/3/17**
 Time: **1037**

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

Samples returned via: UPS
 FedEx Courier _____
 Temp: **0.9** °C Bottles Received: **15**
 Date: **10-4-17** Time: **0914**

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



Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):

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

Immediately Packed on Ice N ___ Y

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
706	Grab	GW	NA	10/2/17	1710	1	*CCR App IV Metals 250mlHDPE-HNO3	Rem./Contaminant
								Sample # (lab only)
								4

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

ESCKC

pH _____ Temp _____

Remarks: ***CCR App IV Metals (6010): Ba,Cr,Co,Li,Mo - (6020): Pb,As,Be,Cd,Sb,Se,Tl - (7470): Hg**

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date: **10/3/17**

Time: **1037**

Received by: (Signature)

Samples returned via: UPS FedEx Courier _____

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **0.9** °C Bottles Received: **15**

COC Seal Intact: ___ Y ___ N NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **10-4-17** Time: **0914**

pH Checked: NCF:

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 1



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



Report to:
Jason Franks

Email To: jfranks@scsengineers.com;
jay.martin@kcpl.com; jrockhold@scsengineers.com

Project
Description: **KCPL - Montrose Generating Station**

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

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

Client Project #
27213168.16

Lab Project #
AQUAOPKS-MONTROSE

Collected by (print):
JASON R. FRANKS

Site/Facility ID #

P.O. #

Collected by (signature):
Jason R. Franks

Rush? (Lab MUST Be Notified)

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

Quote #

Date Results Needed

Immediately
Packed on Ice N Y

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
506	Grab	GW	-	10/2/17	1220	1	X
DUP	↓	GW	-		1225	1	X
506 MS/MSD	↓	GW	-		1230	1	X
506 MSD		Grab	-		1235	1	X

Li, Mo - 6010 250m HDPE-HNO3

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

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking #

ESCKC

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
 CDC Seal Present/Intact: Y N
 CDC 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)

Date: **10/3/17** Time: **1037**

Received by: (Signature) *[Signature]*

Trip Blank Received: Yes/No
HCL / MeOH
TBR

Relinquished by: (Signature)

Date: _____ Time: _____

Received by: (Signature)

Temp: **0.9** °C Bottles Received: **15**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: _____ Time: _____

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

Date: **10-4-17** Time: **0914**

Hold: _____ Condition: NCF / DK

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>AGWADRES</u>	SDG#	<u>94/164</u>	
Cooler Received/Opened On: <u>10/4/17</u>	Temperature:	<u>0.9°C</u>	
Received by : David Riggini			
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?			

October 12, 2017

SCS Engineers - KS

Sample Delivery Group: L941128
Samples Received: 10/04/2017
Project Number: 27213168.17
Description: KCPL - Montrose 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



506 L941128-01 GW

Collected by Jason R. Franks	Collected date/time 10/02/17 12:20	Received date/time 10/04/17 09:14
---------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028281	1	10/05/17 20:51	10/09/17 16:17	EL
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 15:46	TRB
Metals (ICPMS) by Method 6020	WG1029444	1	10/10/17 17:38	10/11/17 14:14	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

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Sc

DUPLICATE L941128-02 GW

Collected by Jason R. Franks	Collected date/time 10/02/17 12:20	Received date/time 10/04/17 09:14
---------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1028281	1	10/05/17 20:51	10/09/17 16:40	EL
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:31	TRB
Metals (ICPMS) by Method 6020	WG1029444	1	10/10/17 17:38	10/11/17 15:30	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 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	10/09/2017 16:17	WG1028281

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	9.47		5.00	1	10/11/2017 15:46	WG1029442
Chromium	ND		10.0	1	10/11/2017 15:46	WG1029442
Cobalt	ND		10.0	1	10/11/2017 15:46	WG1029442

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/11/2017 14:14	WG1029444
Arsenic	ND		2.00	1	10/11/2017 14:14	WG1029444
Beryllium	ND		2.00	1	10/11/2017 14:14	WG1029444
Cadmium	ND		1.00	1	10/11/2017 14:14	WG1029444
Lead	ND		2.00	1	10/11/2017 14:14	WG1029444
Selenium	6.14		2.00	1	10/11/2017 14:14	WG1029444
Thallium	ND		2.00	1	10/11/2017 14:14	WG1029444

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/02/17 12:20

L941128

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/09/2017 16:40	WG1028281

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Barium	11.0		5.00	1	10/11/2017 16:31	WG1029442
Chromium	ND		10.0	1	10/11/2017 16:31	WG1029442
Cobalt	ND		10.0	1	10/11/2017 16:31	WG1029442

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Antimony	ND		2.00	1	10/11/2017 15:30	WG1029444
Arsenic	ND		2.00	1	10/11/2017 15:30	WG1029444
Beryllium	ND		2.00	1	10/11/2017 15:30	WG1029444
Cadmium	ND		1.00	1	10/11/2017 15:30	WG1029444
Lead	ND		2.00	1	10/11/2017 15:30	WG1029444
Selenium	6.17		2.00	1	10/11/2017 15:30	WG1029444
Thallium	ND		2.00	1	10/11/2017 15:30	WG1029444

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255980-1 10/09/17 16:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.0490	0.200

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) R3255980-2 10/09/17 16:13 • (LCSD) R3255980-3 10/09/17 16:15

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	2.96	2.93	99	98	80-120			1	20

L941128-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941128-01 10/09/17 16:17 • (MS) R3255980-4 10/09/17 16:20 • (MSD) R3255980-5 10/09/17 16:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	3.05	2.88	102	96	1	75-125			6	20



Method Blank (MB)

(MB) R3256701-1 10/11/17 15:31

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

¹ Cp

² Tc

³ Ss

⁴ Cn

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

(LCS) R3256701-2 10/11/17 15:35 • (LCSD) R3256701-3 10/11/17 15:43

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	%	%	%			%	%
Barium	1000	1070	1090	107	109	80-120			2	20
Chromium	1000	1040	1060	104	106	80-120			1	20
Cobalt	1000	1080	1100	108	110	80-120			2	20

⁵ Sr

⁶ Qc

⁷ Gl

L941128-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941128-01 10/11/17 15:46 • (MS) R3256701-5 10/11/17 15:51 • (MSD) R3256701-6 10/11/17 15:54

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	9.47	1070	1070	106	106	1	75-125			0	20
Chromium	1000	ND	1030	1020	103	102	1	75-125			1	20
Cobalt	1000	ND	1140	1140	114	114	1	75-125			0	20

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3256573-1 10/11/17 14:03

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	0.241	J	0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R3256573-2 10/11/17 14:07 • (LCSD) R3256573-3 10/11/17 14:10

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	%	%	%			%	%
Antimony	50.0	49.5	49.7	99	99	80-120			0	20
Arsenic	50.0	49.3	48.8	99	98	80-120			1	20
Beryllium	50.0	44.6	43.6	89	87	80-120			2	20
Cadmium	50.0	52.6	52.0	105	104	80-120			1	20
Lead	50.0	49.1	49.4	98	99	80-120			0	20
Selenium	50.0	50.9	49.9	102	100	80-120			2	20
Thallium	50.0	48.4	48.1	97	96	80-120			1	20

L941128-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941128-01 10/11/17 14:14 • (MS) R3256573-5 10/11/17 14:21 • (MSD) R3256573-6 10/11/17 14:24

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	51.0	51.4	102	103	1	75-125			1	20
Arsenic	50.0	ND	48.6	48.6	96	96	1	75-125			0	20
Beryllium	50.0	ND	42.1	43.0	84	86	1	75-125			2	20
Cadmium	50.0	ND	52.4	53.1	105	106	1	75-125			1	20
Lead	50.0	ND	49.0	49.2	97	98	1	75-125			1	20
Selenium	50.0	6.14	58.9	60.4	106	108	1	75-125			2	20
Thallium	50.0	ND	47.1	48.0	94	96	1	75-125			2	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

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



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		

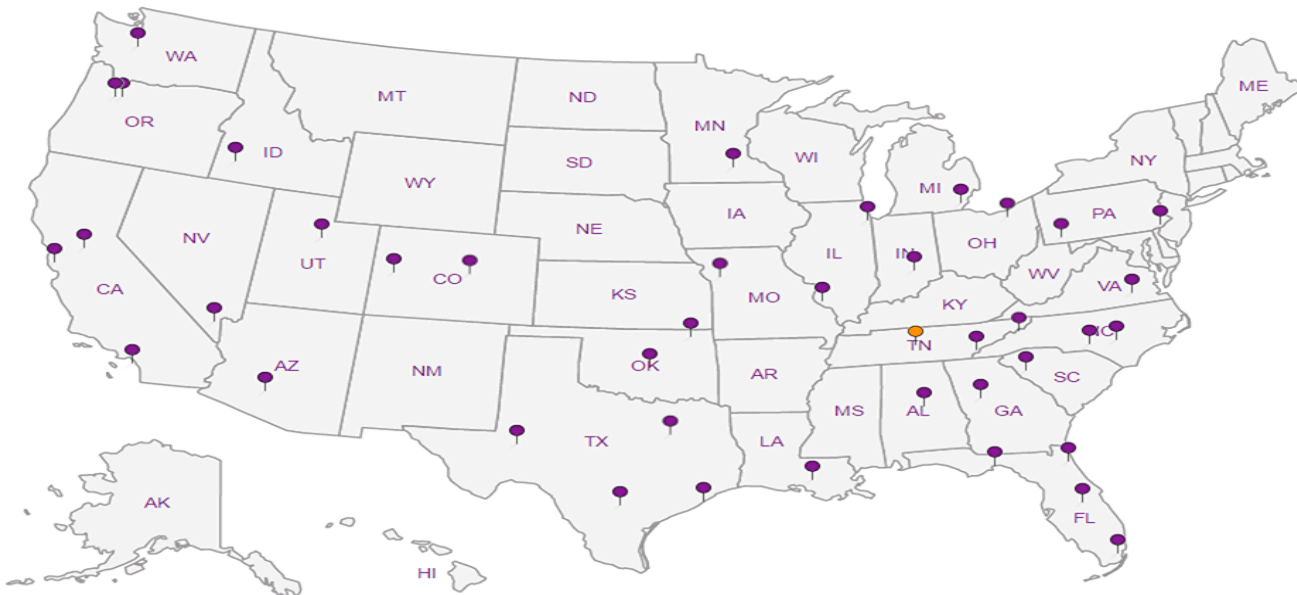
Third Party & Federal Accreditations

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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.17

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
 No. of Cntrs

Total Metals* 250mlHDPE-HN03

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



YOUR LAB OF CHOICE

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



971128
F247

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:
 Item / Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs												
506	Grab	GW	NA	10/2/17	1220	1	X											
Duplicate	Grab	GW	NA		1225	1	X											
MS 506	Grab	GW	NA		1230	1	X											
MSD 500	Grab	GW	NA		1235	1	X											

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

Remarks: ***Metals (6010): Ba,Cr,Co - (6020): Pb,As,Be,Cd,Sb,Se,Tl - (7470): Hg**

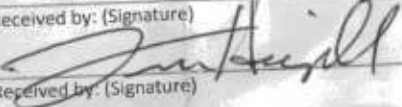
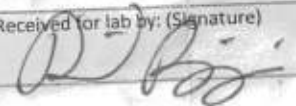
ESCKC

pH _____ Temp _____
 Flow _____ Other _____

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

Relinquished by: (Signature)  Date: 10/3/17 Time: 1037
 Relinquished by: (Signature) _____ Date: _____ Time: _____
 Relinquished by: (Signature) _____ Date: _____ Time: _____

Samples returned via: UPS
 FedEx Courier _____
 Temp: 0.9 °C Bottles Received: 4
 Date: 10-4-17 Time: 0914

Received by: (Signature) 
 Received by: (Signature) 
 Received for lab by: (Signature) _____

ESC LAB SCIENCES Cooler Receipt Form

Client: <i>AQUA PICS</i>	SDG#	<i>94/128</i>	
Cooler Received/Opened On: <i>10/17</i>	Temperature:	<i>0.9°C</i>	
Received by : David Riggan			
Signature: <i>[Signature]</i>			
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: 20170938

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 10/4/2017 1:21:33 PM. 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

L941850



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170938
 Date Reported : 11/20/17
 Date Received : 10/04/17
 Page Number : 2 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170938-01							
Client ID : 506							
Date Sampled : 10/2/2017 12:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.26 +/- 0.757	1.04	pCi/l				
Radium-226 SM 7500 Ra B M*	0.054 +/- 0.102	0.177	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	1.21 +/- 0.655	0.859	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-02							
Client ID : 506 MS							
Date Sampled : 10/2/2017 12:30:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Radium-226 SM 7500 Ra B M*	114		% Rec		10/16/17	10/17/17	RT
Radium-228 EPA 904*	76.2		% Rec		10/31/17	11/14/17	JR
Lab ID : 20170938-03							
Client ID : 506 MSD							
Date Sampled : 10/2/2017 12:35:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Radium-226 SM 7500 Ra B M*	0.2		RPD		10/16/17	10/17/17	RT
Radium-228 EPA 904*	3.7		RPD		10/31/17	11/14/17	JR
Lab ID : 20170938-04							
Client ID : 601							
Date Sampled : 10/2/2017 11:10:00 AM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.78 +/- 0.740	0.985	pCi/l				
Radium-226 SM 7500 Ra B M*	0.122 +/- 0.180	0.270	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	2.66 +/- 0.560	0.715	pCi/l		10/31/17	11/14/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170938
 Date Reported : 11/20/17
 Date Received : 10/04/17
 Page Number : 3 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170938-05							
Client ID : 602							
Date Sampled : 10/2/2017 11:45:00 AM							
Matrix : NPW							

Radiochemical Analyses

Combined Radium		2.83 +/- 0.805	1.09	pCi/l			
Radium-226	SM 7500 Ra B M*	0.318 +/- 0.210	0.194	pCi/l	10/16/17	10/17/17	RT
Radium-228	EPA 904*	2.51 +/- 0.595	0.900	pCi/l	10/31/17	11/14/17	JR

Lab ID : 20170938-06
Client ID : 603
Date Sampled : 10/2/2017 12:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.58 +/- 0.799	1.24	pCi/l			
Radium-226	SM 7500 Ra B M*	0.374 +/- 0.281	0.327	pCi/l	10/16/17	10/17/17	RT
Radium-228	EPA 904*	1.21 +/- 0.518	0.917	pCi/l	10/31/17	11/14/17	JR

Lab ID : 20170938-07
Client ID : 604
Date Sampled : 10/2/2017 1:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.42 +/- 0.648	1.19	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.034 +/- 0.117	0.278	pCi/l	10/16/17	10/17/17	RT
Radium-228	EPA 904*	1.42 +/- 0.531	0.914	pCi/l	10/31/17	11/14/17	JR

