2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

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

Presented To:

Kansas City Power & Light Company

Presented By:

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

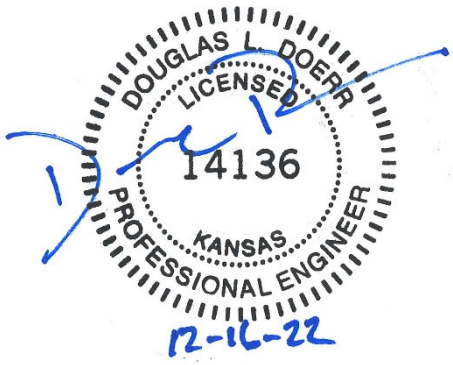
January 30, 2018
Revised December 16, 2022
File Number 27217233.00

CERTIFICATIONS

I, John R. Rockhold, being a qualified groundwater scientist and Professional Geologist in the State of Kansas, do hereby certify that the 2017 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).

John R. Rockhold, P.G.
SCS Engineers

I, Douglas L. Doerr, being a qualified licensed Professional Engineer in the State of Kansas, do hereby certify that the 2017 Annual Groundwater Monitoring and Corrective Action Report for the CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR 257.90(e).



Douglas L. Doerr, P.E.
SCS Engineers

Revision Number	Revision Date	Revision Sections	Summary of Revisions
0	January 2018	NA	Original
1	December 16, 2022	Addendum 1	Added Addendum 1

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Appendices

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 multi-unit groundwater monitoring system for the CCR Landfill and Lower AQC Impoundment at the La Cygne 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 Lower AQC Impoundment and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR Landfill and Lower AQC Impoundment groundwater monitoring program is provided as **Figure 1** in **Appendix A**.

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

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

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 and Lower AQC Impoundment in 2017.

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

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

Only detection monitoring was conducted during the reporting period. Sampling for the detection monitoring program began in June 2016. 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 in process as of the end of 2017.

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 La Cygne Generating Station at the time of fieldwork. This report includes a review and compilation of the required information and does not reflect any variations of the subsurface, which may occur between sampling locations. Actual subsurface conditions may vary and the extent of such variations may not become evident without further investigation.

Conclusions drawn by others from the result of this work should recognize the limitation of the methods used. Please note that SCS Engineers does not warrant the work of regulatory agencies or other third parties supplying information used in the assimilation of this report. This report is prepared in accordance with generally accepted environmental engineering and geological practices, within the constraints of the client's directives. It is intended for the exclusive use of KCP&L for specific application to the La Cygne Generating Station CCR Landfill and Lower AQC Impoundment. No warranties, express or implied, are intended or made.

APPENDIX A

FIGURES

Figure 1: Site Map

LEGEND

CCR UNIT BOUNDARY
(APPROXIMATE LIMITS OF CCR LANDFILL AND LOWER AQC IMPOUNDMENT)

MW-601 CCR GROUNDWATER MONITORING SYSTEM WELLS

NOTES:

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

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-

SHEET TITLE
SITE MAP
CCR LANDFILL & LOWER AQC IMPOUNDMENT
CCR GROUNDWATER MONITORING SYSTEM

PROJECT TITLE
2017 CCR GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

CLIENT
KANSAS CITY POWER & LIGHT COMPANY
LA CYGNE GENERATING STATION
LA CYGNE, KANSAS

SCS ENGINEERS
7311 W. 130th St, Ste. 100
Overland Park, Kansas 66213
PH: (913) 681-0030 FAX: (913) 681-0012

PROJ. NO.	DWN. BY:	Q/A REW BY:
27217233.00	RCW	JRR
DSN. BY:	CHK. BY:	PROJ. MGR
RCW	JRR	JRR

CADD FILE:
FIG 1 -LA CYGNE LF LAQC IMP.DWG

DATE:
1/16/18

FIGURE NO.
1

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APPENDIX B

TABLES

Table 1: Appendix III and Appendix IV Detection Monitoring Results

Table 2: Detection Monitoring Field Measurements

Table 1
CCR Landfill and Lower AQC Impoundment
Appendix III and Appendix IV Detection Monitoring Results
KCP&L LaCygne Generating Station

		Appendix III Constituents							Appendix IV Constituents														
Well Number	Sample Date	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Radium Combined (pCi/L)
MW-10	6/6/2016	0.923	60.1	56.7	0.365	7.33	15.9	601	<0.002	0.00771	0.337	<0.002	<0.001	<0.002	<0.002	0.365	<0.002	0.0487	<0.0002	<0.005	<0.002	<0.002	3.5
MW-10	8/11/2016	0.966	58.7	60.2	0.380	7.26	19.9	649	<0.002	0.00682	0.322	<0.002	<0.001	<0.002	<0.002	0.380	<0.002	0.0415	<0.0002	<0.005	<0.002	<0.002	1.289
MW-10	10/12/2016	0.964	60.7	62.7	0.376	7.33	21.6	600	<0.002	0.00603	0.324	<0.002	<0.001	<0.002	<0.002	0.376	<0.002	0.0425	<0.0002	<0.005	<0.002	<0.002	0.401
MW-10	12/9/2016	0.940	59.0	66.6	0.299	7.22	26.8	612	<0.002	0.00326	0.312	<0.002	<0.001	<0.002	<0.002	0.299	<0.002	0.0382	<0.0002	<0.005	<0.002	<0.002	1.8
MW-10	2/8/2017	0.966	58.8	67.0	0.362	7.21	30.7	587	<0.002	0.00618	0.338	<0.002	<0.001	<0.002	<0.002	0.362	<0.002	0.0422	0.0002	<0.005	<0.002	<0.002	1.17
MW-10	4/6/2017	0.933	57.4	63.7	0.338	7.23	31.6	596	<0.002	0.00302	0.280	<0.002	<0.001	<0.002	<0.002	0.338	<0.002	0.0393	<0.0002	<0.005	<0.002	<0.002	1.4
MW-10	6/15/2017	0.942	55.5	63.6	0.401	7.31	31.1	625	<0.002	0.00528	0.306	<0.002	<0.001	<0.002	<0.002	0.401	<0.002	0.0409	<0.0002	<0.005	<0.002	<0.002	0.834
MW-10	8/10/2017	0.921	56.1	63.8	0.417	7.29	27.6	615	<0.002	0.00946	0.309	<0.002	<0.001	<0.002	<0.002	0.417	<0.002	0.0408	<0.0002	<0.005	<0.002	<0.002	0.695
MW-10	10/4/2017	0.991	58.4	62.8	0.377	7.23	25.5	604	<0.002	0.00508	0.289	<0.002	<0.001	<0.002	<0.002	0.377	<0.002	0.0460	<0.0002	<0.005	<0.002	<0.002	1.67
MW-10	12/12/2017	*0.961	---	---	---	**7.19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	6/9/2016	0.375	363	18.0	0.17	6.88	1830	2490	<0.002	<0.002	0.0360	<0.002	<0.001	0.00327	<0.002	0.170	<0.002	0.0608	<0.0002	<0.005	<0.002	<0.002	0.636
MW-13	8/11/2016	0.397	371	18.5	0.128	6.78	1730	2910	<0.002	<0.002	0.0235	<0.002	<0.001	<0.002	<0.002	0.128	<0.002	0.0567	<0.0002	<0.005	<0.002	<0.002	0.668
MW-13	10/13/2016	0.381	395	19.2	0.171	6.95	1830	2640	<0.002	<0.002	0.0187	<0.002	<0.001	<0.002	<0.002	0.171	<0.002	0.0568	<0.0002	<0.005	<0.002	<0.002	0.613
MW-13	12/13/2016	0.403	336	16.4	0.142	6.36	1270	2590	<0.002	<0.002	0.0181	<0.002	<0.001	<0.002	<0.002	0.142	<0.002	0.0507	<0.0002	<0.005	<0.002	<0.002	0
MW-13	2/10/2017	0.483	297	15.6	0.167	7.08	1950	2220	<0.002	<0.002	0.0161	<0.002	<0.001	<0.002	<0.002	0.167	<0.002	0.0644	<0.0002	<0.005	<0.002	<0.002	0.354
MW-13	4/6/2017	0.449	320	16.8	0.171	6.86	1480	6050	<0.002	<0.002	0.0160	<0.002	<0.001	<0.002	<0.002	0.171	<0.002	0.0554	<0.0002	<0.005	<0.002	<0.002	0.34
MW-13	6/15/2017	0.368	339	17.2	0.137	6.80	1630	2350	<0.002	<0.002	0.0162	<0.002	<0.001	<0.002	<0.002	0.137	<0.002	0.0565	<0.0002	<0.005	<0.002	<0.002	1.33
MW-13	8/8/2017	0.422	319	16.2	0.139	6.74	1410	2380	<0.002	<0.002	0.0159	<0.002	<0.001	<0.002	<0.002	0.139	<0.002	0.0620	<0.0002	<0.005	<0.002	<0.002	0.075
MW-13	10/5/2017	0.470	274	13.6	0.138	6.90	1330	2140	<0.002	<0.002	0.0192	<0.002	<0.001	<0.002	<0.002	0.138	<0.002	0.0556	<0.0002	<0.005	<0.002	<0.002	0.141
MW-14R	6/9/2016	0.629	63.4	4.95	0.265	7.42	75.8	559	<0.002	<0.002	0.0448	<0.002	<0.001	<0.002	<0.002	0.265	<0.002	0.0429	<0.0002	<0.005	<0.002	<0.002	1.51
MW-14R	8/11/2016	0.630	60.0	5.05	0.299	7.26	74.2	607	<0.002	<0.002	0.0411	<0.002	<0.001	<0.002	<0.002	0.299	<0.002	0.0449	<0.0002	<0.005	<0.002	<0.002	1.224
MW-14R	10/13/2016	0.463	59.1	4.22	0.215	7.51	40.1	545	<0.002	<0.002	0.0370	<0.002	<0.001	<0.002	<0.002	0.215	<0.002	0.0347	<0.0002	<0.005	<0.002	<0.002	1.3
MW-14R	12/9/2016	0.427	56.4	3.86	0.178	7.42	34.9	533	<0.002	<0.002	0.0374	<0.002	<0.001	<0.002	<0.002	0.178	<0.002	0.0326	<0.0002	<0.005	<0.002	<0.002	0.634
MW-14R	2/9/2017	0.566	57.3	3.98	0.211	7.92	50.4	536	<0.002	<0.002	0.0411	<0.002	<0.001	<0.002	<0.002	0.211	<0.002	0.0421	<0.0002	<0.005	<0.002	<0.002	0.279
MW-14R	4/7/2017	0.526	57.4	4.11	0.201	7.34	44.3	530	<0.002	<0.002	0.0376	<0.002	<0.001	<0.002	<0.002	0.201	<0.002	0.0393	<0.0002	<0.005	<0.002	<0.002	0.762
MW-14R	6/15/2017	0.488	57.0	4.25	0.237	7.19	44.2	499	<0.002	<0.002	0.0411	<0.002	<0.001	<0.002	<0.002	0.237	<0.002	0.0401	<0.0002	<0.005	<0.002	<0.002	0.573
MW-14R	8/10/2017	0.537	58.0	4.38	0.239	7.01	44.0	521	<0.002	<0.002	0.0394	<0.002	<0.001	<0.002	<0.002	0.239	<0.002	0.0372	<0.0002	<0.005	<0.002	<0.002	1.54
MW-14R	10/5/2017	0.420	61.5	4.12	0.169	7.63	40.7	529	<0.002	<0.002	0.0436	<0.002	<0.001	<0.002	<0.002	0.169	<0.002	0.0346	<0.0002	<0.005	<0.002	<0.002	1.12
MW-15	6/9/2016	0.282	106	14.4	0.257	7.31	200	751	<0.002	<0.002	0.0472	<0.002	<0.001	<0.002	<0.002	0.257	<0.002	0.0271	<0.0002	<0.005	<0.002	<0.002	1.8
MW-15	8/9/2016	0.255	95.2	15.8	0.220	7.23	219	777	<0.002	<0.002	0.0476	<0.002	<0.001	<0.002	<0.002	0.220	<0.002	0.0231	<0.0002	<0.005	<0.002	<0.002	0.991
MW-15	10/12/2016	0.252	103	12.9	0.232	7.28	200	772	<0.002	<0.002	0.0466	<0.002	<0.001	<0.002	<0.002	0.232	<0.002	0.0263	<0.0002	<0.005	<0.002	<0.002	1.97
MW-15	12/7/2016	0.237	105	16.5	0.262	7.02	224	767	<0.002	<0.002	0.0556	<0.002	<0.001	<0.002	<0.002	0.262	<0.002	0.0242	<0.0002	<0.005	<0.002	<0.002	1.76
MW-15	2/7/2017	0.285	109	20.2	0.258	7.28	270	2310	<0.002	<0.002	0.0527	<0.002	<0.001	<0.002	<0.002	0.258	<0.002	0.0269	<0.0002	<0.005	<0.002	<0.002	1.6
MW-15	4/5/2017	0.261	98.9	19.3	0.235	11.38	221	803	<0.002	<0.002	0.0500	<0.002	<0.001	<0.002	<0.002	0.235	<0.002	0.0237	<0.0002	<0.005	<0.002	<0.002	2.12
MW-15	6/14/2017	0.240	105	18.5	0.304	7.34	212	808	<0.002	<0.002	0.0546	<0.002	<0.001	<0.002	<0.002	0.304	<0.002	0.0211	<0.0002	<0.005	<0.002	<0.002	1
MW-15	8/10/2017	0.251	102	17.4	0.280	7.02	228	775	<0.002	<0.002	0.0515	<0.002	<0.001	<0.002	<0.002	0.280	<0.002	<0.015	<0.0002	0.00876	<0.002	<0.002	0.184
MW-15	10/3/2017	0.225	108	17.5	0.244	6.95	222	815	<0.002	<0.002	0.0541	<0.002	<0.001	<0.002	<0.002	0.244	<0.002	0.0209	<0.0002	<0.005	<0.002	<0.002	1.64
MW-15	1/9/2018	---	---	---	---	*7.21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-601	6/9/2016	1.79	21.7	161	1.63	7.66	<5	956	<0.002	<0.002	0.134	<0.002	<0.001	<0.002	<0.002	1.63	<0.002	0.0712	<0.0002	<0.005	<0.002	<0.002	0.567
MW-601	8/9/2016	1.91	20.3	161	1.69	7.72	<5	922	<0.002	<0.002	0.120	<0.002	<0.001	<0.002	<0.002	1.69	<0.002	0.0727	<0.0002	<0.005	<0.002	<0.002	0.46
MW-601	10/13/2016	1.81	23.9	201	1.68	7.71	<5	1000	<0.002	<0.002	0.117	<0.002	<0.001	<0.002	<0.002	1.68	<0.002	0.0725	<0.0002	<0.005	<0.002	<0.002	0.698
MW-601	12/7/2016	1.92	22.5	169	1.81	7.61	<5	908	<0.002	<0.002	0.130	<0.002	<0.001	<0.002	<0.002	1.81	<0.002	0.0747	<0.0002	<0.005	<0.002	<0.002	0.16
MW-601	2/8/2017	1.88	20.1	168	1.75	8.60	<5	974	<0.002	<0.002	0.135	<0.002	<0.001	<0.002	<0.002	1.75	<0.002	0.0782	0.000236	<0.005	<0.002	<0.002	0.944
MW-601	4/6/2017	1.89	21.3	156	1.59	7.61	<5	890	<0.002	<0.002	0.122	<0.002	<0.001	<0.002	<0.002	1.59	<0.002	0.0746	<0.0002	<0.005	<0.002	<0.002	0.967
MW-601	6/15/2017	1.85	22.0	167	1.63	7.62	<5	916	<0.002	<0.002	0.123	<0.002	<0.001	<0.002	<0.002	1.63	<0.002	0.0778	<0.0002	<0.005	<0.002	<0.002	0.088
MW-601	8/9/2017	1.90	20.9	168	1.80	7.72	<5	1040	<0.002	<0.002	0.125	<0.002	<0.001	<0.002	<0.002	1.80	<0.002	0.0830	<0.0002	<0.005	<0.002	<0.002	0.847
MW-601	10/6/2017	1.83	21.1	166	1.26	7.53	<5	948	<0.002	<0.002	0.132	<0.002	<0.001	<0.002	<0.002	1.26	<0.002	0.0737	<0.0002	<0.005	<0.002	<0.002	0.343
MW-601	1/9/2018	---	---	---	---	*7.41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-602	6/10/2016	2.28	24.7	16.9	1.21	7.01	25.1	618	<0.002	<0.002	0.101	<0.002	<0.001	<0.002	<0.002	1.21	<0.002	0.0628	<0.0002	<0.005	<0.002	<0.002	0.014
MW-602	8/9/2016	2.39	23.3	17.3	1.27	7.64	25.2	600	<0.002	<0.002	0.0927	<0.002	<0.001	<0.002	<0.002	1.27	<0.002	0.0587	<0.0002	<0.005	<0.002	<0.002	0.123
MW-602	10/13/2016	2.39	25.7	16.8	1.30	7.34	23.4	667	<0.002	<0.002	0.0906	<0.002	<0.001	<0.002	<0.002	1.30	<0.002	0.0615	<0.0002	<0.005	<0.002	<0.002	0.896
MW-602	12/9/2016	2.34	25.3	16.4	1.16	8.15	24.2	614	<0.002	<0.002	0.0913	<0.002	<0.001	<0.002	<0.002	1.16	<0.002	0.0533	<0.0002	<0.005	<0.002	<0.002	0.65
MW-602	2/8/2017	2.41	24.0	17.6	1.24	8.36	27.5	606	<0.002	<0.002	0.0956	<0.002	<0.001	<0.002	<0.002	1.24	<0.002	0.0630	0.000205	<0.005	<0.002	<0.002	0.936
MW-602	4/7/2017	2.44	24.9	17.2	1.18	7.51	23.8	555	<0.002	<0.002	0.0921	<0.002	<0.001	<0.002	<0.002	1.18	<0.002	0.0624	<0.0002	<0.005	<0.002	<0.002	1.26
MW-602	6/15/2017	2.41	23.2	17.2	1.20	7.77	24.4	607	<0.002	<0.002	0.094	<0.002	<0.001	<0.002	<0.002	1.20	<0.002	0.0652	<0.0002	<0.005	<0.002	<0.002	0
MW-602	8/10/2017	2.45	23.3	17.8	1.36	7.56	24.8	604	<0.002	<0.002	0.0883	<0.002	<0.001	<0.002	<0.002	1.36	<0.002	0.0662	<0.0002	<0.005	<0.002	<0.002	0
MW-602	10/5/2017	2.31	25.3	17.9	0.972	7.78	26.9	607	<0.002	<0.002	0.101	<0.002	<0.001	<0.002	<0.002	0.972	<0.002	0.0612	<0.0002	<0.005	<0.002	<0.002	1.77