Lab ID : 20170938-08
Client ID : 605
Date Sampled : 10/2/2017 2:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.34 +/- 0.891	1.16	pCi/l			
Radium-226	SM 7500 Ra B M*	0.212 +/- 0.243	0.331	pCi/l	10/16/17	10/17/17	RT
Radium-228	EPA 904*	1.13 +/- 0.648	0.833	pCi/l	10/31/17	11/14/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170938
 Date Reported : 11/20/17
 Date Received : 10/04/17
 Page Number : 4 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170938-09							
Client ID : 701							
Date Sampled : 10/2/2017 4:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	2.96 +/- 0.842	1.33	pCi/l				
Radium-226 SM 7500 Ra B M*	0.264 +/- 0.257	0.331	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	2.70 +/- 0.585	1.00	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-10							
Client ID : 702							
Date Sampled : 10/2/2017 3:40:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.56 +/- 0.857	1.20	pCi/l				
Radium-226 SM 7500 Ra B M*	0.276 +/- 0.206	0.191	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	1.28 +/- 0.651	1.01	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-11							
Client ID : 703							
Date Sampled : 10/2/2017 2:45:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.51 +/- 0.857	1.01	pCi/l				
Radium-226 SM 7500 Ra B M*	0.613 +/- 0.303	0.239	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	0.899 +/- 0.554	0.771	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-12							
Client ID : 704							
Date Sampled : 10/2/2017 3:30:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.924 +/- 1.04	1.25	pCi/l				
Radium-226 SM 7500 Ra B M*	0.924 +/- 0.350	0.177	pCi/l		10/16/17	10/17/17	RT
Radium-228 EPA 904*	-1.31 +/- 0.686	1.07	pCi/l		10/31/17	11/14/17	JR



Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170938
 Date Reported : 11/20/17
 Date Received : 10/04/17
 Page Number : 5 of 6

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170938-13							
Client ID : 705							
Date Sampled : 10/2/2017 4:20:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	4.67 +/- 0.996	0.973	pCi/l				
Radium-226 SM 7500 Ra B M*	1.49 +/- 0.403	0.171	pCi/l		10/17/17	11/02/17	RE
Radium-228 EPA 904*	3.18 +/- 0.593	0.802	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-14							
Client ID : 706							
Date Sampled : 10/2/2017 5:10:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	0.672 +/- 0.949	1.26	pCi/l				
Radium-226 SM 7500 Ra B M*	0.672 +/- 0.330	0.305	pCi/l		10/17/17	11/02/17	RE
Radium-228 EPA 904*	-0.164 +/- 0.619	0.954	pCi/l		10/31/17	11/14/17	JR
Lab ID : 20170938-15							
Client ID : DUPLICATE							
Date Sampled : 10/2/2017 12:25:00 PM							
Matrix : NPW							
Radiochemical Analyses							
Combined Radium	1.80 +/- 0.724	1.08	pCi/l				
Radium-226 SM 7500 Ra B M*	0.159 +/- 0.187	0.258	pCi/l		10/17/17	11/02/17	RE
Radium-228 EPA 904*	1.64 +/- 0.537	0.825	pCi/l		10/31/17	11/14/17	JR



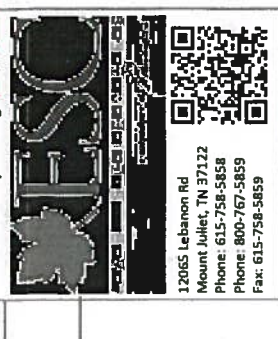
Client : SCS Engineers
 Client Project : 27213167.17
 Lab Number : 20170938
 Date Reported : 11/20/17
 Date Received : 10/04/17
 Page Number : 6 of 6

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	-0.014	119.0			NC	0.782	114.0	114.0	0.2	R1288
Radium-228	-0.062	97.0			NC	0.419	76.2	72.8	3.7	R4013

Lab Approval:

Ron Eidson
 Director of Radiochemistry



L# 941850
Table #
Acctnum: AQUAOPKS
Template: T115191
Prelogin: P619889
TSR: 206 - Jeff Carr
PB:
Shipped Via:
Remarks
Sample # (lab only)

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

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

Email To: jfranks@sccengineers.com;
jay.martin@kcpl.com; jrockhold@sccengineers.com

City/State Collected: **Montrose, MO**
Lab Project #
AQUAOPKS-MONTROSE
P.O. #
Quote #
Date Results Needed

506	Grab	NPW	-	10/2/17	1820	2
601		NPW	-		1110	2
602		NPW	-		1445	2
603		NPW	-		1215	2
604		NPW	-		1325	2
605		NPW	-		1410	2
701		NPW	-		1070	2
702		NPW	-		1540	2
703		NPW	-		1445	2
704		NPW	-		1530	2

Report to:
Jason Franks

Project Description: **KCPL - Montrose Generating Station**
Client Project #
27213167.1A
Site/Facility ID #
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 ___

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 Cntrs
-----------	-----------	----------	-------	------	------	--------------

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 ___

Analysis / Container / Preservative

PH ___ Temp ___
Flow ___ Other ___

Trip Blank Received: Yes / No
HCL / MeOH
TBR
Temp: **30** °C Bottles Received:
Date: **10/4/17** Time: **1321**

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

Samples returned via: ___ UPS ___ FedEx ___ Courier ___
Tracking #
Received by: (Signature) *[Signature]*
Received by: (Signature) *[Signature]*
Received for lab by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*
Relinquished by: (Signature) *[Signature]*
Relinquished by: (Signature) *[Signature]*

Date: **10/3/17** Time: **1037**
Date: Time:
Date: Time:



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

Report to:
Jason Franks

Project Description: KCPL - Montrose Generating Station

Client Project #
27213167.16

Site/Facility ID #

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 ___

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

Lab Project #
AQUAOPKS-MONTROSE

P.O. #

Quote #

Date Results Needed

Nc. of Cntrs

Comp/Grab Matrix * Depth Date Time

Sample ID

Remarks

Sample # (lab only)

Shipped Via:

Acctnum: AQUAOPKS

Template: T115191

Prelogin: P619889

TSR: 206 - Jeff Carr

PB:

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

L# 941850

Table #

Acctnum: AQUAOPKS

Template: T115191

Prelogin: P619889

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks

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)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

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

Email To: jfranks@sccsengineers.com;
jay.martin@kcpl.com; jrockthold@sccsengineers.com

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

Lab Project #
AQUAOPKS-MONTROSE

P.O. #

Quote #

Date Results Needed

Nc. of Cntrs

Comp/Grab Matrix * Depth Date Time

Sample ID

Remarks

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)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

Sample # (lab only)

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date: 10/2/17

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

Date:

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

Samples returned via:
___ UPS ___ FedEx ___ Courier ___

Tracking #

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

pH _____ Temp _____

Flow _____ Other _____

Trip Blank Received: Yes / No

HCL / MeOH

TBR

Temp: 30

Bottles Received:

Date: 10/4/17

Time: 1321

Time: 20170931

Hold:

Condition:

NCF / OK

Sample Receipt Checklist

COC Seal Present/intact: ___ NP ___ Y ___ N

COC Signed/Accurate: ___ Y ___ N

Bottles arrive intact: ___ Y ___ N

Correct bottles used: ___ Y ___ N

Sufficient volume sent: ___ Y ___ N

If Applicable

VOA Zero Headspace: ___ Y ___ N

Preservation Correct/Checked: ___ Y ___ N

If preservation required by Login: Date/Time

SAMPLE LOGIN

Date Received: 10/4/2017 1:21:33

Lab Number: 20170938

Due: 11/1/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170938-01 B	506	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-01 A	506	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-02 A	506 MS	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-02 B	506 MS	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-03 A	506 MSD	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-03 B	506 MSD	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-04 A	601	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-04 B	601	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-05 A	602	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-05 B	602	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-06 A	603	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-06 B	603	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-07 B	604	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-07 A	604	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170938-08 B	605	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-08 A	605	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-09 A	701	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-09 B	701	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-10 A	702	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-10 B	702	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-11 A	703	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-11 B	703	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-12 A	704	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-12 B	704	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-13 A	705	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-13 B	705	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-14 A	706	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-14 B	706	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170938-15 B	DUPLICATE	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
20170938-15 A	DUPLICATE	NPW	10/02/17	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken

Temperature: Ab C

Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0

Chain of Custody Record

Labels in Tact

Radiation Survey Complete GA

Anomalies

Inspected By: [Signature] DATE 10/19/17

QA or Designee Review: [Signature] DATE

Sample Custodian Review: [Signature] DATE 10/19/17

Project Notes:

Jared Morrison
December 20, 2022

ATTACHMENT 1-10
October 2017 Detection Sampling Event Laboratory Report

SCS Engineers - KS

Sample Delivery Group: L941116
Samples Received: 10/04/2017
Project Number: 27213168.17
Description: KCPL - Montrose 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.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	²Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³Ss
506 L941116-01	5	
DUPLICATE L941116-02	6	⁴Cn
Qc: Quality Control Summary	7	⁵Sr
Gravimetric Analysis by Method 2540 C-2011	7	
Wet Chemistry by Method 9056A	8	⁶Qc
Metals (ICP) by Method 6010B	12	
Gl: Glossary of Terms	13	⁷Gl
Al: Accreditations & Locations	14	⁸Al
Sc: Sample Chain of Custody	15	⁹Sc

SAMPLE SUMMARY



506 L941116-01 GW

Collected by Jason R. Franks	Collected date/time 10/02/17 12:20	Received date/time 10/04/17 09:14
---------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028249	1	10/06/17 08:52	10/06/17 09:25	MMF
Wet Chemistry by Method 9056A	WG1029743	1	10/10/17 12:24	10/10/17 12:24	DR
Wet Chemistry by Method 9056A	WG1029743	20	10/10/17 13:42	10/10/17 13:42	DR
Metals (ICP) by Method 6010B	WG1028846	1	10/09/17 10:40	10/10/17 09:43	TRB

1
Cp

2
Tc

3
Ss

4
Cn

DUPLICATE L941116-02 GW

Collected by Jason R. Franks	Collected date/time 10/02/17 12:25	Received date/time 10/04/17 09:14
---------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028249	1	10/06/17 08:52	10/06/17 09:25	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 14:12	10/10/17 14:12	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 14:26	10/10/17 14:26	MAJ
Metals (ICP) by Method 6010B	WG1028846	1	10/09/17 10:40	10/10/17 17:54	TRB

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 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 date / time	Batch
Dissolved Solids	2670000		10000	1	10/06/2017 09:25	WG1028249

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	74400		1000	1	10/10/2017 12:24	WG1029743
Fluoride	ND		100	1	10/10/2017 12:24	WG1029743
Sulfate	1680000		100000	20	10/10/2017 13:42	WG1029743

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/10/2017 09:43	WG1028846
Calcium	341000	<u>O1</u>	1000	1	10/10/2017 09:43	WG1028846

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/02/17 12:25

L941116

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Dissolved Solids	2600000		10000	1	10/06/2017 09:25	WG1028249

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	72800		1000	1	10/10/2017 14:12	WG1029537
Fluoride	ND		100	1	10/10/2017 14:12	WG1029537
Sulfate	1770000		250000	50	10/10/2017 14:26	WG1029537

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	10/10/2017 17:54	WG1028846
Calcium	351000		1000	1	10/10/2017 17:54	WG1028846

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255836-1 10/06/17 09:25

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

L940842-01 Original Sample (OS) • Duplicate (DUP)

(OS) L940842-01 10/06/17 09:25 • (DUP) R3255836-4 10/06/17 09:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	199000	199000	1	0.000		5

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

(LCS) R3255836-2 10/06/17 09:25 • (LCSD) R3255836-3 10/06/17 09:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8620000	8630000	98.0	98.1	85.0-115			0.116	5

7 Gl

8 Al

9 Sc



[L941116-02](#)

Method Blank (MB)

(MB) R3256473-1 10/10/17 06:39

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

L941118-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941118-01 10/10/17 14:41 • (DUP) R3256473-4 10/10/17 14:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	2360	1560	1	41	P1	15
Fluoride	515	553	1	7		15

L941130-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941130-04 10/11/17 00:23 • (DUP) R3256473-7 10/11/17 01:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	10800	11700	1	8		15
Fluoride	377	448	1	17	P1	15

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

(LCS) R3256473-2 10/10/17 06:54 • (LCSD) R3256473-3 10/10/17 07:09

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	7910	7920	99	99	80-120			0	15
Sulfate	40000	39500	39500	99	99	80-120			0	15

L941118-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941118-01 10/10/17 14:41 • (MS) R3256473-5 10/10/17 15:11 • (MSD) R3256473-6 10/10/17 15:26

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	2360	52400	52500	100	100	1	80-120			0	15
Fluoride	5000	515	5610	5660	102	103	1	80-120			1	15



L941130-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L941130-04 10/11/17 00:23 • (MS) R3256473-8 10/11/17 01:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	10800	60800	100	1	80-120	
Fluoride	5000	377	5220	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) R3256334-1 10/10/17 06:36

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

L941116-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941116-01 10/10/17 12:24 • (DUP) R3256334-4 10/10/17 12:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	74400	72900	1	2		15
Fluoride	ND	101	1	3		15

L941403-03 Original Sample (OS) • Duplicate (DUP)

(OS) L941403-03 10/10/17 17:55 • (DUP) R3256334-7 10/10/17 18:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	9910	11100	1	11		15
Fluoride	20.8	21.3	1	2	J	15

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

(LCS) R3256334-2 10/10/17 06:49 • (LCSD) R3256334-3 10/10/17 07:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39000	39200	98	98	80-120			0	15
Fluoride	8000	7860	7900	98	99	80-120			0	15
Sulfate	40000	39200	39300	98	98	80-120			0	15

L941116-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941116-01 10/10/17 12:24 • (MS) R3256334-5 10/10/17 12:50 • (MSD) R3256334-6 10/10/17 13:03

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	74400	119000	120000	90	90	1	80-120	E	E	0	15
Fluoride	5000	ND	4560	5040	89	99	1	80-120			10	15



L941403-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L941403-03 10/10/17 17:55 • (MS) R3256334-8 10/10/17 18:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	9910	60900	102	1	80-120	
Fluoride	5000	20.8	4860	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) R3256119-1 10/10/17 09:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Boron	U		12.6	200
Calcium	93.8	J	46.3	1000

1 Cp

2 Tc

3 Ss

4 Cn

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

(LCS) R3256119-2 10/10/17 09:38 • (LCSD) R3256119-3 10/10/17 09:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Boron	1000	1000	989	100	99	80-120			1	20
Calcium	10000	10100	10100	101	101	80-120			0	20

5 Sr

6 Qc

L941116-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941116-01 10/10/17 09:43 • (MS) R3256119-5 10/10/17 09:48 • (MSD) R3256119-6 10/10/17 09:50

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	1170	1160	102	101	1	75-125			1	20
Calcium	10000	341000	351000	352000	98	101	1	75-125			0	20

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

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
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.
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		