* Verification Sample
**Extra Sample per Standard Sampling Procedure
mg/L - miligrams per liter
pCi/L - picocuries per liter
S.U. - Standard Units
--- Not Sampled

Table 1
CCR Landfill and Lower AQC Impoundment
Appendix III and Appendix IV Detection Monitoring Results
KCP&L LaCygne Generating Station

		Appendix III Constituents							Appendix IV Constituents														
Well Number	Sample Date	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	pH (S.U.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Radium Combined (pCi/L)
MW-801	6/7/2016	2.34	37.6	118	1.08	7.47	<5	930	<0.002	<0.002	0.638	<0.002	<0.001	<0.002	<0.002	1.08	<0.002	0.119	<0.0002	<0.005	<0.002	<0.002	1.15
MW-801	8/9/2016	2.39	30.9	111	1.11	7.48	<5	888	<0.002	<0.002	0.592	<0.002	<0.001	<0.002	<0.002	1.11	<0.002	0.0957	<0.0002	<0.005	<0.002	<0.002	0.87
MW-801	10/11/2016	2.32	33.5	117	1.11	7.32	<5	970	<0.002	<0.002	0.573	<0.002	<0.001	<0.002	<0.002	1.11	<0.002	0.102	<0.0002	<0.005	<0.002	<0.002	1.25
MW-801	12/6/2016	2.33	33.6	116	1.19	7.14	<5	880	<0.002	<0.002	0.589	<0.002	<0.001	<0.002	<0.002	1.19	<0.002	0.0994	<0.0002	<0.005	<0.002	<0.002	1.88
MW-801	2/7/2017	2.34	30.9	113	1.14	7.58	<5	900	<0.002	<0.002	0.604	<0.002	<0.001	<0.002	<0.002	1.14	<0.002	0.104	0.000247	<0.005	<0.002	<0.002	0.955
MW-801	4/6/2017	2.34	32.5	111	1.03	7.26	<5	826	<0.002	<0.002	0.560	<0.002	<0.001	<0.002	<0.002	1.03	0.00296	0.101	<0.0002	<0.005	<0.002	<0.002	1.27
MW-801	6/14/2017	2.27	28.8	103	1.12	6.95	<5	862	<0.002	<0.002	0.565	<0.002	<0.001	<0.002	<0.002	1.12	0.00212	0.114	<0.0002	<0.005	<0.002	<0.002	0.973
MW-801	8/9/2017	2.34	30.9	116	1.05	7.51	<5	1050	<0.002	<0.002	0.562	<0.002	<0.001	<0.002	<0.002	1.05	0.00326	0.114	<0.0002	<0.005	<0.002	<0.002	0.972
MW-801	10/4/2017	2.3	31.4	118	1.16	7.58	<5	916	<0.002	<0.002	0.588	<0.002	<0.001	<0.002	<0.002	1.16	0.00708	0.0981	<0.0002	<0.005	<0.002	<0.002	1.15
MW-802	6/7/2016	2.51	42.6	37.9	0.920	7.46	<5	695	<0.002	<0.002	0.967	<0.002	<0.001	<0.002	<0.002	0.920	<0.002	0.105	<0.0002	<0.005	<0.002	<0.002	2.19
MW-802	8/10/2016	2.59	32.2	37.5	0.972	7.52	<5	681	<0.002	<0.002	0.878	<0.002	<0.001	<0.002	<0.002	0.972	<0.002	0.087	<0.0002	<0.005	<0.002	<0.002	2.228
MW-802	10/11/2016	2.50	37.2	36.3	0.986	7.34	<5	713	<0.002	<0.002	0.868	<0.002	<0.001	<0.002	<0.002	0.986	<0.002	0.0908	<0.0002	<0.005	<0.002	<0.002	1.99
MW-802	12/6/2016	2.57	37.2	37.4	1.04	7.48	<5	659	<0.002	<0.002	0.889	<0.002	<0.001	<0.002	<0.002	1.04	<0.002	0.0925	<0.0002	<0.005	<0.002	<0.002	1.16
MW-802	2/7/2017	2.51	33.7	37.1	1.01	7.67	<5	683	<0.002	<0.002	0.908	<0.002	<0.001	<0.002	<0.002	1.01	<0.002	0.0931	0.000213	<0.005	<0.002	<0.002	0.559
MW-802	4/4/2017	2.48	35.0	37.4	0.947	8.72	<5	693	<0.002	<0.002	0.861	<0.002	<0.001	<0.002	<0.002	0.947	<0.002	0.0919	<0.0002	<0.005	<0.002	<0.002	1.78
MW-802	6/13/2017	2.41	31.6	36.4	0.995	7.60	<5	709	<0.002	<0.002	0.860	<0.002	<0.001	<0.002	<0.002	0.995	<0.002	0.0971	<0.0002	<0.005	<0.002	<0.002	2.26
MW-802	8/7/2017	2.50	32.4	35.6	1.09	7.29	<5	653	<0.002	<0.002	0.855	<0.002	<0.001	<0.002	<0.002	1.09	<0.002	0.0999	<0.0002	<0.005	<0.002	<0.002	1.22
MW-802	10/4/2017	2.48	34.1	36.4	1.07	7.58	<5	684	<0.002	<0.002	0.883	<0.002	<0.001	<0.002	<0.002	1.07	<0.002	0.0890	<0.0002	<0.005	<0.002	<0.002	1.9
MW-803	6/9/2016	2.04	47.6	48.1	0.636	7.48	15.0	594	0.00256	<0.002	0.244	<0.002	<0.001	<0.002	<0.002	0.636	<0.002	0.0649	<0.0002	<0.005	<0.002	<0.002	0.992
MW-803	8/12/2016	2.15	46.2	48.8	0.653	7.51	16.2	591	0.00250	<0.002	0.224	<0.002	<0.001	<0.002	<0.002	0.653	<0.002	0.0650	<0.0002	<0.005	<0.002	<0.002	1.656
MW-803	10/13/2016	2.12	49.7	48.4	0.645	6.99	17.9	592	<0.002	<0.002	0.220	<0.002	<0.001	<0.002	<0.002	0.645	<0.002	0.0686	<0.0002	<0.005	<0.002	<0.002	1.93
MW-803	12/6/2016	2.13	48.3	49.9	0.696	7.48	21.9	603	<0.002	<0.002	0.242	<0.002	<0.001	<0.002	<0.002	0.696	<0.002	0.0915	<0.0002	0.00593	<0.002	<0.002	1.55
MW-803	2/8/2017	2.14	44.8	49.3	0.607	8.12	22.4	599	<0.002	<0.002	0.239	<0.002	<0.001	<0.002	<0.002	0.607	<0.002	0.0779	0.000207	<0.005	<0.002	<0.002	1.62
MW-803	4/7/2017	2.14	46.7	49.5	0.586	7.36	17.8	605	<0.002	<0.002	0.217	<0.002	<0.001	<0.002	<0.002	0.586	<0.002	0.0690	<0.0002	<0.005	<0.002	<0.002	0.988
MW-803	6/13/2017	1.97	44.1	49.2	0.665	7.98	21.2	627	<0.002	<0.002	0.234	<0.002	<0.001	<0.002	<0.002	0.665	<0.002	0.0968	<0.0002	<0.005	<0.002	<0.002	1.1
MW-803	8/9/2017	2.12	46.1	49.5	0.693	7.52	23.2	709	<0.002	<0.002	0.234	<0.002	<0.001	<0.002	<0.002	0.693	<0.002	0.0898	<0.0002	0.00521	<0.002	<0.002	1.84
MW-803	10/4/2017	2.07	46.1	49.3	0.594	7.55	23.2	625	<0.002	<0.002	0.240	<0.002	<0.001	<0.002	<0.002	0.594	<0.002	0.0909	<0.0002	0.00549	<0.002	<0.002	3.38
MW-804	6/8/2016	1.65	68.5	32.8	0.491	7.13	27.2	562	<0.002	<0.002	0.178	<0.002	<0.001	<0.002	<0.002	0.491	<0.002	0.0453	<0.0002	<0.005	<0.002	<0.002	0.853
MW-804	8/10/2016	1.58	63.7	26.1	0.443	7.32	20.9	554	<0.002	<0.002	0.147	<0.002	<0.001	<0.002	<0.002	0.443	<0.002	0.0382	<0.0002	<0.005	<0.002	<0.002	0.93
MW-804	10/11/2016	1.59	65.1	26.3	0.448	7.20	20.9	577	<0.002	<0.002	0.146	<0.002	<0.001	<0.002	<0.002	0.448	<0.002	0.0408	<0.0002	<0.005	<0.002	<0.002	0.344
MW-804	12/7/2016	1.62	65.7	25.5	0.441	6.93	21.0	518	<0.002	<0.002	0.151	<0.002	<0.001	<0.002	<0.002	0.441	<0.002	0.0421	<0.0002	<0.005	<0.002	<0.002	1.81
MW-804	2/7/2017	1.59	63.5	25.3	0.453	7.41	23.2	559	<0.002	<0.002	0.153	<0.002	<0.001	<0.002	<0.002	0.453	<0.002	0.0421	<0.0002	<0.005	<0.002	<0.002	0.317
MW-804	4/4/2017	1.59	65.1	26.0	0.429	7.65	21.4	555	<0.002	<0.002	0.147	<0.002	<0.001	<0.002	<0.002	0.429	<0.002	0.0414	<0.0002	<0.005	<0.002	<0.002	0.825
MW-804	6/13/2017	1.57	63.2	26.0	0.474	7.22	21.5	575	<0.002	<0.002	0.150	<0.002	<0.001	<0.002	<0.002	0.474	<0.002	0.0422	<0.0002	<0.005	<0.002	<0.002	1.61
MW-804	8/8/2017	1.61	63.8	26.3	0.476	7.06	20.7	548	<0.002	<0.002	0.143	<0.002	<0.001	<0.002	<0.002	0.476	<0.002	0.0444	<0.0002	<0.005	<0.002	<0.002	1.19
MW-804	10/5/2017	1.53	65.9	26.9	0.327	6.93	21.9	577	<0.002	<0.002	0.162	<0.002	<0.001	<0.002	<0.002	0.327	<0.002	0.0397	<0.0002	<0.005	<0.002	<0.002	1.18
MW-805	6/7/2016	0.510	422	520	0.122	6.52	829	2070	<0.002	<0.002	0.0387	<0.002	<0.001	<0.002	<0.002	0.122	<0.002	0.0530	<0.0002	<0.005	<0.002	<0.002	0.158
MW-805	8/10/2016	0.415	437	491	0.126	6.35	776	2440	<0.002	<0.002	0.0471	<0.002	<0.001	0.00284	<0.002	0.126	<0.002	0.0217	<0.0002	<0.005	<0.002	<0.002	0.928
MW-805	10/11/2016	0.462	422	466	0.136	6.36	726	1820	<0.002	0.00267	0.0401	<0.002	<0.001	<0.002	0.00790	0.136	<0.002	0.0234	<0.0002	<0.005	<0.002	<0.002	0.698
MW-805	12/6/2016	0.507	422	464	0.181	6.36	742	2420	<0.002	<0.002	0.0356	<0.002	<0.001	<0.002	0.00431	0.181	<0.002	0.0277	<0.0002	<0.005	<0.002	<0.002	0.764
MW-805	2/6/2017	0.456	435	467	0.145	6.62	846	2140	<0.002	<0.002	0.0340	<0.002	<0.001	<0.002	0.00218	0.145	<0.002	<0.015	<0.0002	<0.005	<0.002	<0.002	1.81
MW-805	4/4/2017	0.444	444	504	0.142	6.90	836	2270	<0.002	<0.002	0.0334	<0.002	<0.001	<0.002	<0.002	0.142	<0.002	0.0178	<0.0002	<0.005	<0.002	<0.002	0.018
MW-805	6/13/2017	0.468	430	459	0.214	6.43	742	2420	<0.002	<0.002	0.0337	<0.002	<0.001	<0.002	<0.002	0.214	<0.002	<0.015	<0.0002	<0.005	<0.002	<0.002	0.06
MW-805	8/8/2017	0.518	414	470	0.143	6.49	737	2150	<0.002	<0.002	0.0327	<0.002	<0.001	<0.002	<0.002	0.143	<0.002	0.0272	<0.0002	<0.005	<0.002	<0.002	0.175
MW-805	10/5/2017	0.406	467	505	<0.1	5.99	914	2110	<0.002	<0.002	0.0344	<0.002	<0.001	<0.002	<0.002	<0.1	<0.002	0.0173	<0.0002	<0.005	<0.002	<0.002	0.123
MW-805	12/12/2017	---	*525	---	---	*6.35	*753	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-805	1/9/2018	---	*439	---	---	**6.76	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

* Verification Sample
**Extra Sample per Standard Sampling Procedure
mg/L - miligrams per liter
pCi/L - picocuries per liter
S.U. - Standard Units
--- Not Sampled

Table 2
CCR Landfill and Lower AQC Impoundment
Detection Monitoring Field Measurements
KCP&L LaCygne 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-10	6/6/2016	7.33	886	21.56	2.60	2.24	872.71
MW-10	8/11/2016	7.26	1092	22.76	1.30	1.99	872.96
MW-10	10/12/2016	7.33	1031	16.18	0.68	1.16	873.79
MW-10	12/9/2016	7.22	1042	12.03	1.26	1.38	873.57
MW-10	2/8/2017	7.21	1000	8.20	2.96	2.36	872.59
MW-10	4/6/2017	7.23	1035	11.88	6.93	2.45	872.50
MW-10	6/15/2017	7.31	1112	19.34	2.01	2.62	872.33
MW-10	8/10/2017	7.29	1038	20.10	0.96	2.51	872.44
MW-10	10/4/2017	7.23	1055	19.04	1.39	2.06	872.89
MW-10	12/12/2017	**7.19	752	13.20	1.08	2.49	872.46
MW-13	6/9/2016	6.88	3999	30.95	8.30	4.63	872.59
MW-13	8/11/2016	6.78	3039	23.77	4.73	5.00	872.22
MW-13	10/13/2016	6.95	2991	17.65	1.39	3.47	873.75
MW-13	12/13/2016	6.36	2683	13.29	10.95	6.44	870.78
MW-13	2/10/2017	7.08	2760	15.18	0.75	4.47	872.75
MW-13	4/6/2017	6.86	2774	14.25	1.54	3.61	873.61
MW-13	6/15/2017	6.80	3018	18.60	0.85	4.57	872.65
MW-13	8/8/2017	6.74	2648	18.86	0.59	5.36	871.86
MW-13	10/5/2017	6.90	2454	17.72	2.76	5.33	871.89
MW-14R	6/9/2016	7.42	975	23.02	0.03	11.33	867.50
MW-14R	8/11/2016	7.26	1014	20.74	16.10	10.75	868.08
MW-14R	10/13/2016	7.51	982	13.86	2.58	9.77	869.06
MW-14R	12/9/2016	7.42	836	7.58	1.89	11.24	867.59
MW-14R	2/9/2017	7.92	837	11.41	5.82	12.03	866.80
MW-14R	4/7/2017	7.34	915	15.87	3.47	13.06	865.77
MW-14R	6/15/2017	7.19	958	17.78	2.13	10.34	868.49
MW-14R	8/10/2017	7.01	851	19.49	2.10	10.79	868.04
MW-14R	10/5/2017	7.63	954	15.34	0.60	10.19	868.64
MW-15	6/9/2016	7.31	1207	25.89	0.10	9.02	864.86
MW-15	8/9/2016	7.23	1270	20.47	0.64	8.65	865.23
MW-15	10/12/2016	7.28	1255	16.22	1.39	8.32	865.56
MW-15	12/7/2016	7.02	1174	14.85	0.55	9.18	864.70
MW-15	2/7/2017	7.28	1267	13.45	0.25	10.14	863.74
MW-15	4/5/2017	11.38	1303	14.39	7.54	9.72	864.16
MW-15	6/14/2017	7.34	1253	19.65	2.49	8.59	865.29
MW-15	8/10/2017	7.02	1131	23.26	1.50	8.55	865.33
MW-15	10/3/2017	6.95	1121	17.54	0.33	9.08	864.80
MW-15	1/9/2018	*7.21	1014	14.96	0.93	10.27	863.61
MW-601	6/9/2016	7.66	1655	21.04	1.40	10.42	868.76
MW-601	8/9/2016	7.72	1679	20.46	4.52	10.98	868.20
MW-601	10/13/2016	7.71	1754	15.58	2.57	9.36	869.82
MW-601	12/7/2016	7.61	1568	11.15	2.99	9.23	869.95
MW-601	2/8/2017	8.60	1691	6.86	1.45	9.03	870.15
MW-601	4/6/2017	7.61	1566	14.96	5.58	9.48	869.70
MW-601	6/15/2017	7.62	1700	18.58	2.80	10.06	869.12
MW-601	8/9/2017	7.72	1599	24.67	1.88	10.72	868.46
MW-601	10/6/2017	7.53	1625	18.46	1.53	9.60	869.58
MW-601	1/9/2018	*7.41	1412	15.04	1.27	8.82	870.36
MW-602	6/10/2016	7.01	1035	21.54	4.80	3.71	876.18
MW-602	8/9/2016	7.64	1069	24.56	1.95	3.66	876.23
MW-602	10/13/2016	7.34	967	16.70	3.37	3.61	876.28
MW-602	12/9/2016	8.15	979	10.03	5.89	3.21	876.68
MW-602	2/8/2017	8.36	1008	8.12	0.96	2.75	877.14
MW-602	4/7/2017	7.51	995	18.62	4.74	2.97	876.92
MW-602	6/15/2017	7.77	1031	18.83	2.71	3.61	876.28
MW-602	8/10/2017	7.56	869	26.79	2.04	4.13	875.76
MW-602	10/5/2017	7.78	1019	20.90	0.71	3.93	875.96

* Verification Sample
** Extra Sample Collected per Standard Sampling Procedure
***Depth to water measured in all monitoring wells within 24 hour period prior to the sampling event
S.U. - Standard Units
µS - microsiemens
°C - Degrees Celsius
ft btoc - Feet Below Top of Casing
ft NGVD - National Geodetic Vertical Datum (NAVD 88)
NTU - Nephelometric Turbidity Unit

Table 2
CCR Landfill and Lower AQC Impoundment
Detection Monitoring Field Measurements
KCP&L LaCygne Generating Station

Well Number	Sample Date	pH (S.U.)	Specific Conductivity (µS)	Temperature (^{o}C)	Turbidity (NTU)	***Water Level (ft btoc)	Groundwater Elevation (ft NGVD)
MW-801	6/7/2016	7.47	1464	17.80	5.17	0.15	857.50
MW-801	8/9/2016	7.48	1596	20.28	11.87	0.08	857.57
MW-801	10/11/2016	7.32	1659	18.87	3.54	0.09	857.56
MW-801	12/6/2016	7.14	1455	11.57	4.44	0.09	857.56
MW-801	2/7/2017	7.58	1543	11.16	6.20	0.45	857.20
MW-801	4/6/2017	7.26	1460	14.48	8.13	0.20	857.45
MW-801	6/14/2017	6.95	1560	18.38	4.63	0.16	857.49
MW-801	8/9/2017	7.51	1498	26.38	3.16	0.10	857.55
MW-801	10/4/2017	7.58	1459	18.04	3.89	0.60	857.05
MW-802	6/7/2016	7.46	1149	18.72	1.45	0.16	853.31
MW-802	8/10/2016	7.52	1201	21.13	3.05	0.36	853.11
MW-802	10/11/2016	7.34	1259	20.73	1.55	0.09	853.38
MW-802	12/6/2016	7.48	1108	14.67	0.75	0.10	853.37
MW-802	2/7/2017	7.67	1148	14.27	2.96	0.18	853.29
MW-802	4/4/2017	8.72	1232	13.42	7.16	0.20	853.27
MW-802	6/13/2017	7.60	1164	19.27	2.74	0.16	853.31
MW-802	8/7/2017	7.29	978	19.57	1.66	0.10	853.37
MW-802	10/4/2017	7.58	1108	18.31	0.85	0.82	852.65
MW-803	6/9/2016	7.48	1032	22.23	1.63	22.38	832.62
MW-803	8/12/2016	7.51	1090	18.00	3.33	27.00	828.00
MW-803	10/13/2016	6.99	1110	15.04	4.52	30.35	824.65
MW-803	12/6/2016	7.48	981	14.61	4.53	30.76	824.24
MW-803	2/8/2017	8.12	1030	5.46	0.44	27.34	827.66
MW-803	4/7/2017	7.36	1036	14.20	3.84	28.80	826.20
MW-803	6/13/2017	7.98	1082	17.59	3.29	29.92	825.08
MW-803	8/8/2017	7.52	967	20.55	2.47	32.62	822.38
MW-803	10/4/2017	7.55	1014	19.50	0.62	29.63	825.37
MW-804	6/8/2016	7.13	909	20.04	1.65	8.96	846.24
MW-804	8/10/2016	7.32	1003	22.17	2.61	8.82	846.38
MW-804	10/11/2016	7.20	1059	23.80	1.55	7.42	847.78
MW-804	12/7/2016	6.93	876	12.54	2.60	5.04	850.16
MW-804	2/7/2017	7.41	936	17.57	2.24	5.74	849.46
MW-804	4/4/2017	7.65	1003	13.70	7.77	7.12	848.08
MW-804	6/13/2017	7.22	951	21.38	3.11	8.86	846.34
MW-804	8/8/2017	7.06	939	22.37	3.05	9.55	845.65
MW-804	10/5/2017	6.93	978	22.72	0.46	9.94	845.26
MW-805	6/7/2016	6.52	3006	23.42	0.47	4.43	850.20
MW-805	8/10/2016	6.35	3275	21.64	16.70	3.91	850.72
MW-805	10/11/2016	6.36	2762	20.80	9.10	3.88	850.75
MW-805	12/6/2016	6.36	2999	16.10	7.68	4.36	850.27
MW-805	2/6/2017	6.62	2988	15.01	4.61	5.00	849.63
MW-805	4/4/2017	6.90	2817	13.09	11.09	4.81	849.82
MW-805	6/13/2017	6.43	3113	22.20	4.71	4.36	850.27
MW-805	8/8/2017	6.49	3000	25.33	2.25	4.62	850.01
MW-805	10/5/2017	5.99	3400	22.26	1.00	6.74	847.89
MW-805	12/12/2017	*6.35	3299	16.19	4.07	6.77	847.86
MW-805	1/9/2018	**6.76	2441	16.38	0.91	8.18	846.45

* Verification Sample
** Extra Sample Collected per Standard Sampling Procedure
***Depth to water measured in all monitoring wells within 24 hour period prior to the sampling event
S.U. - Standard Units
µS - microsiemens
^{o}C - Degrees Celsius
ft btoc - Feet Below Top of Casing
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NTU - Nephelometric Turbidity Unit

ADDENDUM 1

2017 Annual Groundwater Monitoring and Corrective Action Report
Addendum 1

December 16, 2022
File No. 27217233.00

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 and Lower AQC Impoundment
La Cygne Generating Station - La Cygne, Kansas

The CCR Landfill and Lower AQC Impoundment at the La Cygne Generating Station are subject to the groundwater monitoring and corrective action requirements of the "Coal Combustion Residuals (CCR) Final Rule" (Rule); as described in CFR 40 257.90 through CFR 40 257.98. An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting activities completed in 2017 for the CCR Landfill and Lower AQC Impoundment was completed and placed in the facility's operating record on January 30, 2018, as required by the Rule. The Annual GWMCA report was to fulfill the requirements specified in 40 CFR 257.90(e).

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

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

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

The attachments to this addendum are as follows:

- Attachment 1 – Laboratory Analytical Reports:

  Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. Because a GWMCA Report was not required for 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:

  - June 2016 – First background sampling event for Appendix III and Appendix IV.
  - August 2016 – Second background sampling event for Appendix III and Appendix IV.
  - October 2016 - Third background sampling event for Appendix III and Appendix IV.
  - December 2016 - Fourth background sampling event for Appendix III and Appendix IV.
  - February 2017 - Fifth background sampling event for Appendix III and Appendix IV.
  - April 2017 - Sixth background sampling event for Appendix III and Appendix IV.
  - June 2017 - Seventh background sampling event for Appendix III and Appendix IV.
  - August 2017 - Eighth background sampling event for Appendix III and Appendix IV.
  - October 2017 – Fall semiannual detection monitoring sampling event.
  - December 2017 – First verification sampling for the Fall 2017 detection monitoring sampling event.

- Attachment 2 - Statistical Analyses:

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

- Attachment 3 - Revised Groundwater Potentiometric Surface Maps:

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

  - June 2016 – First background sampling event.
  - August 2016 – Second background sampling event.
  - October 2016 - Third background sampling event.
  - December 2016 - Fourth background sampling event.
  - February 2017 - Fifth background sampling event.
  - April 2017 - Sixth background sampling event.
  - June 2017 - Seventh background sampling event.
  - August 2017 - Eighth background sampling event.
  - October 2017 – Fall semiannual detection monitoring sampling event.
  - December 2017 – First verification sampling for the Fall 2017 detection monitoring sampling event.

Jared Morrison
December 16, 2022

ATTACHMENT 1

Laboratory Analytical Reports

Jared Morrison
December 16, 2022

ATTACHMENT 1-1

June 2016 Sampling Event Laboratory Report

Case Narrative

Lab No: 20160561

This report contains the analytical results for the 22 sample(s) received under chain of custody by ESC Lab Sciences on 6/10/2016 12:29:39 PM. These samples are associated with your La Cygne 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:

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

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160561-01								
Client ID : MW-10								
Date Sampled : 6/6/2016 1:25:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		3.50 +/- 0.942	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.394 +/- 0.218	0.231	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	3.11 +/- 0.724	0.854	pCi/l		07/11/16	07/13/16	JR
Lab ID : 20160561-02								
Client ID : MW-11								
Date Sampled : 6/6/2016 2:45:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		0.472 +/- 0.708	0.955	pCi/l				
Radium-226	SM 7500 Ra B M*	0.061 +/- 0.133	0.226	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.411 +/- 0.575	0.729	pCi/l		07/11/16	07/13/16	JR
Lab ID : 20160561-03								
Client ID : MW-11 MS								
Date Sampled : 6/6/2016 2:45:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	102		% Rec				
Radium-228	EPA 904*/9320*	94.6		% Rec				
Lab ID : 20160561-04								
Client ID : MW-11 MSD								
Date Sampled : 6/6/2016 2:45:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	9.0		RPD				
Radium-228	EPA 904*/9320*	17.1		RPD				
Lab ID : 20160561-05								
Client ID : MW-708								
Date Sampled : 6/7/2016 9:35:00 AM								
Matrix : NPW								