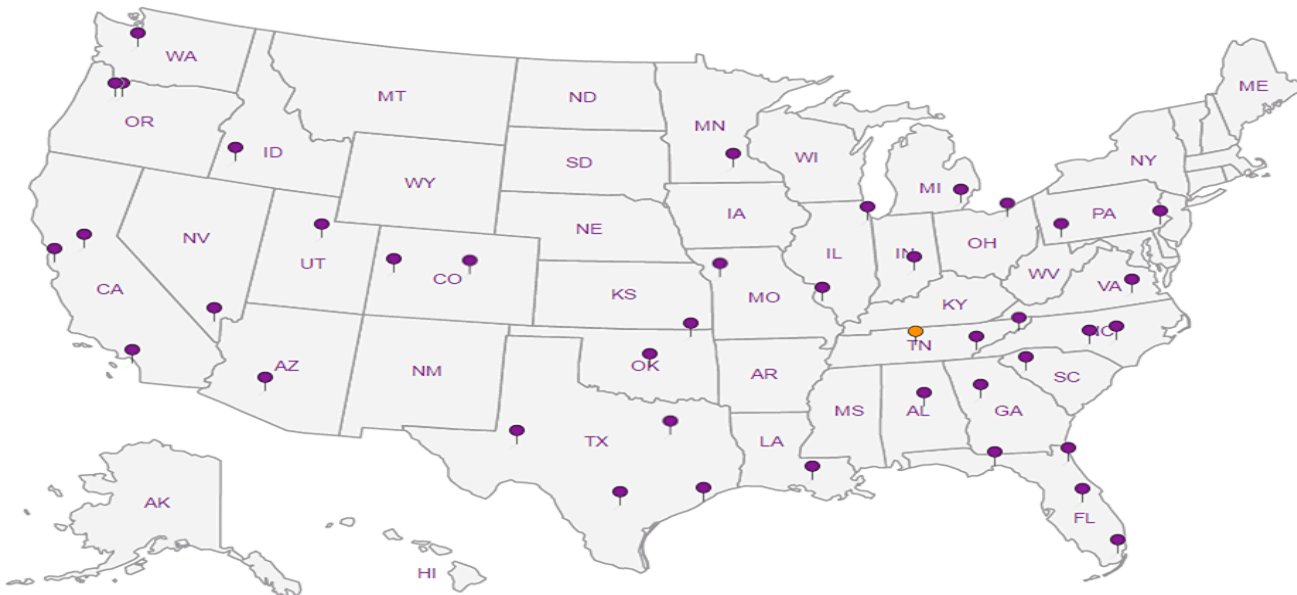
Third Party & Federal Accreditations

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.**



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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]
 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

No. of Cntrs

Analysis / Container / Preservative

Anions(Cl-, F-, SO4) 125mlHDPE-NoPres

Total Metals* 250mlHDPE-HN03

TDS 250mlHDPE-NoPres

Chain of Custody Page 1 of 1



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# **54116**
F245

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

Shipped Via:

Item/Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions(Cl-, F-, SO4) 125mlHDPE-NoPres	Total Metals* 250mlHDPE-HN03	TDS 250mlHDPE-NoPres										
506	Grab	GW	NA	10/2/17	1220	3	X	X	X										01
Duplicate	Grab	GW	NA	↓	1225	3	X	X	X										02
MS	Grab	GW	NA		1230	3	X	X	X										01
MSD	Grab	GW	NA		1235	3	X	X	X										01

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

ESKC

pH _____ Temp _____
 Flow _____ Other _____

Remarks: ***Metals (6010): B and Ca**

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

Relinquished by: (Signature) *[Signature]*
 Date: 10/3/17

Date: 10/3/17 Time: 1037

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

Samples returned via: UPS
 FedEx Courier _____
 Temp: 0.9 °C Bottles Received: 12

Relinquished by: (Signature) _____
 Date: _____

Date: _____ Time: _____

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

Date: 10-4-17 Time: 0914

ESC LAB SCIENCES Cooler Receipt Form

Client: <i>AGWAOPKS</i>	SDG#	<i>94116</i>	
Cooler Received/Opened On: <i>10/4/17</i>	Temperature:	<i>0.9°C</i>	
Received by : David Riggin			
Signature: <i>[Signature]</i>			
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?		/	

October 12, 2017

SCS Engineers - KS

Sample Delivery Group: L941121
Samples Received: 10/04/2017
Project Number: 27213168.17
Description: KCPL - Montrose 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.



Cp: Cover Page	1	¹Cp
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Ss: Sample Summary	3	²Tc
Cn: Case Narrative	5	
Sr: Sample Results	6	³Ss
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602 L941121-02	7	⁴Cn
603 L941121-03	8	⁵Sr
604 L941121-04	9	
605 L941121-05	10	⁶Qc
701 L941121-06	11	
702 L941121-07	12	⁷Gl
703 L941121-08	13	⁸Al
704 L941121-09	14	
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SAMPLE SUMMARY



601 L941121-01 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 11:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 16:26	10/10/17 16:26	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 16:41	10/10/17 16:41	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 15:56	TRB

1
Cp

2
Tc

3
Ss

4
Cn

602 L941121-02 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 11:45
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 16:56	10/10/17 16:56	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 17:10	10/10/17 17:10	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 15:59	TRB

5
Sr

6
Qc

7
Gl

603 L941121-03 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 12:15
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 17:25	10/10/17 17:25	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 17:40	10/10/17 17:40	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:02	TRB

8
Al

9
Sc

604 L941121-04 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 13:25
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 17:55	10/10/17 17:55	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 18:10	10/10/17 18:10	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:09	TRB

605 L941121-05 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 14:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 18:25	10/10/17 18:25	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 19:10	10/10/17 19:10	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:12	TRB

701 L941121-06 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 16:20
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 19:25	10/10/17 19:25	MAJ
Wet Chemistry by Method 9056A	WG1029537	50	10/10/17 19:40	10/10/17 19:40	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:15	TRB

SAMPLE SUMMARY



702 L941121-07 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 15:40
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 19:55	10/10/17 19:55	MAJ
Wet Chemistry by Method 9056A	WG1029537	5	10/10/17 20:09	10/10/17 20:09	MAJ
Wet Chemistry by Method 9056A	WG1030137	20	10/11/17 10:34	10/11/17 10:34	KCF
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:18	TRB

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

703 L941121-08 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 14:45
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028255	1	10/06/17 16:44	10/06/17 17:22	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 20:24	10/10/17 20:24	MAJ
Wet Chemistry by Method 9056A	WG1029537	20	10/10/17 20:39	10/10/17 20:39	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:20	TRB

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

704 L941121-09 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 15:30
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028259	1	10/06/17 17:25	10/06/17 17:53	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 20:54	10/10/17 20:54	MAJ
Wet Chemistry by Method 9056A	WG1029537	20	10/10/17 21:09	10/10/17 21:09	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:23	TRB

- 9
Sc

705 L941121-10 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 16:20
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028259	1	10/06/17 17:25	10/06/17 17:53	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 21:24	10/10/17 21:24	MAJ
Wet Chemistry by Method 9056A	WG1029537	5	10/10/17 22:09	10/10/17 22:09	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:26	TRB

706 L941121-11 GW

Collected by
Jason R. Franks
Collected date/time
10/02/17 17:10
Received date/time
10/04/17 09:14

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1028259	1	10/06/17 17:25	10/06/17 17:53	MMF
Wet Chemistry by Method 9056A	WG1029537	1	10/10/17 22:24	10/10/17 22:24	MAJ
Wet Chemistry by Method 9056A	WG1029537	20	10/10/17 22:39	10/10/17 22:39	MAJ
Metals (ICP) by Method 6010B	WG1029442	1	10/09/17 18:19	10/11/17 16:28	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	4790000		10000	1	10/06/2017 17:22	WG1028255

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	52400		1000	1	10/10/2017 16:26	WG1029537
Fluoride	488		100	1	10/10/2017 16:26	WG1029537
Sulfate	3150000		250000	50	10/10/2017 16:41	WG1029537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	ND		200	1	10/11/2017 15:56	WG1029442
Calcium	508000		1000	1	10/11/2017 15:56	WG1029442

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	2100000		10000	1	10/06/2017 17:22	WG1028255

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	6060		1000	1	10/10/2017 16:56	WG1029537
Fluoride	108		100	1	10/10/2017 16:56	WG1029537
Sulfate	1340000		250000	50	10/10/2017 17:10	WG1029537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	4940		200	1	10/11/2017 15:59	WG1029442
Calcium	375000		1000	1	10/11/2017 15:59	WG1029442

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	3190000		10000	1	10/06/2017 17:22	WG1028255

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	8370		1000	1	10/10/2017 17:25	WG1029537
Fluoride	666		100	1	10/10/2017 17:25	WG1029537
Sulfate	2370000		250000	50	10/10/2017 17:40	WG1029537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	6500		200	1	10/11/2017 16:02	WG1029442
Calcium	476000		1000	1	10/11/2017 16:02	WG1029442

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	2570000		10000	1	10/06/2017 17:22	WG1028255

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	12100		1000	1	10/10/2017 17:55	WG1029537
Fluoride	542		100	1	10/10/2017 17:55	WG1029537
Sulfate	1710000		250000	50	10/10/2017 18:10	WG1029537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	5140		200	1	10/11/2017 16:09	WG1029442
Calcium	442000		1000	1	10/11/2017 16:09	WG1029442

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	2900000		10000	1	10/06/2017 17:22	WG1028255

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	48700		1000	1	10/10/2017 18:25	WG1029537
Fluoride	184		100	1	10/10/2017 18:25	WG1029537
Sulfate	1920000		250000	50	10/10/2017 19:10	WG1029537

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Boron	1870		200	1	10/11/2017 16:12	WG1029442
Calcium	447000		1000	1	10/11/2017 16:12	WG1029442

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	3330000		10000	1	10/06/2017 17:22	WG1028255

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	507000		50000	50	10/10/2017 19:40	WG1029537
Fluoride	1170		100	1	10/10/2017 19:25	WG1029537
Sulfate	1970000		250000	50	10/10/2017 19:40	WG1029537

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/11/2017 16:15	WG1029442
Calcium	469000		1000	1	10/11/2017 16:15	WG1029442

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	3110000		10000	1	10/06/2017 17:22	WG1028255

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	276000		5000	5	10/10/2017 20:09	WG1029537
Fluoride	267		100	1	10/10/2017 19:55	WG1029537
Sulfate	1750000		100000	20	10/11/2017 10:34	WG1030137

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/11/2017 16:18	WG1029442
Calcium	522000		1000	1	10/11/2017 16:18	WG1029442

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	1560000		10000	1	10/06/2017 17:22	WG1028255

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	23000		1000	1	10/10/2017 20:24	WG1029537
Fluoride	117		100	1	10/10/2017 20:24	WG1029537
Sulfate	1090000		100000	20	10/10/2017 20:39	WG1029537

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	ND		200	1	10/11/2017 16:20	WG1029442
Calcium	261000		1000	1	10/11/2017 16:20	WG1029442

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	1120000		10000	1	10/06/2017 17:53	WG1028259

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	4500		1000	1	10/10/2017 20:54	WG1029537
Fluoride	104		100	1	10/10/2017 20:54	WG1029537
Sulfate	739000		100000	20	10/10/2017 21:09	WG1029537

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	10/11/2017 16:23	WG1029442
Calcium	173000		1000	1	10/11/2017 16:23	WG1029442

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	901000		10000	1	10/06/2017 17:53	WG1028259

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	14700		1000	1	10/10/2017 21:24	WG1029537
Fluoride	169		100	1	10/10/2017 21:24	WG1029537
Sulfate	500000		25000	5	10/10/2017 22:09	WG1029537

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	10/11/2017 16:26	WG1029442
Calcium	127000		1000	1	10/11/2017 16:26	WG1029442

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	1770000		10000	1	10/06/2017 17:53	WG1028259

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Chloride	30000		1000	1	10/10/2017 22:24	WG1029537
Fluoride	165		100	1	10/10/2017 22:24	WG1029537
Sulfate	1110000		100000	20	10/10/2017 22:39	WG1029537

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	224		200	1	10/11/2017 16:28	WG1029442
Calcium	316000		1000	1	10/11/2017 16:28	WG1029442

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255839-1 10/06/17 17:22

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

L941121-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941121-08 10/06/17 17:22 • (DUP) R3255839-4 10/06/17 17:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1560000	1590000	1	1.90		5

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

(LCS) R3255839-2 10/06/17 17:22 • (LCSD) R3255839-3 10/06/17 17:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8580000	8380000	97.5	95.2	85.0-115			2.36	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255833-1 10/06/17 17:53

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

1 Cp

2 Tc

3 Ss

4 Cn

L941130-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941130-08 10/06/17 17:53 • (DUP) R3255833-4 10/06/17 17:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	3100000	3100000	1	0.000		5

5 Sr

6 Qc

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

(LCS) R3255833-2 10/06/17 17:53 • (LCSD) R3255833-3 10/06/17 17:53

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Dissolved Solids	8800000	8520000	8520000	96.8	96.8	85.0-115			0.000	5

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3256473-1 10/10/17 06:39

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

L941118-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941118-01 10/10/17 14:41 • (DUP) R3256473-4 10/10/17 14:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	2360	1560	1	41	P1	15
Fluoride	515	553	1	7		15

L941130-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941130-04 10/11/17 00:23 • (DUP) R3256473-7 10/11/17 01:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	10800	11700	1	8		15
Fluoride	377	448	1	17	P1	15

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

(LCS) R3256473-2 10/10/17 06:54 • (LCSD) R3256473-3 10/10/17 07:09

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	7920	99	99	80-120			0	15
Sulfate	40000	39500	39500	99	99	80-120			0	15

L941118-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941118-01 10/10/17 14:41 • (MS) R3256473-5 10/10/17 15:11 • (MSD) R3256473-6 10/10/17 15:26

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	2360	52400	52500	100	100	1	80-120			0	15
Fluoride	5000	515	5610	5660	102	103	1	80-120			1	15



L941130-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L941130-04 10/11/17 00:23 • (MS) R3256473-8 10/11/17 01:23

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50000	10800	60800	100	1	80-120	
Fluoride	5000	377	5220	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) R3256551-1 10/11/17 05:54

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

L942542-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942542-01 10/11/17 10:47 • (DUP) R3256551-4 10/11/17 11:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Sulfate	52000	51900	1	0		15

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

(LCS) R3256551-2 10/11/17 06:07 • (LCSD) R3256551-3 10/11/17 06:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Sulfate	40000	39100	39100	98	98	80-120			0	15

L942542-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L942542-01 10/11/17 10:47 • (MS) R3256551-5 10/11/17 11:12

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Sulfate	50000	52000	83400	63	1	80-120	J6



Method Blank (MB)

(MB) R3256701-1 10/11/17 15:31

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

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

(LCS) R3256701-2 10/11/17 15:35 • (LCSD) R3256701-3 10/11/17 15:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Boron	1000	1080	1100	108	110	80-120			2	20
Calcium	10000	10600	10800	106	108	80-120			2	20

5 Sr

6 Qc

L941128-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941128-01 10/11/17 15:46 • (MS) R3256701-5 10/11/17 15:51 • (MSD) R3256701-6 10/11/17 15:54

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	1220	1240	109	111	1	75-125			2	20
Calcium	10000	365000	366000	371000	11	62	1	75-125	V	V	1	20

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

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
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.