*NELAC Certified Parameter BDL = Below Detection Limit

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		1.83 +/- 0.682	0.837	pCi/l				
Radium-226	SM 7500 Ra B M*	0.221 +/- 0.145	0.166	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	1.61 +/- 0.537	0.671	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-06
Client ID : MW-703
Date Sampled : 6/7/2016 2:15:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		1.36 +/- 1.04	1.11	pCi/l				
Radium-226	SM 7500 Ra B M*	1.36 +/- 0.321	0.221	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	-0.212 +/- 0.723	0.884	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-07
Client ID : MW-704
Date Sampled : 6/7/2016 3:10:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.986 +/- 0.854	0.985	pCi/l				
Radium-226	SM 7500 Ra B M*	0.443 +/- 0.211	0.228	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.543 +/- 0.643	0.757	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-08
Client ID : MW-701
Date Sampled : 6/7/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.245 +/- 0.721	0.954	pCi/l				
Radium-226	SM 7500 Ra B M*	0.227 +/- 0.185	0.255	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.018 +/- 0.536	0.699	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-09
Client ID : MW-705
Date Sampled : 6/7/2016 5:25:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.601 +/- 0.955	1.19	pCi/l				

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.184 +/- 0.148	0.205	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.417 +/- 0.807	0.981	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-10
Client ID : MW-950
Date Sampled : 6/8/2016 8:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.800 +/- 0.815	0.880	pCi/l				
Radium-226	SM 7500 Ra B M*	0.525 +/- 0.217	0.131	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.275 +/- 0.598	0.749	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-11
Client ID : MW-706
Date Sampled : 6/8/2016 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.26 +/- 0.964	1.42	pCi/l				
Radium-226	SM 7500 Ra B M*	0.578 +/- 0.223	0.161	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.681 +/- 0.741	1.26	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-12
Client ID : MW-702
Date Sampled : 6/8/2016 12:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.924 +/- 0.857	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.414 +/- 0.157	0.155	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.510 +/- 0.700	0.861	pCi/l		07/11/16	07/13/16	JR

Lab ID : 20160561-13
Client ID : MW-7
Date Sampled : 6/8/2016 2:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.66 +/- 1.14	1.35	pCi/l				
Radium-226	SM 7500 Ra B M*	1.06 +/- 0.278	0.236	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.601 +/- 0.860	1.11	pCi/l		07/11/16	07/13/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160561-14**								
Client ID : **MW-6**								
Date Sampled : **6/8/2016 3:45:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.385 +/- 0.925	1.20	pCi/l				
Radium-226	SM 7500 Ra B M*	0.385 +/- 0.199	0.231	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	-0.041 +/- 0.726	0.970	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-15**								
Client ID : **MW-801**								
Date Sampled : **6/7/2016 9:00:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.15 +/- 0.952	1.49	pCi/l				
Radium-226	SM 7500 Ra B M*	0.506 +/- 0.176	0.116	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.647 +/- 0.776	1.37	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-16**								
Client ID : **MW-951**								
Date Sampled : **6/7/2016 9:10:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.57 +/- 0.872	1.21	pCi/l				
Radium-226	SM 7500 Ra B M*	0.361 +/- 0.150	0.162	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	1.21 +/- 0.722	1.05	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-17**								
Client ID : **MW-802**								
Date Sampled : **6/7/2016 9:40:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		2.19 +/- 0.754	0.818	pCi/l				
Radium-226	SM 7500 Ra B M*	0.519 +/- 0.172	0.099	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	1.67 +/- 0.582	0.719	pCi/l		07/11/16	07/13/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160561-18**								
Client ID : **MW-805**								
Date Sampled : **6/7/2016 12:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.158 +/- 0.691	0.899	pCi/l				
Radium-226	SM 7500 Ra B M*	0.158 +/- 0.109	0.125	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	-0.253 +/- 0.582	0.774	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-19**								
Client ID : **MW-902**								
Date Sampled : **6/7/2016 4:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.71 +/- 0.891	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.116 +/- 0.129	0.189	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	2.59 +/- 0.762	0.900	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-20**								
Client ID : **MW-804**								
Date Sampled : **6/8/2016 8:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.853 +/- 0.746	0.907	pCi/l				
Radium-226	SM 7500 Ra B M*	0.207 +/- 0.130	0.147	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.646 +/- 0.616	0.760	pCi/l		07/11/16	07/13/16	JR
Lab ID : **20160561-21**								
Client ID : **MW-903**								
Date Sampled : **6/8/2016 10:25:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.783 +/- 1.02	1.27	pCi/l				
Radium-226	SM 7500 Ra B M*	0.282 +/- 0.142	0.145	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	0.501 +/- 0.880	1.12	pCi/l		07/11/16	07/13/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160561-22**								
Client ID : **MW-901**								
Date Sampled : **6/8/2016 11:00:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		2.14 +/- 1.08	1.43	pCi/l				
Radium-226	SM 7500 Ra B M*	0.333 +/- 0.162	0.158	pCi/l		06/16/16	06/20/16	AK
Radium-228	EPA 904*/9320*	1.81 +/- 0.916	1.27	pCi/l		07/11/16	07/13/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.012	93.6			NC	0.029	102.0	92.8	9.0	R1098
Radium-228	0.257	105.0			NC	0.494	94.6	113.0	17.1	R3829

Lab Approval: 

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. # URSKC1028155

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

Chain of Custody Page ___ of ___

ESC 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# 840923

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P556947
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORI-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
MW-10	G	GW		6/6/16	1325	2	X		
MW-11		GW			1445	2	X		
MW-11-MS		GW			1445	2	X		
MW-11-MSD		GW			1445	2	X		
MW-702		GW		6/7	935	2	X		
MW-703		GW			1415	2	X		
MW-704		GW			1510	2	X		
MW-701		GW			1550	2	X		
MW-705		GW			1725	2	X		
MW-950		GW		6/8	0830	2	X		

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

Remarks:Report Radium 226 and 228 Combined.

20160561

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8	1735	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/9/16	1700	6/10 1129
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: °C Bottles Received:

Date: Time:

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

AECOM - Overland Park, KS

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Overland Park, KS 66210

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Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs	Analysis / Container / Preservative: ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-706	G	GW		6/8/16	1150	2	X
MW-702		GW			1250	2	X
MW-7		GW			1425	2	X
MW-6		GW			1545	2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X

COPY

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

Remarks:Report Radium 226 and 228 Combined.

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8	1735	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/9/16	1700	6/10/16 0229
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

7016 0561

pH _____ Temp _____
Flow _____ Other _____
Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: °C Bottles Received: NA
Date: Time:

Hold #
Condition: (lab use only)
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

Chain of Custody Page ___ of ___

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YOUR LAB OF CHOICE

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Mount Juliet, TN 37122
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Phone: 800-767-5859
Fax: 615-758-5859

L# 840523

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P556947
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
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Report to: Brian Linnan

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Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. # URSKC1028155

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

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
MW-801	GRAB	GW		6/7/16	0900	2	X		
MW-951		GW			0910	2	X		
MW-802		GW			0940	2	X		
MW-805		GW			1240	2	X		
MW-907		GW			1640	2	X		
MW-904		GW		6/8/16	0845	2	X		
MW-903		GW			1025	2	X		
MW-901		GW			1100	2	X		
		GW				2	X		
		GW				2	X		

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

Remarks:Report Radium 226 and 228 Combined.

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page ___ of ___

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Phone: 615-758-5858
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L# 140923

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P556947

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8/16	1735	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/10/16	0829	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: °C Bottles Received:

Date: Time:

Condition: (lab use only)

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

20160361

SAMPLE LOGIN

Date Received: *06/10/16 12:29:39* **Lab Number:** 20160561 **Due:** 07/08/16

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160561-01 B	MW-10	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-01 A	MW-10	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-02 A	MW-11	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-02 B	MW-11	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-03 A	MW-11 MS	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-03 B	MW-11 MS	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-04 A	MW-11 MSD	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-04 B	MW-11 MSD	NPW	06/06/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-05 A	MW-708	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-05 B	MW-708	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-06 A	MW-703	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-06 B	MW-703	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-07 B	MW-704	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-07 A	MW-704	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160561-08 A	MW-701	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-08 B	MW-701	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-09 A	MW-705	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-09 B	MW-705	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-10 A	MW-950	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-10 B	MW-950	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-11 A	MW-706	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-11 B	MW-706	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-12 B	MW-702	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-12 A	MW-702	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-13 A	MW-7	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-13 B	MW-7	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-14 A	MW-6	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-14 B	MW-6	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-15 A	MW-801	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-15 B	MW-801	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-16 A	MW-951	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-16 B	MW-951	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-17 A	MW-802	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-17 B	MW-802	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-18 B	MW-805	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-18 A	MW-805	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-19 A	MW-902	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-19 B	MW-902	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-20 A	MW-804	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-20 B	MW-804	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-21 A	MW-903	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-21 B	MW-903	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160561-22 B	MW-901	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160561-22 A	MW-901	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers **Custody Seals Broken** ☐ **Temperature:** **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: _____ **DATE** 6/6/16

QA or Designee Review: _____ **DATE** _____

Sample Custodian Review: _____ **DATE** _____

Project Notes:

Case Narrative

Lab No: 20160567

This report contains the analytical results for the 10 sample(s) received under chain of custody by ESC Lab Sciences on 6/13/2016 1:01:42 PM. These samples are associated with your La Cygne 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

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160567-01**								
Client ID : **MW-905**								
Date Sampled : **6/9/2016 9:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.695 +/- 0.566	0.722	pCi/l				
Radium-226	SM 7500 Ra B M*	0.361 +/- 0.172	0.191	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	0.334 +/- 0.394	0.531	pCi/l		06/30/16	07/08/16	JR
Lab ID : **20160567-02**								
Client ID : **MW-803**								
Date Sampled : **6/9/2016 10:35:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.992 +/- 0.733	0.798	pCi/l				
Radium-226	SM 7500 Ra B M*	0.512 +/- 0.162	0.076	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	0.480 +/- 0.571	0.722	pCi/l		06/30/16	07/08/16	JR
Lab ID : **20160567-03**								
Client ID : **MW-601**								
Date Sampled : **6/9/2016 11:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.567 +/- 0.524	0.653	pCi/l				
Radium-226	SM 7500 Ra B M*	0.199 +/- 0.119	0.129	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	0.368 +/- 0.405	0.524	pCi/l		06/30/16	07/08/16	JR
Lab ID : **20160567-04**								
Client ID : **MW-601MS**								
Date Sampled : **6/9/2016 11:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	122		% Rec		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	104		% Rec		06/30/16	07/08/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20160567-05								
Client ID : MW-601MSD								
Date Sampled : 6/9/2016 11:30:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.0		RPD		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	12.1		RPD		06/30/16	07/08/16	JR
Lab ID : 20160567-06								
Client ID : MW-14R								
Date Sampled : 6/9/2016 2:40:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.51 +/- 0.629	0.875	pCi/l				
Radium-226	SM 7500 Ra B M*	0.109 +/- 0.213	0.342	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	1.40 +/- 0.416	0.533	pCi/l		06/30/16	07/08/16	JR
Lab ID : 20160567-07								
Client ID : MW-15								
Date Sampled : 6/9/2016 4:30:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.80 +/- 0.573	0.696	pCi/l				
Radium-226	SM 7500 Ra B M*	0.185 +/- 0.153	0.167	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	1.61 +/- 0.420	0.529	pCi/l		06/30/16	07/08/16	JR
Lab ID : 20160567-08								
Client ID : MW-602								
Date Sampled : 6/10/2016 9:30:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.014 +/- 0.677	0.922	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.020 +/- 0.098	0.191	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	0.014 +/- 0.579	0.731	pCi/l		06/30/16	07/09/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160567-09**								
Client ID : **TW-1**								
Date Sampled : **6/9/2016 9:10:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.88 +/- 0.751	0.945	pCi/l				
Radium-226	SM 7500 Ra B M*	0.210 +/- 0.239	0.354	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	1.67 +/- 0.512	0.591	pCi/l		06/30/16	07/09/16	JR
Lab ID : **20160567-10**								
Client ID : **MW-13**								
Date Sampled : **6/9/2016 12:40:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.636 +/- 0.536	0.739	pCi/l				
Radium-226	SM 7500 Ra B M*	0.246 +/- 0.140	0.169	pCi/l		06/20/16	06/22/16	AK
Radium-228	EPA 904*/9320*	0.390 +/- 0.396	0.570	pCi/l		06/30/16	07/09/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.004	111.0			NC	0.398	122.0	122.0	0.0	R1099
Radium-228	-0.202	105.0			NC	0.378	104.0	91.2	12.1	R3826

Lab Approval: 

*NELAC Certified Parameter BDL = Below Detection Limit

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AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
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Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project #
URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. #
URSKC1028155

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

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

ORL-RA-226_RA-228 1L-HDPE-Add HNO3

COPY

	Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
9	MW-905	GRAB	GW		6/9/16	09:30	2	X
10	MW-803	GRAB	GW		6/9/16	10:35	2	X
11	MW-601	GRAB	GW		6/9/16	11:30	2	X
12	MW-601 MS	GRAB	GW		6/9/16	11:30	2	X
13	MW-601 MSD	GRAB	GW		6/9/16	11:30	2	X
14	MW-14R	GRAB	GW		6/9/16	14:40	2	X
15	MW-15	GRAB	GW		6/9/16	16:30	2	X
16	MW-602	GRAB	GW		6/10/16	09:30	2	X
17	TW-1	GRAB	GW		6/9/16	09:10	2	X
18	MW-13	GRAB	GW		6/9/16	12:40	2	X

6/9/16

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

Remarks:Report Radium 226 and 228 Combined.

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	6/10/16	1410	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	6/10/16	1700	6/13/16 1300
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: °C Bottles Received:
Date: Time:

Hold #
Condition: (lab use only)
COC Seal Intact: ___Y ___N __
pH Checked: NCF:

Chain of Custody Page _

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

L#
Table #
Acctnum: URSKC
Template: T112863
Prelogin: P556947
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Rem./Contaminant	Sample #

Page 7 of 7

SAMPLE LOGIN

Date Received: *06/13/16 13:01:42*

Lab Number: 20160567

Due: 07/05/16

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160567-01 B	MW-905	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-01 A	MW-905	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-02 A	MW-803	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-02 B	MW-803	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-03 A	MW-601	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-03 B	MW-601	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-04 A	MW-601MS	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-04 B	MW-601MS	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-05 B	MW-601MSD	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-05 A	MW-601MSD	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-06 B	MW-14R	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-06 A	MW-14R	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-07 A	MW-15	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-07 B	MW-15	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160567-08 A	MW-602	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-08 B	MW-602	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-09 A	TW-1	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-09 B	TW-1	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160567-10 B	MW-13	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160567-10 A	MW-13	NPW	06/09/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers **Custody Seals Broken** ☐ **Temperature:** **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken **Chain of Custody Record** ☐ **Labels in Tact** ☐ **Radiation Survey Complete** ☐

Anomalies

Inspected By: _____ **DATE** 6/13/16

QA or Designee Review: _____ **DATE** 06/13/16

Sample Custodian Review: _____ **DATE** 06-13-16

Project Notes:

Case Narrative

Lab No: 20160603

This report contains the analytical results for the 1 sample(s) received under chain of custody by ESC Lab Sciences on 6/24/2016 12:23:55 PM. These samples are associated with your La Cygne 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:

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

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID :	**20160603-01**							
Client ID :	**MW-707B**							
Date Sampled :	**6/23/2016 12:30:00 PM**							
Matrix :	**NPW**							
	Radiochemical Analyses							
Combined Radium		3.59 +/- 1.25	1.47	pCi/l				
Radium-226	SM 7500 Ra B M*	0.950 +/- 0.656	0.751	pCi/l		06/29/16	07/06/16	AK
Radium-228	EPA 904*/9320*	2.64 +/- 0.590	.715	pCi/l		07/13/16	07/19/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.008	100.0			36.7	0.745	92.3	87.7	4.8	R1105
Radium-228	0.122	84.8			NC	0.013	76.1	84.4	9.1	R3831

Lab Approval:

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. # **URSKC1028155**

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

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-707B	Grab	GW	—	6/23/16	1230	2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X

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

Remarks:Report Radium 226 and 228 Combined.

Radium sent to Outreach lab

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1545	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1700	6/24/16 1203
Relinquished by : (Signature)	Date:	Time:	Received for lab (Signature)

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

Temp: °C Bottles Received:

Date: Time:

Hold #

Condition: (lab use only)

COC Seal Intact: ____ Y ____ N ____

pH Checked: NCF:

Chain of Custody Page _

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

L# 84405

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P556947
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant | Sample #

SAMPLE LOGIN

Date Received: *6/24/2016 12:23:5* **Lab Number:** **20160603** **Due:** **7/22/2016**

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160603-01 B	MW-707B	NPW	06/23/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160603-01 A	MW-707B	NPW	06/23/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION NA

 # Coolers 1 **Custody Seals Broken** ☒ **Temperature:** **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ☒ **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** NA ☐

Anomalies

Inspected By: _____ **DATE** 6/24/16

QA or Designee Review: _____ **DATE** 6/24/16

Sample Custodian Review: _____ **DATE** _____

Project Notes:

ANALYTICAL REPORT

June 20, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L840582
Samples Received:	06/09/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

MW-10 L840582-01 GW

Collected by | Collected date/time 06/06/16 13:25 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879564	1	06/11/16 15:37	06/11/16 16:15	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:04	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:19	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 15:41	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 18:21	06/11/16 18:21	CM

MW-11 L840582-02 GW

Collected by | Collected date/time 06/06/16 14:45 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879564	1	06/11/16 15:37	06/11/16 16:15	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 08:56	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:09	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 15:22	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 18:36	06/11/16 18:36	CM
Wet Chemistry by Method 9056A	WG879485	5	06/11/16 18:51	06/11/16 18:51	CM

MW-708 L840582-03 GW

Collected by | Collected date/time 06/07/16 09:35 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879995	1	06/14/16 19:22	06/14/16 19:54	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:06	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:22	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 15:46	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 20:05	06/11/16 20:05	CM

MW-703 L840582-04 GW

Collected by | Collected date/time 06/07/16 14:15 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879995	1	06/14/16 19:22	06/14/16 19:54	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:09	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:25	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 15:51	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 21:05	06/11/16 21:05	CM
Wet Chemistry by Method 9056A	WG879485	5	06/11/16 21:20	06/11/16 21:20	CM

MW-704 L840582-05 GW

Collected by | Collected date/time 06/07/16 15:10 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879995	1	06/14/16 19:22	06/14/16 19:54	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:16	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:33	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:05	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK

MW-704 L840582-05 GW

Collected by	Collected date/time	Received date/time
	06/07/16 15:10	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 21:35	06/11/16 21:35	CM
Wet Chemistry by Method 9056A	WG880742	10	06/16/16 00:03	06/16/16 00:03	SAM

MW-701 L840582-06 GW

Collected by	Collected date/time	Received date/time
	06/07/16 15:50	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879995	1	06/14/16 19:22	06/14/16 19:54	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:19	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:36	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:10	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 21:50	06/11/16 21:50	CM

MW-705 L840582-07 GW

Collected by	Collected date/time	Received date/time
	06/07/16 17:25	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:22	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:39	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:15	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 22:04	06/11/16 22:04	CM
Wet Chemistry by Method 9056A	WG879485	10	06/11/16 22:19	06/11/16 22:19	CM

MW-950 L840582-08 GW

Collected by	Collected date/time	Received date/time
	06/08/16 08:30	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:24	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:42	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:19	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 22:34	06/11/16 22:34	CM
Wet Chemistry by Method 9056A	WG879485	10	06/11/16 22:49	06/11/16 22:49	CM

MW-801 L840582-09 GW

Collected by	Collected date/time	Received date/time
	06/07/16 09:00	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:27	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:45	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:24	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/11/16 23:34	06/11/16 23:34	CM
Wet Chemistry by Method 9056A	WG879485	5	06/11/16 23:49	06/11/16 23:49	CM

MW-951 L840582-10 GW

Collected by | Collected date/time 06/07/16 09:10 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:29	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:47	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:29	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/12/16 00:04	06/12/16 00:04	CM
Wet Chemistry by Method 9056A	WG880742	10	06/16/16 00:18	06/16/16 00:18	SAM

MW-802 L840582-11 GW

Collected by | Collected date/time 06/07/16 09:40 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:32	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:50	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:34	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/12/16 00:19	06/12/16 00:19	CM

MW-805 L840582-12 GW

Collected by | Collected date/time 06/07/16 12:42 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:34	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:53	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:38	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879485	1	06/12/16 00:48	06/12/16 00:48	CM
Wet Chemistry by Method 9056A	WG879485	10	06/12/16 01:03	06/12/16 01:03	CM

MW-902 L840582-13 GW

Collected by | Collected date/time 06/07/16 16:40 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG879996	1	06/14/16 13:45	06/14/16 14:34	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:37	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:56	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:43	ST
Wet Chemistry by Method 9040C	WG879108	1	06/10/16 08:28	06/10/16 08:28	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 18:03	06/15/16 18:03	CM

MW-804 L840582-14 GW

Collected by | Collected date/time 06/08/16 08:45 | Received date/time 06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:40	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 18:58	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 16:48	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 19:07	06/15/16 19:07	CM

MW-903 L840582-15 GW

Collected by	Collected date/time	Received date/time
	06/08/16 10:25	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:47	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:07	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:07	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 19:23	06/15/16 19:23	CM
Wet Chemistry by Method 9056A	WG880844	20	06/16/16 14:44	06/16/16 14:44	SAM

MW-901 L840582-16 GW

Collected by	Collected date/time	Received date/time
	06/08/16 11:00	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:50	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:09	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:12	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 19:39	06/15/16 19:39	CM

MW-706 L840582-17 GW

Collected by	Collected date/time	Received date/time
	06/08/16 11:50	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:52	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:12	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:16	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 19:55	06/15/16 19:55	CM
Wet Chemistry by Method 9056A	WG879486	10	06/15/16 20:11	06/15/16 20:11	CM

MW-702 L840582-18 GW

Collected by	Collected date/time	Received date/time
	06/08/16 12:50	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:55	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:15	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:21	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 20:27	06/15/16 20:27	CM

MW-7 L840582-19 GW

Collected by	Collected date/time	Received date/time
	06/08/16 14:25	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880279	1	06/15/16 14:24	06/15/16 15:17	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 09:58	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:18	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:26	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK

MW-7 L840582-19 GW

Collected by	Collected date/time	Received date/time
	06/08/16 14:25	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 20:43	06/15/16 20:43	CM
Wet Chemistry by Method 9056A	WG879486	5	06/15/16 20:58	06/15/16 20:58	CM

MW-6 L840582-20 GW

Collected by	Collected date/time	Received date/time
	06/08/16 15:45	06/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880281	1	06/15/16 15:32	06/15/16 16:14	MMF
Mercury by Method 7470A	WG879251	1	06/10/16 07:44	06/11/16 10:00	TRB
Metals (ICP) by Method 6010B	WG879242	1	06/10/16 13:20	06/10/16 19:21	BRJ
Metals (ICPMS) by Method 6020	WG879916	1	06/14/16 09:08	06/17/16 17:31	ST
Wet Chemistry by Method 9040C	WG879240	1	06/10/16 09:51	06/10/16 09:51	KK
Wet Chemistry by Method 9056A	WG879486	1	06/15/16 21:14	06/15/16 21:14	CM
Wet Chemistry by Method 9056A	WG879486	10	06/15/16 22:02	06/15/16 22:02	CM

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.