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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		

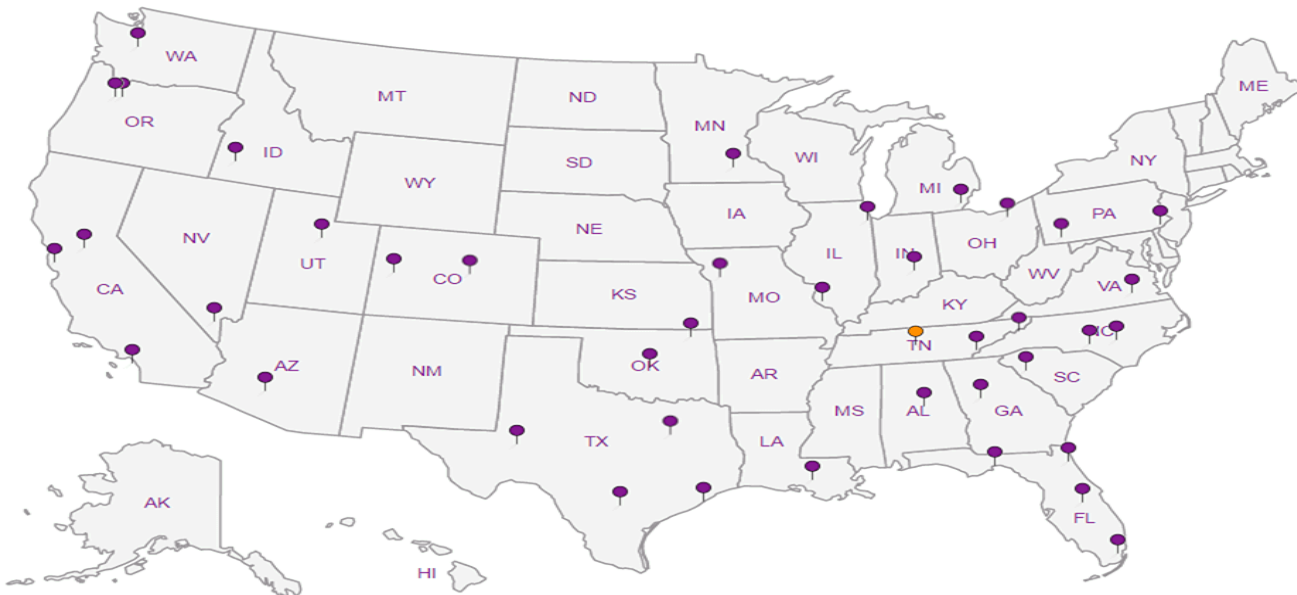
Third Party & Federal Accreditations

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

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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 Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

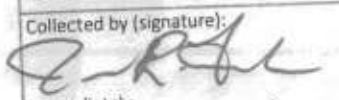
Client Project #
27213168.17

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 Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	CCR Anions (Cl-, F-, SO4)	CCR App III Metals	TDS	Analysis / Container / Preservative
601	Grab	GW	NA	10/2/17	1110	3	X	X	X	
602	Grab	GW	NA		1145	3	X	X	X	
603	Grab	GW	NA		1215	3	X	X	X	
604	Grab	GW	NA		1325	3	X	X	X	
605	Grab	GW	NA		1410	3	X	X	X	
701	Grab	GW	NA		1620	3	X	X	X	
702	Grab	GW	NA		1540	3	X	X	X	
703	Grab	GW	NA		1445	3	X	X	X	
704	Grab	Other	NA		1530	3	X	X	X	
705	Grab	Other	NA		1620	3	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



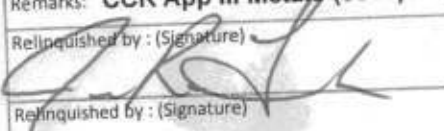
L# **94121**
F243

Acctnum: **AQUAOPKS**
 Template:
 Prelogin:
 TSR: **206-Jeff Carr**
 PB:
 Shipped Via:

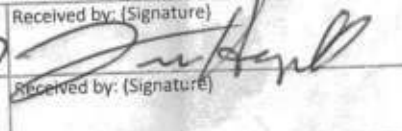
* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks: ***CCR App III Metals (6010): B and Ca**

ESCCKC

Relinquished by: (Signature)


Date: **10/3/17**
 Time: **1037**

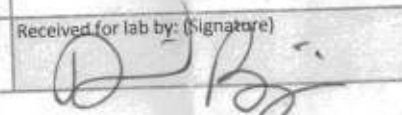
Received by: (Signature)


Samples returned via: UPS
 FedEx Courier _____
 Temp: **09** °C
 Bottles Received: **33**

Hold #
 Condition: (lab use only) **u**
 CDC Seal Intact: Y N NA
 pH Checked: NCF:

Relinquished by: (Signature)

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



Date: **10-4-17**
 Time: **0914**

ESC LAB SCIENCES Cooler Receipt Form

Client: <i>AGW ADPICS</i>	SDG#	<i>74112 941121</i>
Cooler Received/Opened On: <i>10/4/17</i>	Temperature:	<i>0.9°C</i>
Received by : David Riggini		
Signature: <i>[Signature]</i>		

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 20, 2017

SCS Engineers - KS

Sample Delivery Group: L951910
Samples Received: 11/17/2017
Project Number: 27213168.17
Description: KCPL - Montrose 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.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
506 L951910-01	5	⁶Qc
Qc: Quality Control Summary	6	⁷Gl
Wet Chemistry by Method 9056A	6	⁸Al
Metals (ICP) by Method 6010B	7	⁹Sc
Gl: Glossary of Terms	8	
Al: Accreditations & Locations	9	
Sc: Sample Chain of Custody	10	

SAMPLE SUMMARY



506 L951910-01 GW

Collected by Jason R. Franks
 Collected date/time 11/15/17 11:45
 Received date/time 11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 22:17	11/17/17 22:17	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 17:00	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, 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

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



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	77700		1000	1	11/17/2017 22:17	WG1044167

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	354000		1000	1	11/18/2017 17:00	WG1044332

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3266744-1 11/17/17 17:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	U		51.9	1000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

L951903-02 Original Sample (OS) • Duplicate (DUP)

(OS) L951903-02 11/17/17 18:27 • (DUP) R3266744-4 11/17/17 18:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	4930	4140	1	17	P1	15

⁶ Qc

L951912-01 Original Sample (OS) • Duplicate (DUP)

(OS) L951912-01 11/17/17 22:32 • (DUP) R3266744-7 11/17/17 23:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	4630	3860	1	18	P1	15

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3266744-2 11/17/17 17:15 • (LCSD) R3266744-3 11/17/17 17:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39400	39500	99	99	80-120			0	15

L951903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951903-02 11/17/17 18:27 • (MS) R3266744-5 11/17/17 18:55 • (MSD) R3266744-6 11/17/17 19:10

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	4930	57200	52900	105	96	1	80-120			8	15

L951912-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951912-01 11/17/17 22:32 • (MS) R3266744-8 11/17/17 23:29 • (MSD) R3266744-9 11/17/17 23:44

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	4630	55900	53200	102	97	1	80-120			5	15



Method Blank (MB)

(MB) R3266884-1 11/18/17 15:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
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) R3266884-2 11/18/17 15:42 • (LCSD) R3266884-3 11/18/17 15:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Calcium	10000	10200	10300	102	103	80-120			1	20

L951903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951903-02 11/18/17 15:48 • (MS) R3266884-5 11/18/17 15:55 • (MSD) R3266884-6 11/18/17 15:58

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	370000	374000	373000	43	26	1	75-125	<u>V</u>	<u>V</u>	0	20



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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		

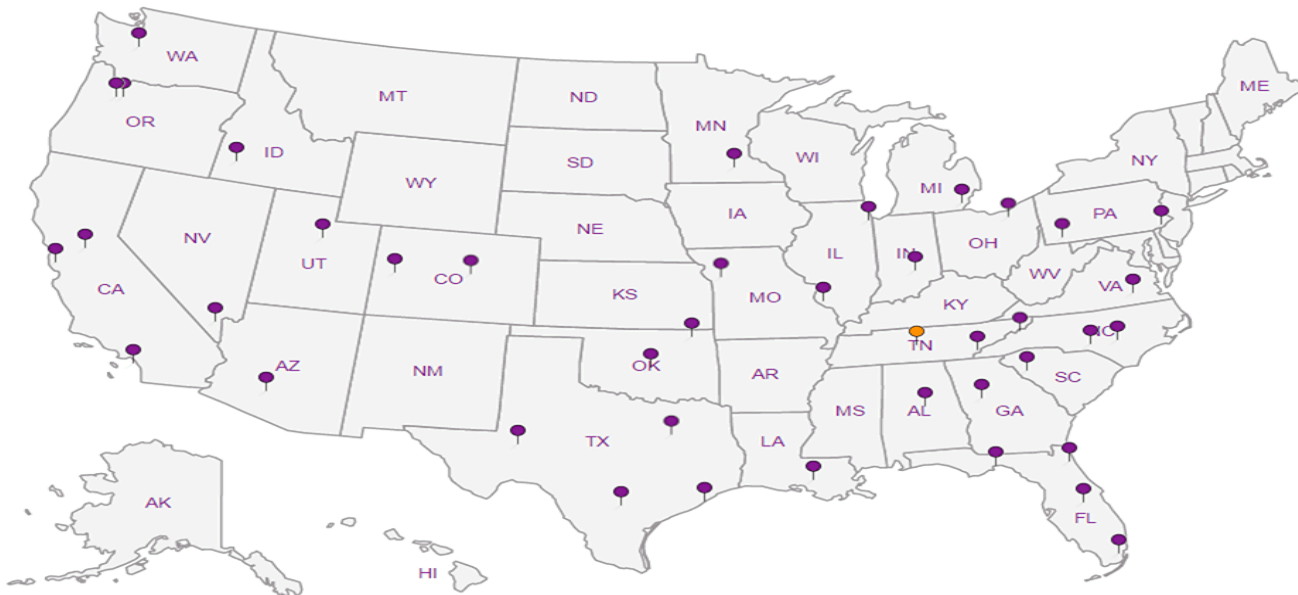
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2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ESC LAB SCIENCES Cooler Receipt Form

Client: <i>AQUADPCS</i>	SDG#	<i>957911</i>		
Cooler Received/Opened On: <i>11/17/17</i>	Temperature:	<i>0.8</i>	<i>°C</i>	
Received by : Jennifer Royal				
Signature: <i>Jennifer Royal</i>				
Receipt Check List		NP	Yes	No
COC Seal Present / Intact?		<input checked="" type="checkbox"/>		
COC Signed / Accurate?			<input checked="" type="checkbox"/>	
Bottles arrive intact?			<input checked="" type="checkbox"/>	
Correct bottles used?			<input checked="" type="checkbox"/>	
Sufficient volume sent?			<input checked="" type="checkbox"/>	
If Applicable				
VOA Zero headspace?				
Preservation Correct / Checked?			<input checked="" type="checkbox"/>	

November 20, 2017

SCS Engineers - KS

Sample Delivery Group: L951903
Samples Received: 11/17/2017
Project Number: 27213168.17
Description: KCPL Montrose Gen Station

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





Entire Report Reviewed By:



Jeff Carr
Technical Service Representative

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Cn: Case Narrative	5	
Sr: Sample Results	6	
601 L951903-01	6	
602 L951903-02	7	
603 L951903-03	8	
604 L951903-04	9	
605 L951903-05	10	
701 L951903-06	11	
702 L951903-07	12	
703 L951903-08	13	
704 L951903-09	14	
705 L951903-10	15	
706 L951903-11	16	
DUPLICATE L951903-12	17	
Qc: Quality Control Summary	18	
Wet Chemistry by Method 9056A	18	
Metals (ICP) by Method 6010B	19	
Gl: Glossary of Terms	20	
Al: Accreditations & Locations	21	
Sc: Sample Chain of Custody	22	

SAMPLE SUMMARY



601 L951903-01 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 11:05
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 18:12	11/17/17 18:12	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:08	ST

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

602 L951903-02 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 11:10
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 18:27	11/17/17 18:27	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 15:48	ST

603 L951903-03 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 11:45
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 19:24	11/17/17 19:24	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:19	ST

604 L951903-04 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 12:30
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 19:39	11/17/17 19:39	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:22	ST

605 L951903-05 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 13:00
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 20:22	11/17/17 20:22	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:26	ST

701 L951903-06 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 14:05
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	10	11/17/17 20:36	11/17/17 20:36	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:29	ST

702 L951903-07 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 13:20
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	5	11/17/17 20:51	11/17/17 20:51	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:33	ST

SAMPLE SUMMARY



703 L951903-08 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 13:30
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 21:05	11/17/17 21:05	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:36	ST

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

704 L951903-09 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 14:25
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 21:20	11/17/17 21:20	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:39	ST

705 L951903-10 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 14:50
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 21:34	11/17/17 21:34	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:43	ST

706 L951903-11 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 15:15
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 21:48	11/17/17 21:48	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:46	ST

DUPLICATE L951903-12 GW

Collected by
Jason R. Franks
Collected date/time
11/15/17 11:15
Received date/time
11/17/17 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1044167	1	11/17/17 22:03	11/17/17 22:03	MAJ
Metals (ICP) by Method 6010B	WG1044332	1	11/18/17 08:30	11/18/17 16:50	ST



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	54200		1000	1	11/17/2017 18:12	WG1044167

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	498000		1000	1	11/18/2017 16:08	WG1044332

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	4930	P1	1000	1	11/17/2017 18:27	WG1044167

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	370000	O1V	1000	1	11/18/2017 15:48	WG1044332

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	7830		1000	1	11/17/2017 19:24	WG1044167

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	471000		1000	1	11/18/2017 16:19	WG1044332

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	12800		1000	1	11/17/2017 19:39	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	417000		1000	1	11/18/2017 16:22	WG1044332

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	48800		1000	1	11/17/2017 20:22	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	442000		1000	1	11/18/2017 16:26	WG1044332

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	398000		10000	10	11/17/2017 20:36	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	450000		1000	1	11/18/2017 16:29	WG1044332

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	274000		5000	5	11/17/2017 20:51	WG1044167

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	516000		1000	1	11/18/2017 16:33	WG1044332

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	18700		1000	1	11/17/2017 21:05	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	246000		1000	1	11/18/2017 16:36	WG1044332

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	5090		1000	1	11/17/2017 21:20	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	169000		1000	1	11/18/2017 16:39	WG1044332

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	13500		1000	1	11/17/2017 21:34	WG1044167

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	138000		1000	1	11/18/2017 16:43	WG1044332

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	30400		1000	1	11/17/2017 21:48	WG1044167

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	304000		1000	1	11/18/2017 16:46	WG1044332

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	4970		1000	1	11/17/2017 22:03	WG1044167

1 Cp

2 Tc

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium	371000		1000	1	11/18/2017 16:50	WG1044332

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3266744-1 11/17/17 17:00

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

L951903-02 Original Sample (OS) • Duplicate (DUP)

(OS) L951903-02 11/17/17 18:27 • (DUP) R3266744-4 11/17/17 18:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	4930	4140	1	17	P1	15

L951912-01 Original Sample (OS) • Duplicate (DUP)

(OS) L951912-01 11/17/17 22:32 • (DUP) R3266744-7 11/17/17 23:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	4630	3860	1	18	P1	15

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

(LCS) R3266744-2 11/17/17 17:15 • (LCSD) R3266744-3 11/17/17 17:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Chloride	40000	39400	39500	99	99	80-120			0	15

L951903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951903-02 11/17/17 18:27 • (MS) R3266744-5 11/17/17 18:55 • (MSD) R3266744-6 11/17/17 19:10

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	4930	57200	52900	105	96	1	80-120			8	15

L951912-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951912-01 11/17/17 22:32 • (MS) R3266744-8 11/17/17 23:29 • (MSD) R3266744-9 11/17/17 23:44

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	4630	55900	53200	102	97	1	80-120			5	15



Method Blank (MB)

(MB) R3266884-1 11/18/17 15:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Calcium	U		46.3	1000

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3266884-2 11/18/17 15:42 • (LCSD) R3266884-3 11/18/17 15:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Calcium	10000	10200	10300	102	103	80-120			1	20

L951903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L951903-02 11/18/17 15:48 • (MS) R3266884-5 11/18/17 15:55 • (MSD) R3266884-6 11/18/17 15:58

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	370000	374000	373000	43	26	1	75-125	<u>V</u>	<u>V</u>	0	20

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

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

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.
V	The sample concentration is too high to evaluate accurate spike recoveries.



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		

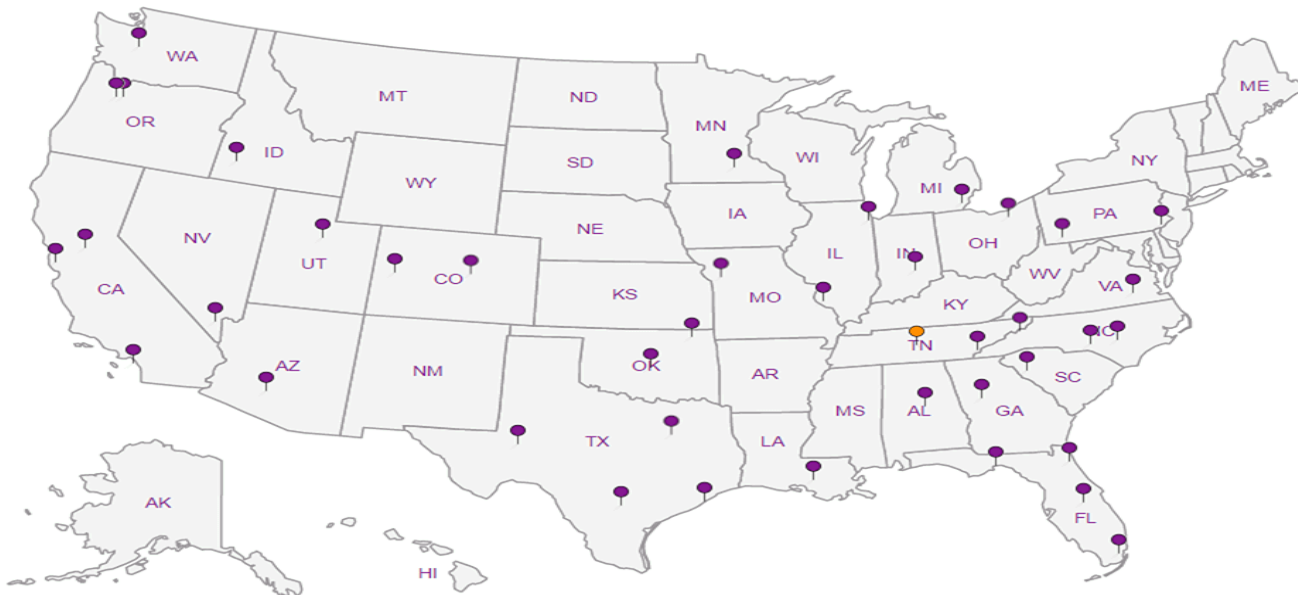
Third Party & Federal Accreditations

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

Analysis / Container / Preservative

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



Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.17

Lab Project #

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
3 Day
 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)
							Chloride - 9056 125miHDPE-NoPres	Calcium - 6010 250miHDPE-HNO3		
601	Grab	GW	NA	11/15/17	1105	2	X	X		01
602	Grab	GW	NA		1110	2	X	X		02
603	Grab	GW	NA		1145	2	X	X		03
604	Grab	GW	NA		1230	2	X	X		04
605	Grab	GW	NA		1300	2	X	X		05
701	Grab	GW	NA		1405	2	X	X		06
702	Grab	GW	NA		1320	2	X	X		07
703	Grab	GW	NA		1330	2	X	X		08
704	Grab	GW	NA		1425	2	X	X		09
705	Grab	GW	NA		1450	2	X	X		10

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

pH _____ Temp _____

Remarks: _____ Flow _____ Other _____

Hold # _____

Relinquished by: (Signature)
Jason R. Franks

Date: **11/15/17** Time: **1530**

Received by: (Signature)
Whit Martin

Samples returned via: UPS FedEx Courier *SW*

Condition: (lab use only) *OK*

Relinquished by: (Signature)
Whit Martin

Date: **11/16/17** Time: **0730**

Received by: (Signature)
Jason R. Franks

Temp: **0.8°C** Bottles Received: **28**

COC Seal Intact: Y N NA

Relinquished by: (Signature)

Date: _____ Time: _____

Received for lab by: (Signature)
Jason R. Franks

Date: **11.17.17** Time: **1030**

pH Checked: _____ 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

Report to:
Mr. Jason R. Franks

Email To:
jfranks@scsengineers.com

Project Description:
KCPL Montrose Gen Station - Groundwater

City/State Collected:
Montrose, Mo

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

Client Project #
27213168.17

Lab Project #

Collected by (print):
Jason R. Franks

Site/Facility ID #

P.O. #

Collected by (signature):

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

Date Results Needed
3 Day

Email? No Yes
 FAX? No Yes

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride - 9056 125mlHDPE-NoPres	Calcium - 6010 250mlHDPE-HNO3
706	Grab	GW	NA	11/15/17	1515	2	X	X
Duplicate	Grab	GW	NA		1115	2	X	X
MS 602	Grab	GW	NA		1120	2	X	X
MSD 602	Grab	GW	NA		1125	2	X	X

Analysis / Container / Preservative

Chain of Custody Page 22 of 22



YOUR LAB OF CHOICE

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



L# **951903**

Table #

Accnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Item/Contaminant Sample # (lab only)

11
12
02
02

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

pH _____ Temp _____

Flow _____ Other _____

Hold #

Remarks:
Frank Franks

Relinquished by: (Signature)
Frank Franks

Date: **11/15/17** Time: **1530**

Received by: (Signature)
Whit Martin

Samples returned via: UPS
 FedEx Courier **PSU**

Condition: (lab use only)

Relinquished by: (Signature)
Whit Martin

Date: **11/16/17** Time: **0730**

Received by: (Signature)
Whit Martin

Temp: **6.5** °C Bottles Received: **28**

COC Seal Intact: Y N NA

Relinquished by: (Signature)

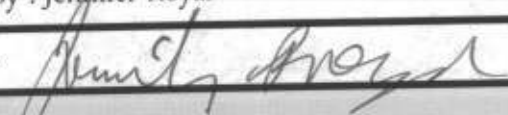
Date: _____ Time: _____

Received for lab by: (Signature)
Justin Royal 896

Date: **11-17-17** Time: **1030**

pH Checked: NCF:

ESC LAB SCIENCES Cooler Receipt Form

Client: AQUA OPTICS	SDG#	951903	
Cooler Received/Opened On: 11/17/17	Temperature:	0.8	°C
Received by : Jennifer Royal			
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 1-12
December 2017 Sampling Event Laboratory Report

January 05, 2018

SCS Engineers - KS

Sample Delivery Group: L960481
Samples Received: 12/30/2017
Project Number: 27213168.17
Description: KCPL - Montrose 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.



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
MW-602 L960481-01	5	
MW-603 L960481-02	6	
Qc: Quality Control Summary	7	
Wet Chemistry by Method 9056A	7	
Metals (ICP) by Method 6010B	8	
Gl: Glossary of Terms	9	
Al: Accreditations & Locations	10	
Sc: Sample Chain of Custody	11	
		

SAMPLE SUMMARY



MW-602 L960481-01 GW

Collected by Whit Martin	Collected date/time 12/29/17 13:25	Received date/time 12/30/17 08:45
-----------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1058604	1	12/30/17 23:29	12/30/17 23:29	DR

¹ Cp

² Tc

³ Ss

MW-603 L960481-02 GW

Collected by Whit Martin	Collected date/time 12/29/17 13:55	Received date/time 12/30/17 08:45
-----------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1058851	1	01/02/18 14:53	01/03/18 02:07	TRB

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. 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	4440		1000	1	12/30/2017 23:29	WG1058604

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
Calcium	455000		1000	1	01/03/2018 02:07	WG1058851

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3277059-1 12/30/17 13:01

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3277059-2 12/30/17 13:16 • (LCSD) R3277059-3 12/30/17 13:30

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 %
Chloride	40000	39500	39300	98.6	98.3	80-120			0.392	15

⁶ Qc

L960408-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L960408-08 12/30/17 20:21 • (MS) R3277059-8 12/30/17 21:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	5280	55800	101	1	80-120	

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3277119-1 01/03/18 01:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	73.2	↓	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) R3277119-2 01/03/18 01:27 • (LCSD) R3277119-3 01/03/18 01:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium	10000	9790	9690	97.9	96.9	80-120			1.1	20

L960577-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L960577-02 01/03/18 01:33 • (MS) R3277119-5 01/03/18 01:40 • (MSD) R3277119-6 01/03/18 01:43

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	46400	55600	55400	92.4	90.7	1	75-125			0.306	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.
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

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



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		

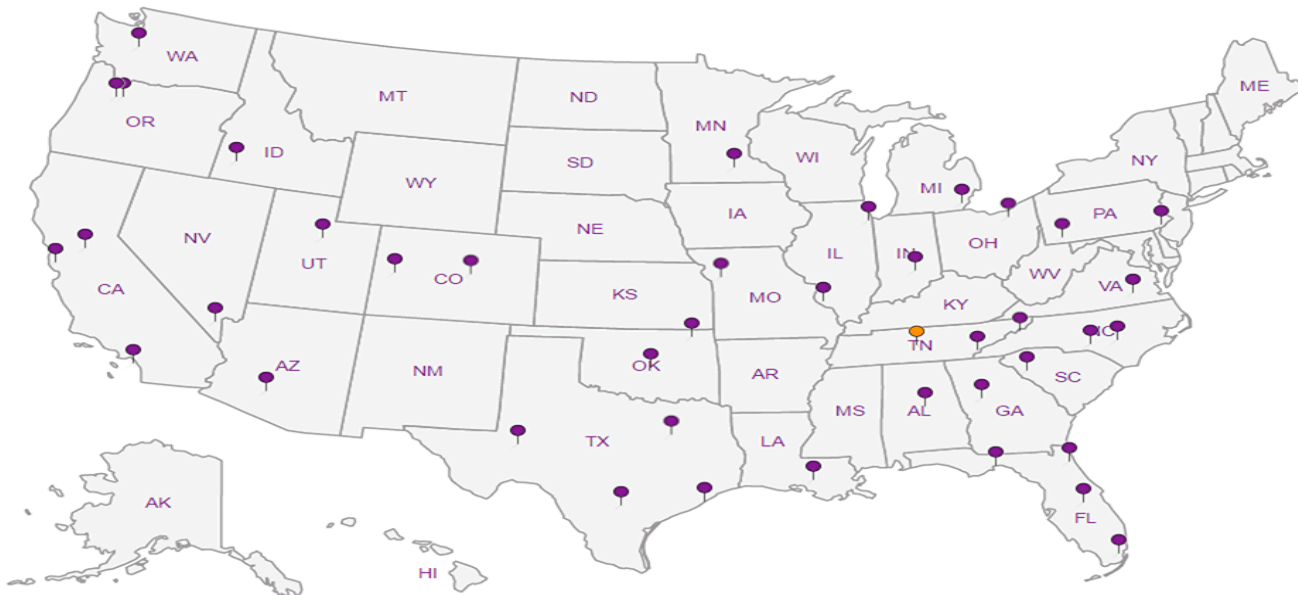
Third Party & Federal Accreditations

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.**



ESC LAB SCIENCES Cooler Receipt Form

Client: <u>AQUAOPKS</u>	SDG#			
Cooler Received/Opened On: <u>12/17</u>	Temperature:	<u>1.3</u>		
Received by : <u>Marina Fahmy</u>				
Signature: <u>Marina Fahmy</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?			/	

Jared Morrison
December 20, 2022

ATTACHMENT 2

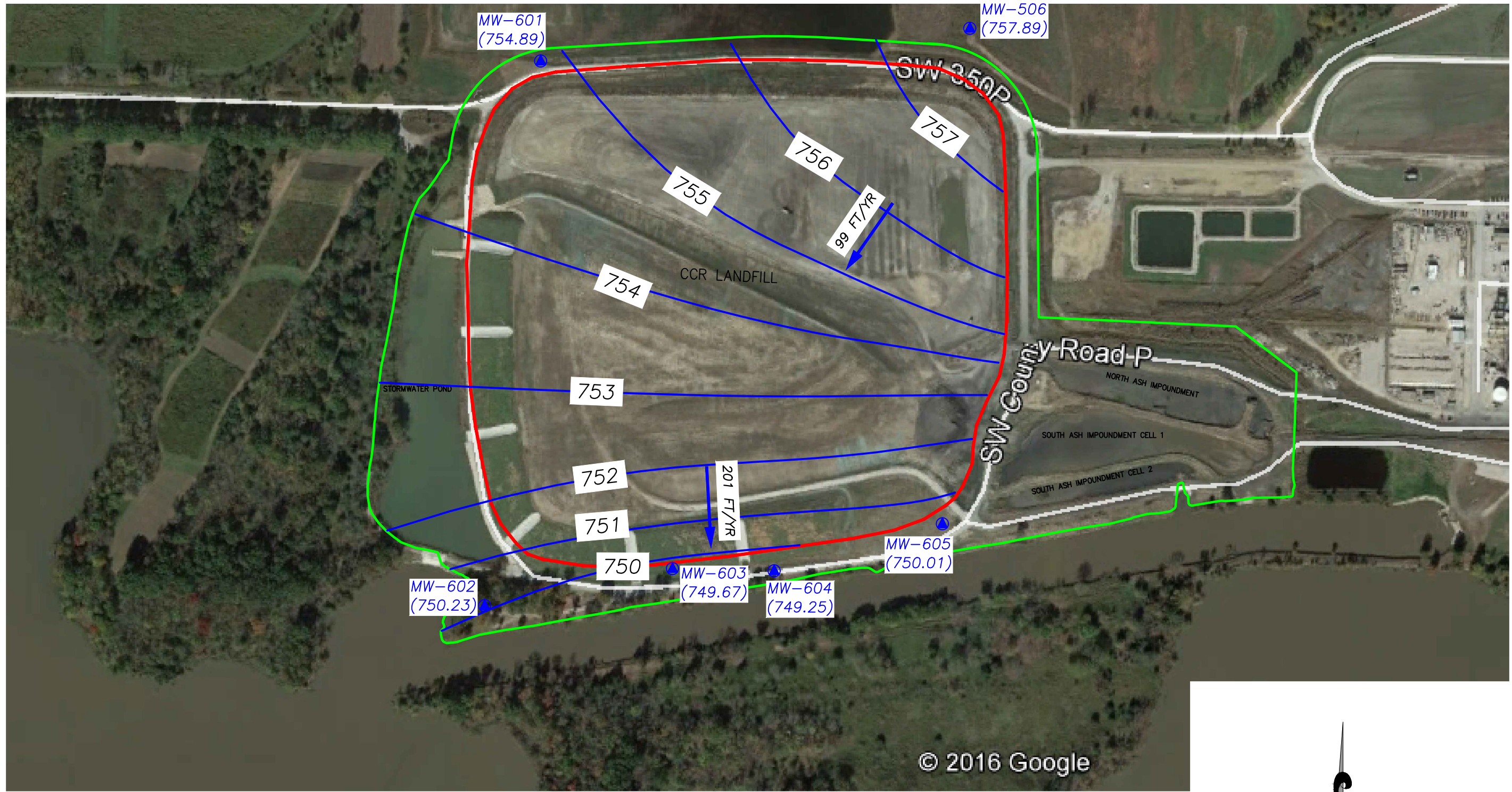
Statistical Analyses

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.
- July 2017 - Eighth background sampling event.
- October 2017 – Ninth background sampling event and Fall semiannual detection monitoring sampling event.
- November 2017 - First verification sampling for the Fall 2017 detection monitoring sampling event.