Brian Ford
Technical Service Representative

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L840582-01	MW-10	9040C
L840582-02	MW-11	9040C
L840582-03	MW-708	9040C
L840582-04	MW-703	9040C
L840582-05	MW-704	9040C
L840582-06	MW-701	9040C
L840582-07	MW-705	9040C
L840582-08	MW-950	9040C
L840582-09	MW-801	9040C
L840582-10	MW-951	9040C
L840582-11	MW-802	9040C
L840582-12	MW-805	9040C
L840582-13	MW-902	9040C
L840582-14	MW-804	9040C
L840582-15	MW-903	9040C
L840582-16	MW-901	9040C
L840582-17	MW-706	9040C
L840582-18	MW-702	9040C
L840582-19	MW-7	9040C
L840582-20	MW-6	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	601		10.0	1	06/11/2016 16:15	WG879564

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.20		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-01 WG879108: 7.20 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	56.7		1.00	1	06/11/2016 18:21	WG879485
Fluoride	0.365		0.100	1	06/11/2016 18:21	WG879485
Sulfate	15.9		5.00	1	06/11/2016 18:21	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:04	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.923		0.200	1	06/10/2016 18:19	WG879242
Lithium	0.0487		0.0150	1	06/10/2016 18:19	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:19	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 15:41	WG879916
Arsenic	0.00771		0.00200	1	06/17/2016 15:41	WG879916
Barium	0.337		0.00500	1	06/17/2016 15:41	WG879916
Beryllium	ND		0.00200	1	06/17/2016 15:41	WG879916
Cadmium	ND		0.00100	1	06/17/2016 15:41	WG879916
Calcium	60.1		1.00	1	06/17/2016 15:41	WG879916
Chromium	ND		0.00200	1	06/17/2016 15:41	WG879916
Cobalt	ND		0.00200	1	06/17/2016 15:41	WG879916
Lead	ND		0.00200	1	06/17/2016 15:41	WG879916
Selenium	ND		0.00200	1	06/17/2016 15:41	WG879916
Thallium	ND		0.00200	1	06/17/2016 15:41	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1000		10.0	1	06/11/2016 16:15	WG879564

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.34		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-02 WG879108: 7.34 at 20.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	125		5.00	5	06/11/2016 18:51	WG879485
Fluoride	0.493		0.100	1	06/11/2016 18:36	WG879485
Sulfate	156		25.0	5	06/11/2016 18:51	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 08:56	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.729	O1	0.200	1	06/10/2016 18:09	WG879242
Lithium	0.0659		0.0150	1	06/10/2016 18:09	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:09	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 15:22	WG879916
Arsenic	ND		0.00200	1	06/17/2016 15:22	WG879916
Barium	0.0366		0.00500	1	06/17/2016 15:22	WG879916
Beryllium	ND		0.00200	1	06/17/2016 15:22	WG879916
Cadmium	ND		0.00100	1	06/17/2016 15:22	WG879916
Calcium	71.0	V	1.00	1	06/17/2016 15:22	WG879916
Chromium	ND		0.00200	1	06/17/2016 15:22	WG879916
Cobalt	ND		0.00200	1	06/17/2016 15:22	WG879916
Lead	ND		0.00200	1	06/17/2016 15:22	WG879916
Selenium	ND		0.00200	1	06/17/2016 15:22	WG879916
Thallium	ND		0.00200	1	06/17/2016 15:22	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	651		10.0	1	06/14/2016 19:54	WG879995

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.30		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-03 WG879108: 7.30 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.2		1.00	1	06/11/2016 20:05	WG879485
Fluoride	0.569		0.100	1	06/11/2016 20:05	WG879485
Sulfate	8.99		5.00	1	06/11/2016 20:05	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:06	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.37		0.200	1	06/10/2016 18:22	WG879242
Lithium	0.0780		0.0150	1	06/10/2016 18:22	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:22	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 15:46	WG879916
Arsenic	ND		0.00200	1	06/17/2016 15:46	WG879916
Barium	0.212		0.00500	1	06/17/2016 15:46	WG879916
Beryllium	ND		0.00200	1	06/17/2016 15:46	WG879916
Cadmium	ND		0.00100	1	06/17/2016 15:46	WG879916
Calcium	35.2		1.00	1	06/17/2016 15:46	WG879916
Chromium	ND		0.00200	1	06/17/2016 15:46	WG879916
Cobalt	ND		0.00200	1	06/17/2016 15:46	WG879916
Lead	ND		0.00200	1	06/17/2016 15:46	WG879916
Selenium	ND		0.00200	1	06/17/2016 15:46	WG879916
Thallium	ND		0.00200	1	06/17/2016 15:46	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	952		10.0	1	06/14/2016 19:54	WG879995

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-04 WG879108: 7.67 at 20.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	103		5.00	5	06/11/2016 21:20	WG879485
Fluoride	1.37		0.100	1	06/11/2016 21:05	WG879485
Sulfate	ND		5.00	1	06/11/2016 21:05	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:09	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.86		0.200	1	06/10/2016 18:25	WG879242
Lithium	0.0718		0.0150	1	06/10/2016 18:25	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:25	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 15:51	WG879916
Arsenic	0.00301		0.00200	1	06/17/2016 15:51	WG879916
Barium	0.292		0.00500	1	06/17/2016 15:51	WG879916
Beryllium	ND		0.00200	1	06/17/2016 15:51	WG879916
Cadmium	ND		0.00100	1	06/17/2016 15:51	WG879916
Calcium	22.0		1.00	1	06/17/2016 15:51	WG879916
Chromium	ND		0.00200	1	06/17/2016 15:51	WG879916
Cobalt	ND		0.00200	1	06/17/2016 15:51	WG879916
Lead	ND		0.00200	1	06/17/2016 15:51	WG879916
Selenium	ND		0.00200	1	06/17/2016 15:51	WG879916
Thallium	ND		0.00200	1	06/17/2016 15:51	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1250		10.0	1	06/14/2016 19:54	WG879995

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.46		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-05 WG879108: 7.46 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	82.5		1.00	1	06/11/2016 21:35	WG879485
Fluoride	0.852		0.100	1	06/11/2016 21:35	WG879485
Sulfate	203		50.0	10	06/16/2016 00:03	WG880742

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:16	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.03		0.200	1	06/10/2016 18:33	WG879242
Lithium	0.0938		0.0150	1	06/10/2016 18:33	WG879242
Molybdenum	0.0191		0.00500	1	06/10/2016 18:33	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.0120		0.00200	1	06/17/2016 16:05	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:05	WG879916
Barium	0.113		0.00500	1	06/17/2016 16:05	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:05	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:05	WG879916
Calcium	35.1		1.00	1	06/17/2016 16:05	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:05	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:05	WG879916
Lead	ND		0.00200	1	06/17/2016 16:05	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:05	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:05	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	595		10.0	1	06/14/2016 19:54	WG879995

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.49		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-06 WG879108: 7.49 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	56.5		1.00	1	06/11/2016 21:50	WG879485
Fluoride	0.717		0.100	1	06/11/2016 21:50	WG879485
Sulfate	76.9		5.00	1	06/11/2016 21:50	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:19	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.07		0.200	1	06/10/2016 18:36	WG879242
Lithium	0.0375		0.0150	1	06/10/2016 18:36	WG879242
Molybdenum	0.00519		0.00500	1	06/10/2016 18:36	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:10	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:10	WG879916
Barium	0.149		0.00500	1	06/17/2016 16:10	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:10	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:10	WG879916
Calcium	39.6		1.00	1	06/17/2016 16:10	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:10	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:10	WG879916
Lead	ND		0.00200	1	06/17/2016 16:10	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:10	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:10	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	960		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.31		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-07 WG879108: 7.31 at 19.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	142		10.0	10	06/11/2016 22:19	WG879485
Fluoride	0.944		0.100	1	06/11/2016 22:04	WG879485
Sulfate	39.6		5.00	1	06/11/2016 22:04	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:22	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.19		0.200	1	06/10/2016 18:39	WG879242
Lithium	0.133		0.0150	1	06/10/2016 18:39	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:39	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:15	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:15	WG879916
Barium	0.0918		0.00500	1	06/17/2016 16:15	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:15	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:15	WG879916
Calcium	41.0		1.00	1	06/17/2016 16:15	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:15	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:15	WG879916
Lead	ND		0.00200	1	06/17/2016 16:15	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:15	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:15	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1260		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-08 WG879108: 7.50 at 20.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	259		10.0	10	06/11/2016 22:49	WG879485
Fluoride	1.10		0.100	1	06/11/2016 22:34	WG879485
Sulfate	ND		5.00	1	06/11/2016 22:34	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:24	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.13		0.200	1	06/10/2016 18:42	WG879242
Lithium	0.147		0.0150	1	06/10/2016 18:42	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:42	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:19	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:19	WG879916
Barium	0.268		0.00500	1	06/17/2016 16:19	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:19	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:19	WG879916
Calcium	37.4		1.00	1	06/17/2016 16:19	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:19	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:19	WG879916
Lead	ND		0.00200	1	06/17/2016 16:19	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:19	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:19	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	930		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-09 WG879108: 7.37 at 19.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	118		5.00	5	06/11/2016 23:49	WG879485
Fluoride	1.08		0.100	1	06/11/2016 23:34	WG879485
Sulfate	ND		5.00	1	06/11/2016 23:34	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:27	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	06/10/2016 18:45	WG879242
Lithium	0.119		0.0150	1	06/10/2016 18:45	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:45	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:24	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:24	WG879916
Barium	0.638		0.00500	1	06/17/2016 16:24	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:24	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:24	WG879916
Calcium	37.6		1.00	1	06/17/2016 16:24	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:24	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:24	WG879916
Lead	ND		0.00200	1	06/17/2016 16:24	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:24	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:24	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	900		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.39		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-10 WG879108: 7.39 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	112		10.0	10	06/16/2016 00:18	WG880742
Fluoride	1.08		0.100	1	06/12/2016 00:04	WG879485
Sulfate	ND		5.00	1	06/12/2016 00:04	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:29	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	06/10/2016 18:47	WG879242
Lithium	0.119		0.0150	1	06/10/2016 18:47	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:47	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:29	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:29	WG879916
Barium	0.633		0.00500	1	06/17/2016 16:29	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:29	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:29	WG879916
Calcium	37.1		1.00	1	06/17/2016 16:29	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:29	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:29	WG879916
Lead	ND		0.00200	1	06/17/2016 16:29	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:29	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:29	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	695		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.30		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-11 WG879108: 7.30 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.9		1.00	1	06/12/2016 00:19	WG879485
Fluoride	0.920		0.100	1	06/12/2016 00:19	WG879485
Sulfate	ND		5.00	1	06/12/2016 00:19	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:32	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.51		0.200	1	06/10/2016 18:50	WG879242
Lithium	0.105		0.0150	1	06/10/2016 18:50	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:50	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:34	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:34	WG879916
Barium	0.967		0.00500	1	06/17/2016 16:34	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:34	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:34	WG879916
Calcium	42.6		1.00	1	06/17/2016 16:34	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:34	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:34	WG879916
Lead	ND		0.00200	1	06/17/2016 16:34	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:34	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:34	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2070		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.41		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-12 WG879108: 6.41 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	520		10.0	10	06/12/2016 01:03	WG879485
Fluoride	0.122		0.100	1	06/12/2016 00:48	WG879485
Sulfate	829		50.0	10	06/12/2016 01:03	WG879485