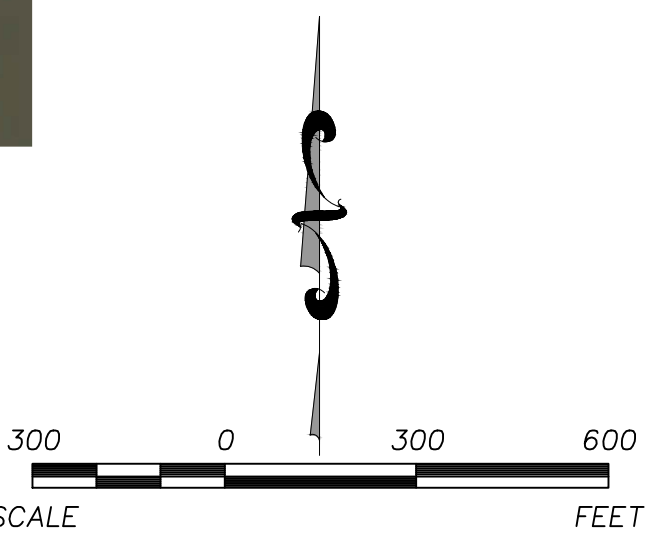


LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (DECEMBER 2015)
- ← 154 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM WATER LEVEL MEASUREMENTS COMPLETED ON DECEMBER 16 & 17, 2015



N:\KCP\PROJECTS\GROUNDWATER\DWG\MONTROSE\2015\2015 GROUNDWATER\27213168_16_DEC15_FIG 2-V2.DWG

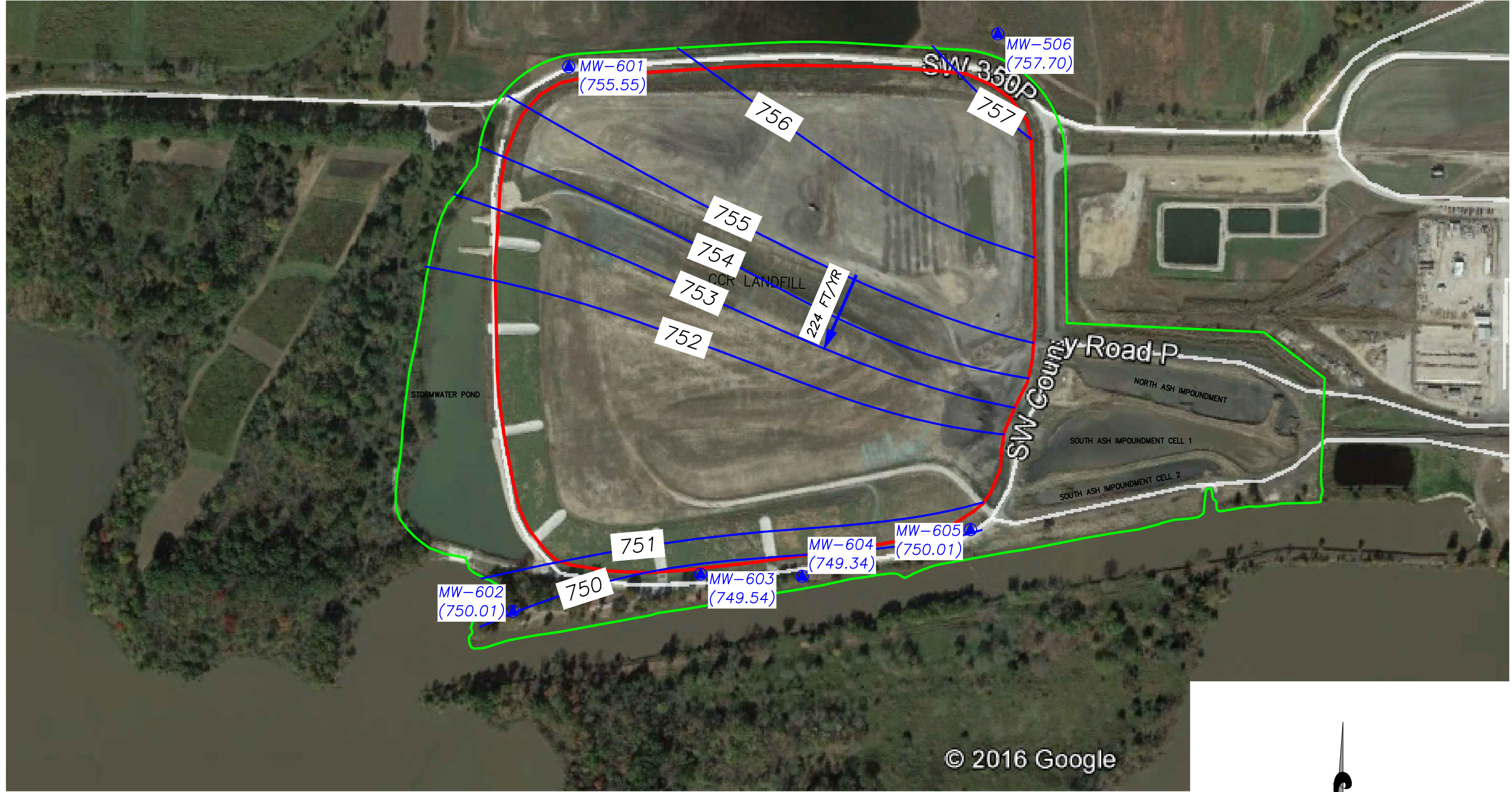
REV.	DATE	BY	CHK.

SHEET TITLE: **POTENTIOMETRIC SURFACE MAP (DECEMBER 2015) CCR LANDFILL**

PROJECT TITLE: **2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM**

CLIENT: **EVERGY METRO, INC. MONTROSE CCR LANDFILL MONTROSE, MISSOURI**

SCS ENGINEERS		ENVIRONMENTAL CONSULTANTS AND CONTRACTORS	
8575 W. 110th St. Ste. 100 Overland Park, Kansas 66210 PH: (913) 681-0030 FAX: (913) 681-0012			
PROJECT NO.	DRAWN BY:	CHECKED BY:	DATE:
27213168.16	RCW	JRR	12/20/22
TASK NO.	DATE:	BY:	DATE:
CADD FILE:		DRAWING NO.	
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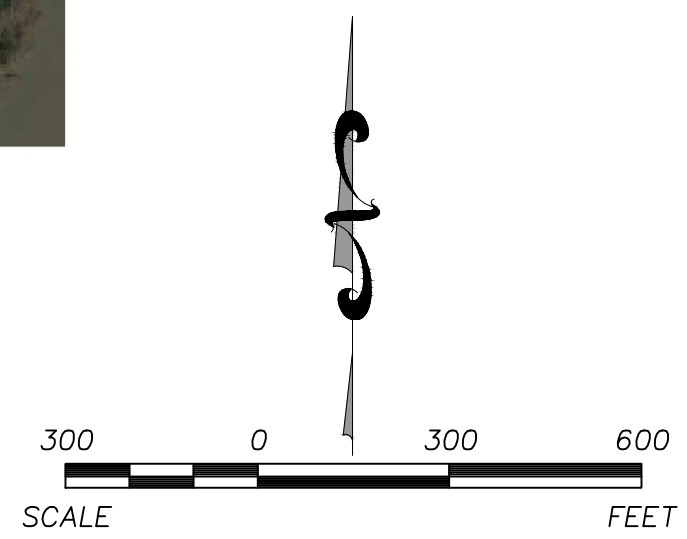


LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- ▲ MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (FEBRUARY 2016)
- ← 104 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON FEBRUARY 16, 2016



REV.	DATE	BY
1		
2		
3		
4		
5		

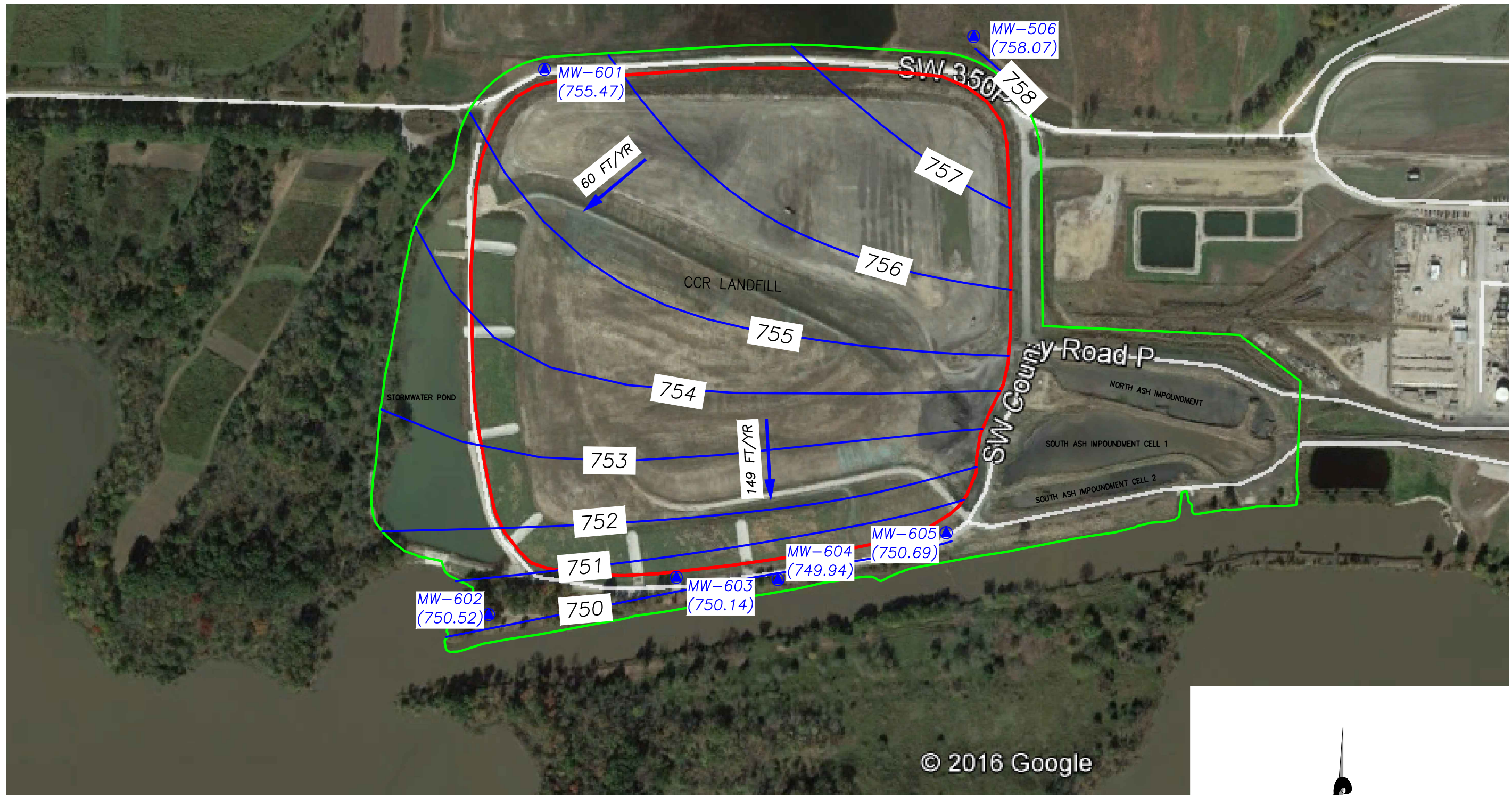
SHEET TITLE: POTENTIOMETRIC SURFACE MAP (FEBRUARY 2016)
 PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE CCR LANDFILL
 MONTROSE, MISSOURI

SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 W. 110th St., Ste. 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012
 PROJ. NO. 27213168.16
 DESK. BY: RCW
 CHK. BY: JRR
 O/A RW BY: JRR
 PROJ. MGR: JRR

CADD FILE: 27213168.16_FEB16_FIG 2 V2.DWG
 DATE: 12/20/22
 DRAWING NO. **2**

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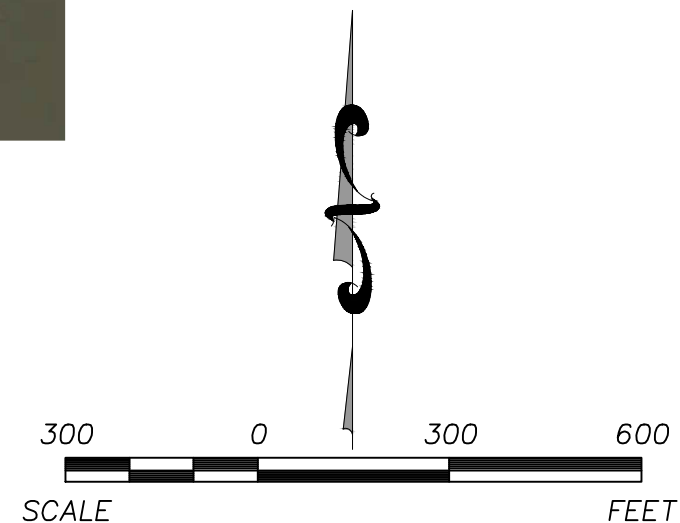
LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (MAY 2016)
- ← 117 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 23 & 24, 2016

© 2016 Google



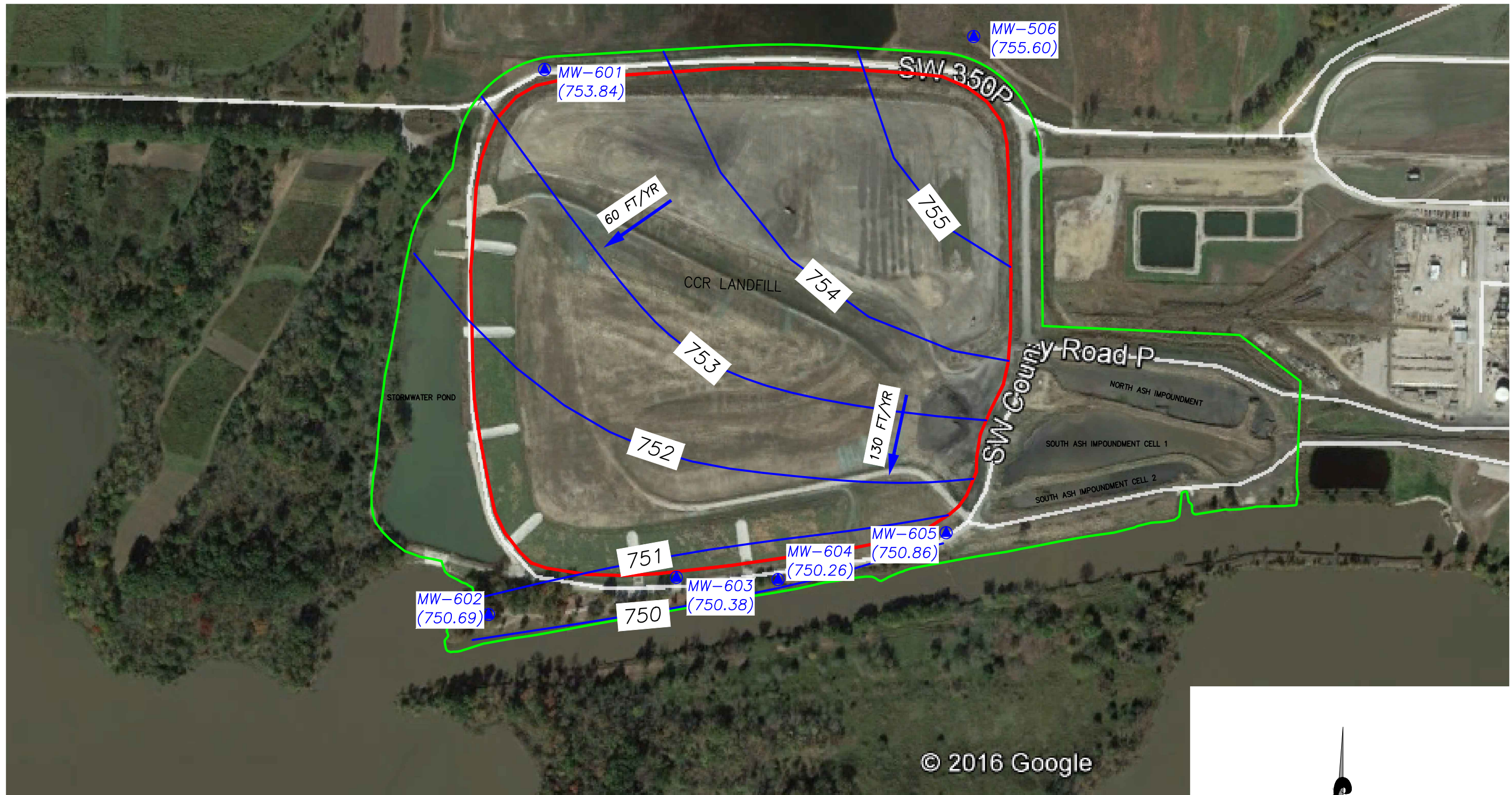
REV.	DATE	BY
1		
2		
3		
4		
5		

SHEET TITLE: POTENTIOMETRIC SURFACE MAP (MAY 2016)
 CCR LANDFILL
 PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE CCR LANDFILL
 MONTROSE, MISSOURI

SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 W. 110th St., Ste. 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012
 PROJ. NO. 27213168.16
 DESK. BY: RCW
 CHK. BY: JRR
 O/A. RW BY: JRR
 PROJ. MGR: JRR

CADD FILE: 27213168.16_MAY16_FIG 2 V2.DWG
 DATE: 12/20/22
 DRAWING NO. **3**

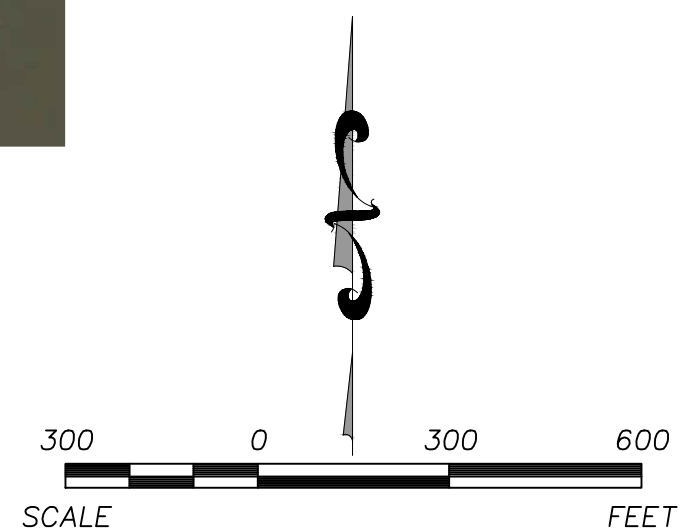


LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (MAY 2016)
- ← 78 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON AUGUST 22, 2016



REV.	DATE	BY

SHEET TITLE
**POTENTIOMETRIC SURFACE MAP (AUGUST 2016)
CCR LANDFILL**

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
**EVERGY METRO, INC.
MONTROSE CCR LANDFILL
MONTROSE, MISSOURI**

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

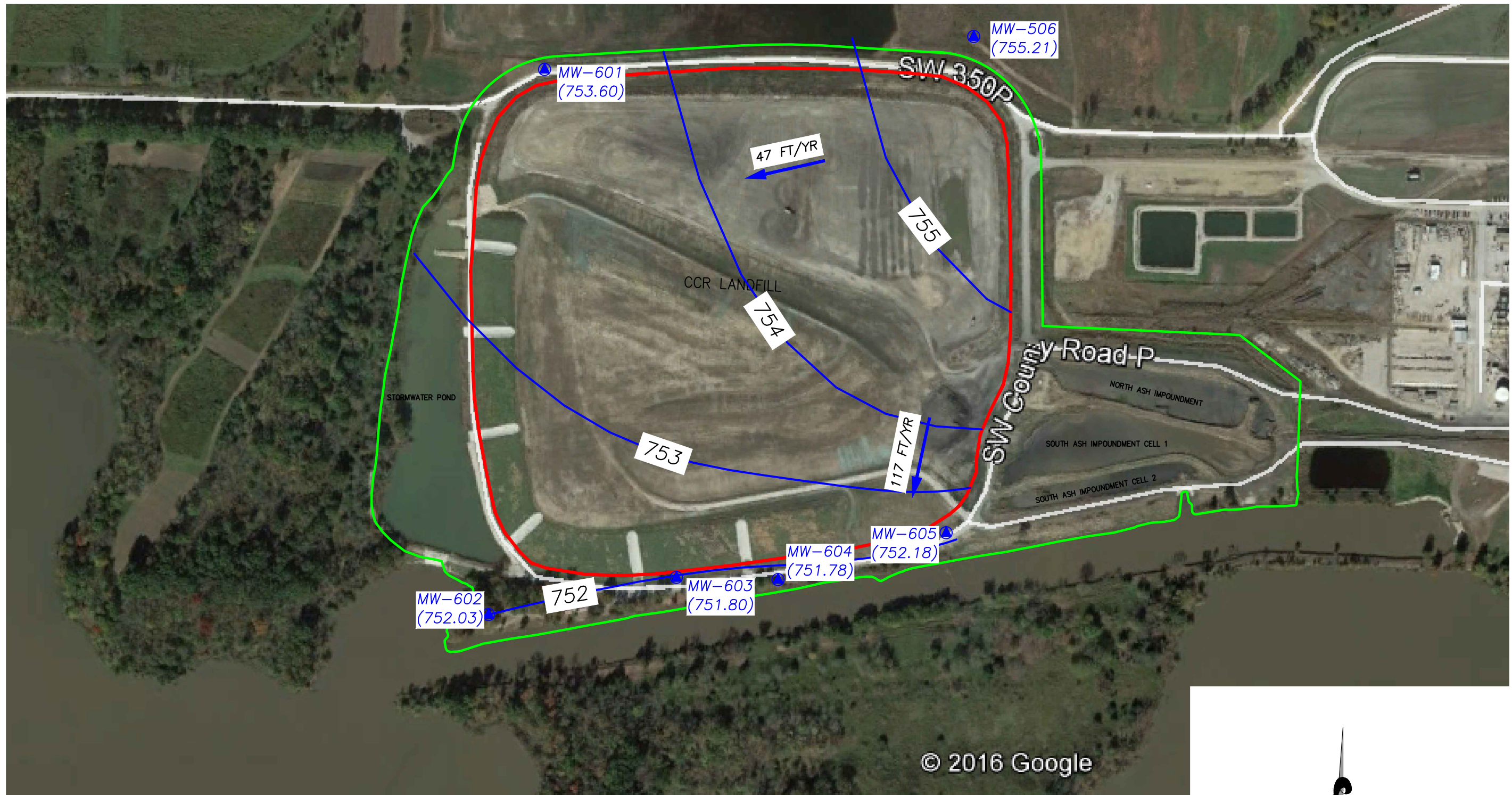
PROJ. NO. 27213168.16
DWN. BY: RCW
CHK. BY: JRR
O/A RW BY: JRR
PROJ. MGR: JRR

CADD FILE:
27213168.16_AUG16_FIG 2 V2.DWG

DATE:
12/20/22

DRAWING NO.
4

N:\KCP\PROJECTS\GROUNDWATER\DWG\MONTROSE\2016\2016 GROUNDWATER\27213168.16_AUG16_FIG 2 V2.DWG



LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (MAY 2016)
- ← 125 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 7 & 8, 2016



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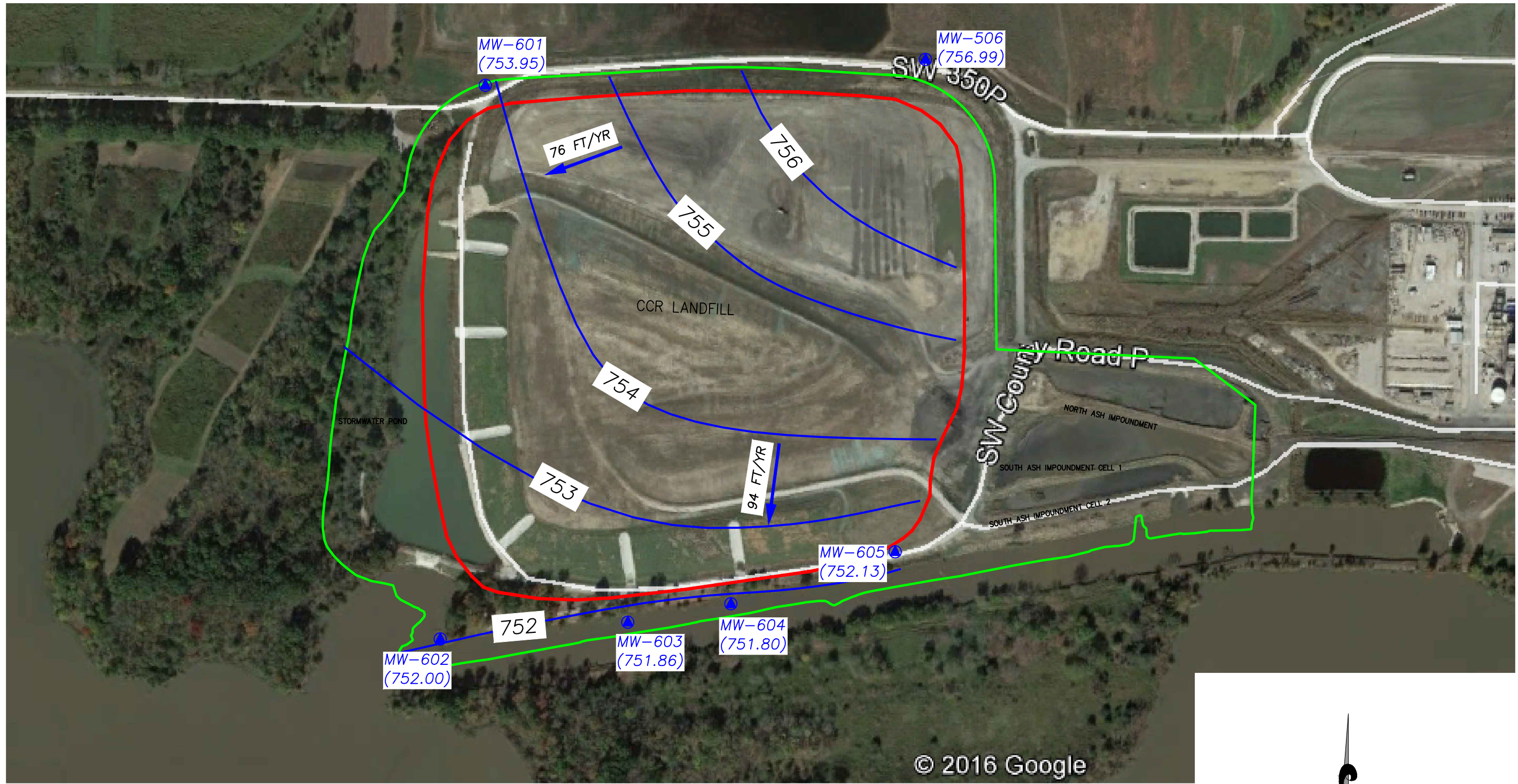
SHEET TITLE: POTENTIOMETRIC SURFACE MAP (NOVEMBER 2016)
 CCR LANDFILL
 PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE CCR LANDFILL
 MONTROSE, MISSOURI

SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 W. 110th St., Ste. 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012
 PROJ. NO. 27213168.16
 DESK. BY: RCW
 CHK. BY: JRR
 O/A RW BY: JRR
 PROJ. MGR: JRR

CADD FILE: 27213168.16_NOV16_FIG 2 V2.DWG
 DATE: 12/20/22
 DRAWING NO. 5

N:\KCP\PROJECTS\GROUNDWATER\DWG\MONTROSE\2016\2016 GROUNDWATER\27213168.16_NOV16_FIG 2 V2.DWG



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SHEET TITLE: POTENTIOMETRIC SURFACE MAP (FEBRUARY 2017)
 CCR LANDFILL

PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE CCR LANDFILL
 MONTROSE, MISSOURI

SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 110th St. Suite 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012

PROJ. NO. 27213168.16
 DESK. BY: RCW
 CHK. BY: JRR
 O/A. REV. BY: JRR
 PROJ. MGR. JRF

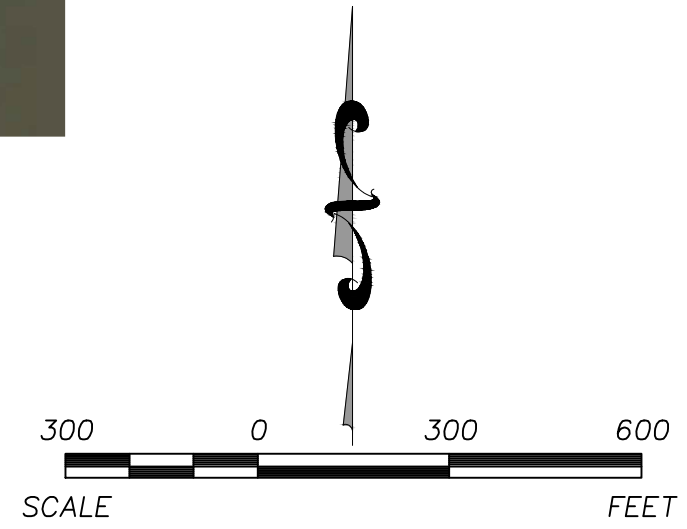
CADD FILE: 27213168.16_FEB17_2102-V2.DWG
 DATE: 12/20/22
 DRAWING NO. 6

LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (FEBRUARY 2017)
- ← 94 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

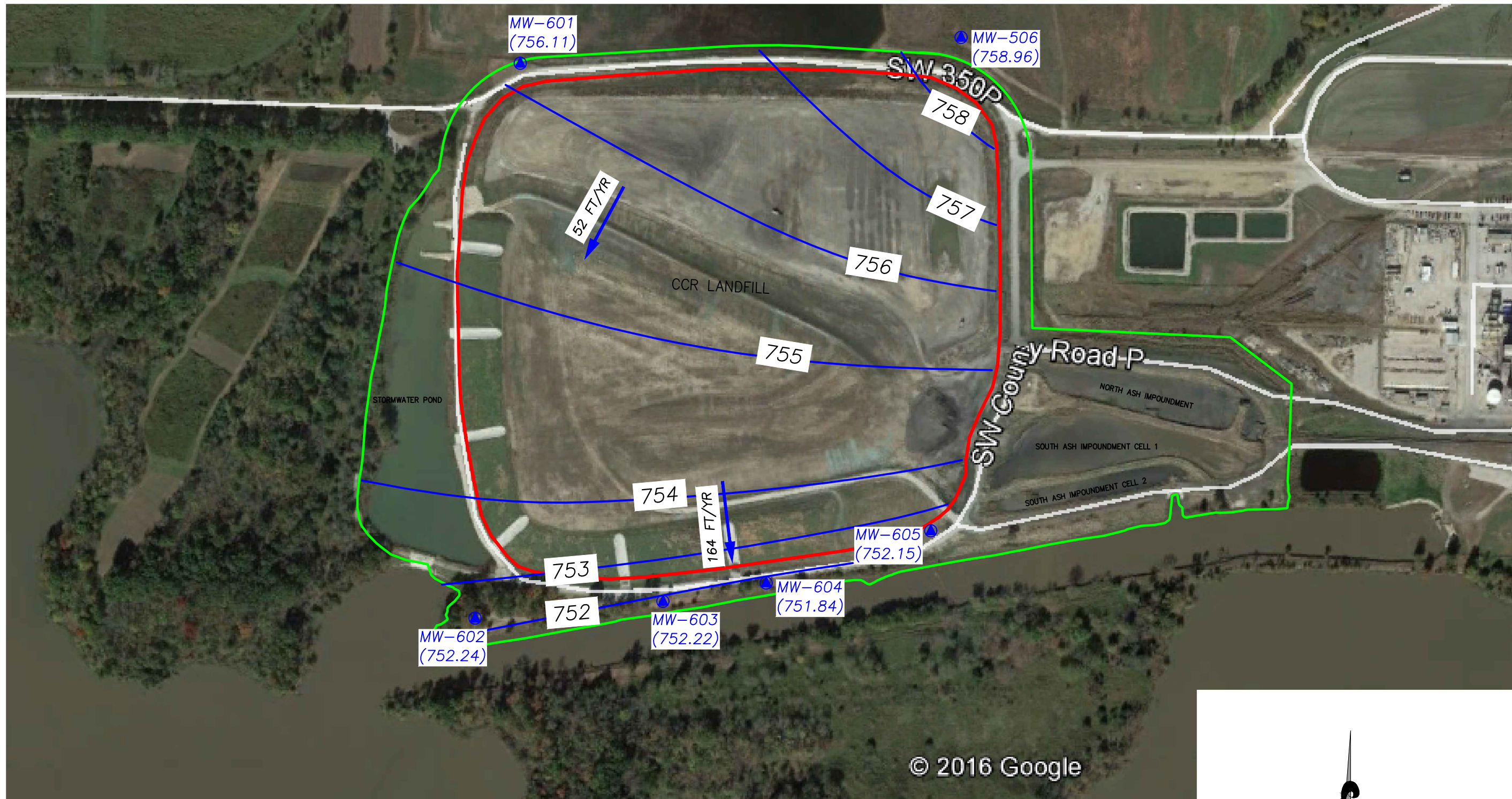
NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON FEBRUARY 7, 2017



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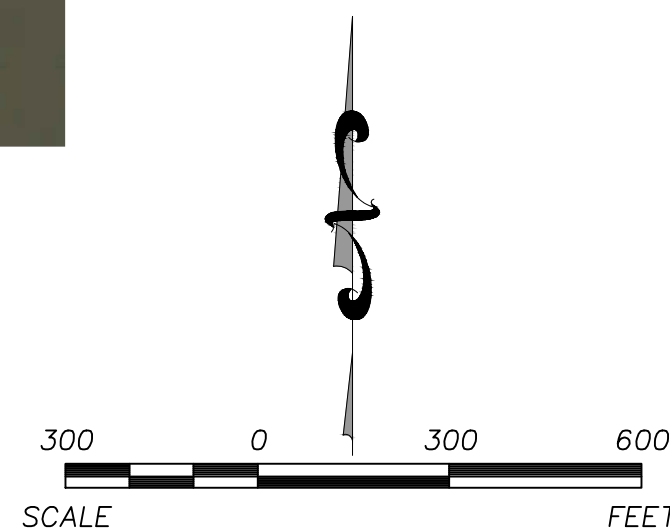
LEGEND:

- FACILITY LIMITS
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER CONTOURS
- MONITORING WELLS
- (750.12) GROUNDWATER ELEVATION (MAY 2017)
- ← 164 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
4. BOUNDARY AND MONITOR WELL LOCATIONS PROVIDED BY AECOM
5. WATER LEVEL MEASUREMENTS COMPLETED ON MAY 1, 2017

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BY:	-
REV.	△
DATE	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP (MAY 2017)

PROJECT TITLE
CCR LANDFILL

2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
**EVERGY METRO, INC.
MONTROSE CCR LANDFILL
MONTROSE, MISSOURI**

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
8575 110th St. Suite 100
Overland Park, Kansas 66210
PH: (913) 681-0030 FAX: (913) 681-0012

CADD FILE:
27213168.16_MAY17_702-V2.DWG

DATE:
12/20/22

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7

PROJ. NO.	27213168.16	DWN. BY:	RCW	CHK. BY:	JRR	PROJ. MGR.	JRR
TASK NO.	07	DWN. BY:	RCW	CHK. BY:	JRR	PROJ. MGR.	JRR

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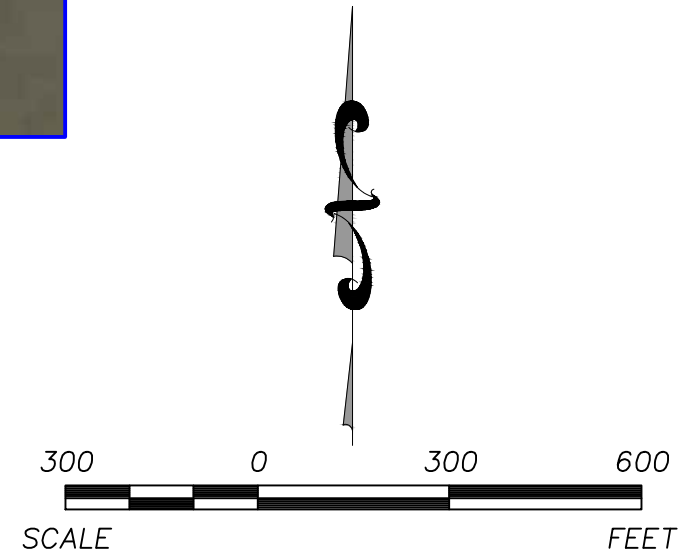


LEGEND:

- PERMITTED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
- CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
- ▲ MW-602 (752.24) CCR GROUNDWATER MONITORING WELL SYSTEM
- GROUNDWATER SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- ← 99 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON JULY 21, 2017.



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SHEET TITLE: POTENTIOMETRIC SURFACE MAP (JULY 2017)
 CCR LANDFILL
 PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE GENERATING STATION
 MONTROSE, MISSOURI

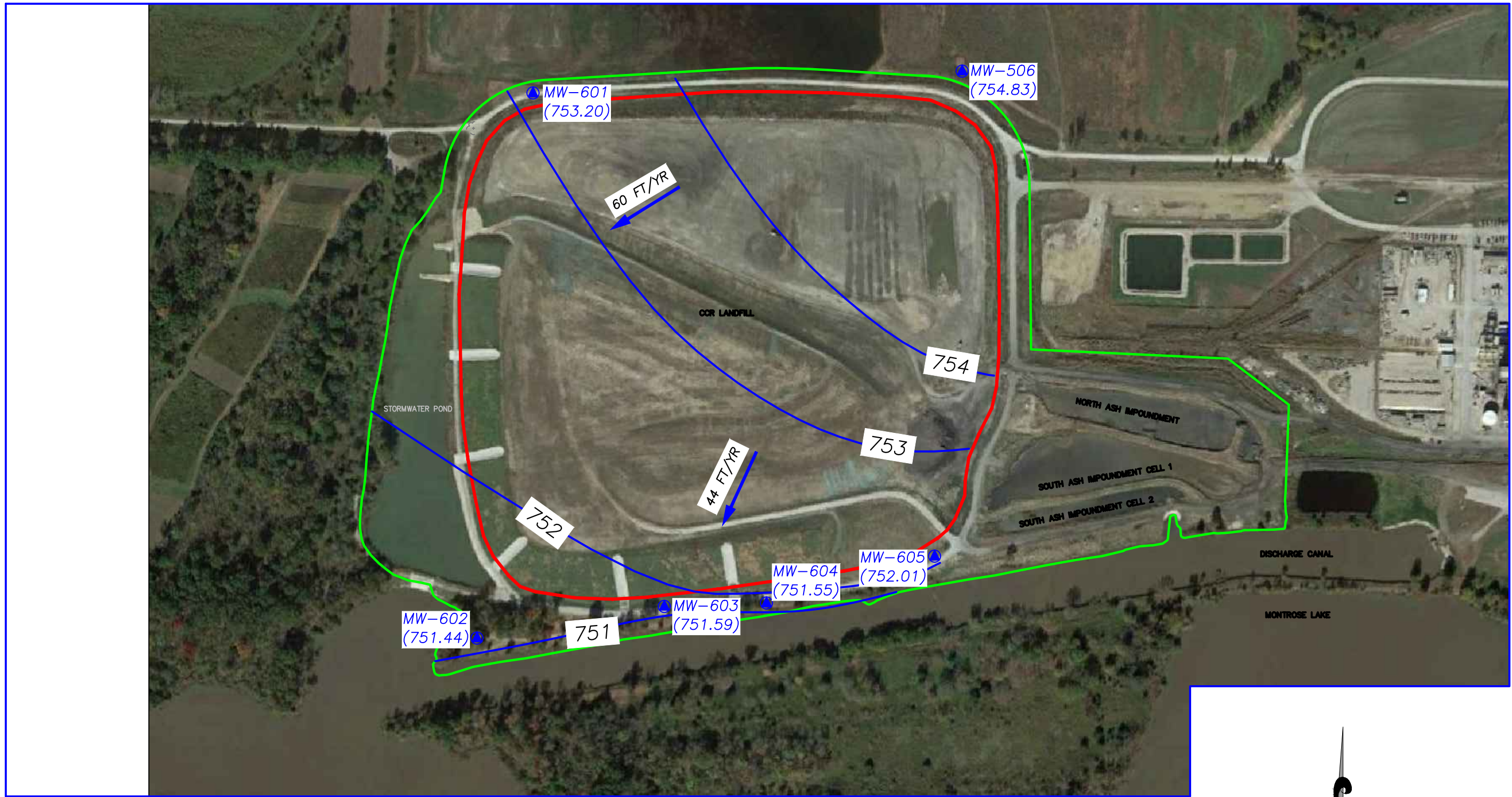
SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 110th St. Ste. 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012
 PROJ. NO. 27213168.17
 DESK. BY: RCW
 CHK. BY: JRR
 O/A. RW BY: JRR
 PROJ. MGR: JRF

CADD FILE: 27213168.17_FIG2_A417-V2.DWG

DATE: 12/20/22

FIGURE NO. 8

N:\KCP\PROJECTS\GROUNDWATER\DWG\MONTROSE\2017\2017 GROUNDWATER\27213168.17_OCT17_FIG2-V2.DWG

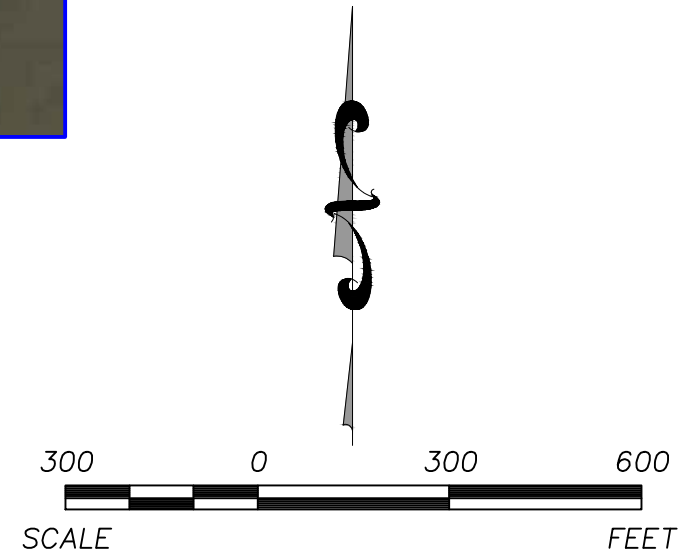


LEGEND:

- PERMITTED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
- CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
- MW-602 (752.24) CCR GROUNDWATER MONITORING WELL SYSTEM
- GROUNDWATER SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- 44 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER MEASUREMENTS COMPLETED ON OCTOBER 2, 2017.



REV.	DATE	BY	CHK.
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SHEET TITLE: POTENTIOMETRIC SURFACE MAP (OCTOBER 2017)
 CCR LANDFILL
 PROJECT TITLE: 2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT: EVERGY METRO, INC.
 MONTROSE GENERATING STATION
 MONTROSE, MISSOURI

SCS ENGINEERS
 ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
 8575 110th St. Ste. 100
 Overland Park, Kansas 66210
 PH: (913) 681-0030 FAX: (913) 681-0012
 PROJ. NO. 27213168.17
 DESK. BY: RCW
 CHK. BY: JRR
 O/A. RW BY: JRR
 PROJ. MGR: JRR

CADD FILE: 27213168.17_OCT17_FIG2-V2.DWG
 DATE: 12/20/22
 FIGURE NO. 9

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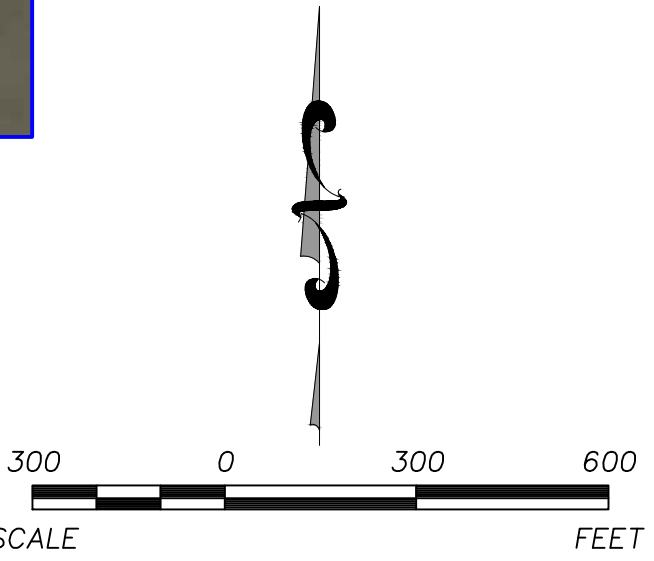


LEGEND:

- PERMITTED SOLID WASTE FACILITY BOUNDARY (APPROXIMATE)
- CCR LANDFILL UNIT BOUNDARY (APPROXIMATE)
- MW-602 (752.24) CCR GROUNDWATER MONITORING WELL SYSTEM
- GROUNDWATER SURFACE ELEVATIONS (REPRESENTATIVE OF THIS UNIT)
- ← 52 FT/YR GROUNDWATER FLOW DIRECTION AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. HORIZONTAL DATUM: MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83)
2. VERTICAL DATUM: NAVD 88
3. GOOGLE EARTH IMAGE DATED 10/20/2014.
4. APPROXIMATE BOUNDARY LOCATIONS PROVIDED BY AECOM.
5. WATER LEVEL MEASUREMENTS COMPLETED ON NOVEMBER 15, 2017



REV.	DATE	BY	CHK.
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SHEET TITLE
POTENTIOMETRIC SURFACE MAP (NOVEMBER 2017)
CCR LANDFILL

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

CLIENT
EVERGY METRO, INC.
MONTROSE GENERATING STATION
MONTROSE, MISSOURI

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS AND CONTRACTORS
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Overland Park, Kansas 66210
PH: (913) 681-0030 FAX: (913) 681-0012

PROJ. NO. 27213168.17
TASK: GWR
DWN. BY: RCW
CHK. BY: JRR
O/A RW BY: JRR
PROJ. MGR: JRF

CADD FILE:
27213168.17_FIG2_NOV17-V2.DWG

DATE:
12/20/22

FIGURE NO.
10