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:34	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.510		0.200	1	06/10/2016 18:53	WG879242
Lithium	0.0530		0.0150	1	06/10/2016 18:53	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:53	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:38	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:38	WG879916
Barium	0.0387		0.00500	1	06/17/2016 16:38	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:38	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:38	WG879916
Calcium	422		1.00	1	06/17/2016 16:38	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:38	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:38	WG879916
Lead	ND		0.00200	1	06/17/2016 16:38	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:38	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:38	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	526		10.0	1	06/14/2016 14:34	WG879996

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.14		1	06/10/2016 08:28	WG879108

Sample Narrative:

9040C L840582-13 WG879108: 7.14 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.8		1.00	1	06/15/2016 18:03	WG879486
Fluoride	0.532		0.100	1	06/15/2016 18:03	WG879486
Sulfate	33.4		5.00	1	06/15/2016 18:03	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:37	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.20		0.200	1	06/10/2016 18:56	WG879242
Lithium	0.0412		0.0150	1	06/10/2016 18:56	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:56	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:43	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:43	WG879916
Barium	0.119		0.00500	1	06/17/2016 16:43	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:43	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:43	WG879916
Calcium	71.3		1.00	1	06/17/2016 16:43	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:43	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:43	WG879916
Lead	ND		0.00200	1	06/17/2016 16:43	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:43	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:43	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	562		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.09		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-14 WG879240: 7.09 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.8		1.00	1	06/15/2016 19:07	WG879486
Fluoride	0.491		0.100	1	06/15/2016 19:07	WG879486
Sulfate	27.2		5.00	1	06/15/2016 19:07	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:40	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.65		0.200	1	06/10/2016 18:58	WG879242
Lithium	0.0453		0.0150	1	06/10/2016 18:58	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 18:58	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 16:48	WG879916
Arsenic	ND		0.00200	1	06/17/2016 16:48	WG879916
Barium	0.178		0.00500	1	06/17/2016 16:48	WG879916
Beryllium	ND		0.00200	1	06/17/2016 16:48	WG879916
Cadmium	ND		0.00100	1	06/17/2016 16:48	WG879916
Calcium	68.5		1.00	1	06/17/2016 16:48	WG879916
Chromium	ND		0.00200	1	06/17/2016 16:48	WG879916
Cobalt	ND		0.00200	1	06/17/2016 16:48	WG879916
Lead	ND		0.00200	1	06/17/2016 16:48	WG879916
Selenium	ND		0.00200	1	06/17/2016 16:48	WG879916
Thallium	ND		0.00200	1	06/17/2016 16:48	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2070		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.68		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-15 WG879240: 6.68 at 20.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.9		1.00	1	06/15/2016 19:23	WG879486
Fluoride	ND		0.100	1	06/15/2016 19:23	WG879486
Sulfate	1130		100	20	06/16/2016 14:44	WG880844

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:47	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.487		0.200	1	06/10/2016 19:07	WG879242
Lithium	0.0809		0.0150	1	06/10/2016 19:07	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:07	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 17:07	WG879916
Arsenic	ND		0.00200	1	06/17/2016 17:07	WG879916
Barium	0.0285		0.00500	1	06/17/2016 17:07	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:07	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:07	WG879916
Calcium	362		1.00	1	06/17/2016 17:07	WG879916
Chromium	0.00409		0.00200	1	06/17/2016 17:07	WG879916
Cobalt	0.00515		0.00200	1	06/17/2016 17:07	WG879916
Lead	ND		0.00200	1	06/17/2016 17:07	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:07	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:07	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	561		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.35		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-16 WG879240: 7.35 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	23.3		1.00	1	06/15/2016 19:39	WG879486
Fluoride	0.543		0.100	1	06/15/2016 19:39	WG879486
Sulfate	19.5		5.00	1	06/15/2016 19:39	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:50	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	06/10/2016 19:09	WG879242
Lithium	0.0819		0.0150	1	06/10/2016 19:09	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:09	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00251	B	0.00200	1	06/17/2016 17:12	WG879916
Arsenic	ND		0.00200	1	06/17/2016 17:12	WG879916
Barium	0.167		0.00500	1	06/17/2016 17:12	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:12	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:12	WG879916
Calcium	57.2		1.00	1	06/17/2016 17:12	WG879916
Chromium	ND		0.00200	1	06/17/2016 17:12	WG879916
Cobalt	ND		0.00200	1	06/17/2016 17:12	WG879916
Lead	ND		0.00200	1	06/17/2016 17:12	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:12	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:12	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1270		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.49		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-17 WG879240: 7.49 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	270		10.0	10	06/15/2016 20:11	WG879486
Fluoride	1.22		0.100	1	06/15/2016 19:55	WG879486
Sulfate	ND		5.00	1	06/15/2016 19:55	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:52	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.14		0.200	1	06/10/2016 19:12	WG879242
Lithium	0.146		0.0150	1	06/10/2016 19:12	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:12	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 17:16	WG879916
Arsenic	ND		0.00200	1	06/17/2016 17:16	WG879916
Barium	0.273		0.00500	1	06/17/2016 17:16	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:16	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:16	WG879916
Calcium	35.8		1.00	1	06/17/2016 17:16	WG879916
Chromium	ND		0.00200	1	06/17/2016 17:16	WG879916
Cobalt	ND		0.00200	1	06/17/2016 17:16	WG879916
Lead	ND		0.00200	1	06/17/2016 17:16	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:16	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:16	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	629		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.75		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-18 WG879240: 8.75 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.9		1.00	1	06/15/2016 20:27	WG879486
Fluoride	1.60		0.100	1	06/15/2016 20:27	WG879486
Sulfate	5.73		5.00	1	06/15/2016 20:27	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:55	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.67		0.200	1	06/10/2016 19:15	WG879242
Lithium	0.213		0.0150	1	06/10/2016 19:15	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:15	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 17:21	WG879916
Arsenic	ND		0.00200	1	06/17/2016 17:21	WG879916
Barium	0.242		0.00500	1	06/17/2016 17:21	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:21	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:21	WG879916
Calcium	17.3		1.00	1	06/17/2016 17:21	WG879916
Chromium	ND		0.00200	1	06/17/2016 17:21	WG879916
Cobalt	ND		0.00200	1	06/17/2016 17:21	WG879916
Lead	ND		0.00200	1	06/17/2016 17:21	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:21	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:21	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	910		10.0	1	06/15/2016 15:17	WG880279

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.78		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-19 WG879240: 7.78 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	106		5.00	5	06/15/2016 20:58	WG879486
Fluoride	1.36		0.100	1	06/15/2016 20:43	WG879486
Sulfate	ND		5.00	1	06/15/2016 20:43	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 09:58	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.61		0.200	1	06/10/2016 19:18	WG879242
Lithium	0.0867		0.0150	1	06/10/2016 19:18	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:18	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 17:26	WG879916
Arsenic	0.00393		0.00200	1	06/17/2016 17:26	WG879916
Barium	0.611		0.00500	1	06/17/2016 17:26	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:26	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:26	WG879916
Calcium	26.5		1.00	1	06/17/2016 17:26	WG879916
Chromium	ND		0.00200	1	06/17/2016 17:26	WG879916
Cobalt	ND		0.00200	1	06/17/2016 17:26	WG879916
Lead	ND		0.00200	1	06/17/2016 17:26	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:26	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:26	WG879916

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		10.0	1	06/15/2016 16:14	WG880281

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.13		1	06/10/2016 09:51	WG879240

Sample Narrative:

9040C L840582-20 WG879240: 7.13 at 20.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	216		10.0	10	06/15/2016 22:02	WG879486
Fluoride	0.545		0.100	1	06/15/2016 21:14	WG879486
Sulfate	181		50.0	10	06/15/2016 22:02	WG879486

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/11/2016 10:00	WG879251

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	06/10/2016 19:21	WG879242
Lithium	0.0634		0.0150	1	06/10/2016 19:21	WG879242
Molybdenum	ND		0.00500	1	06/10/2016 19:21	WG879242

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/17/2016 17:31	WG879916
Arsenic	0.00721		0.00200	1	06/17/2016 17:31	WG879916
Barium	0.204		0.00500	1	06/17/2016 17:31	WG879916
Beryllium	ND		0.00200	1	06/17/2016 17:31	WG879916
Cadmium	ND		0.00100	1	06/17/2016 17:31	WG879916
Calcium	112		1.00	1	06/17/2016 17:31	WG879916
Chromium	ND		0.00200	1	06/17/2016 17:31	WG879916
Cobalt	ND		0.00200	1	06/17/2016 17:31	WG879916
Lead	ND		0.00200	1	06/17/2016 17:31	WG879916
Selenium	ND		0.00200	1	06/17/2016 17:31	WG879916
Thallium	ND		0.00200	1	06/17/2016 17:31	WG879916

Method Blank (MB)

(MB) R3143190-1 06/11/16 16:15

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

L839719-01 Original Sample (OS) • Duplicate (DUP)

(OS) L839719-01 06/11/16 16:15 • (DUP) R3143190-4 06/11/16 16:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	48.0	47.0	1	2.11		5

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

(LCS) R3143190-2 06/11/16 16:15 • (LCSD) R3143190-3 06/11/16 16:15

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	%	%	%			%	%
Dissolved Solids	8800	8510	8600	96.7	97.7	85.0-115			1.05	5

Method Blank (MB)

(MB) R3143762-1 06/14/16 19:54

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

L840582-06 Original Sample (OS) • Duplicate (DUP)

(OS) L840582-06 06/14/16 19:54 • (DUP) R3143762-4 06/14/16 19:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	595	603	1	1.34		5

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

(LCS) R3143762-2 06/14/16 19:54 • (LCSD) R3143762-3 06/14/16 19:54

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 %
Dissolved Solids	8800	8490	8560	96.5	97.3	85.0-115			0.821	5

Method Blank (MB)

(MB) R3143761-1 06/14/16 14:34

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

L840334-01 Original Sample (OS) • Duplicate (DUP)

(OS) L840334-01 06/14/16 14:34 • (DUP) R3143761-4 06/14/16 14:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	177	182	1	2.79		5

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

(LCS) R3143761-2 06/14/16 14:34 • (LCSD) R3143761-3 06/14/16 14:34

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	%	%	%			%	%
Dissolved Solids	8800	8840	8810	100	100	85.0-115			0.340	5

Method Blank (MB)

(MB) R3144044-1 06/15/16 15:17

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

L840419-11 Original Sample (OS) • Duplicate (DUP)

(OS) L840419-11 06/15/16 15:17 • (DUP) R3144044-4 06/15/16 15:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	295	294	1	0.340		5

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

(LCS) R3144044-2 06/15/16 15:17 • (LCSD) R3144044-3 06/15/16 15:17

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	%	%	%			%	%
Dissolved Solids	8800	8640	8900	98.2	101	85.0-115			2.96	5

Method Blank (MB)

(MB) R3143998-1 06/15/16 16:14

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

L840582-20 Original Sample (OS) • Duplicate (DUP)

(OS) L840582-20 06/15/16 16:14 • (DUP) R3143998-4 06/15/16 16:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1180	1200	1	1.52		5

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

(LCS) R3143998-2 06/15/16 16:14 • (LCSD) R3143998-3 06/15/16 16:14

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	%	%	%			%	%
Dissolved Solids	8800	8680	8660	98.6	98.4	85.0-115			0.231	5

L840410-01 Original Sample (OS) • Duplicate (DUP)

(OS) L840410-01 06/10/16 08:28 • (DUP) WG879108-3 06/10/16 08:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.48	8.51	1	0.353		1

L840582-13 Original Sample (OS) • Duplicate (DUP)

(OS) L840582-13 06/10/16 08:28 • (DUP) WG879108-4 06/10/16 08:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.14	7.18	1	0.559		1

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

(LCS) WG879108-1 06/10/16 08:28 • (LCSD) WG879108-2 06/10/16 08:28

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.43	6.40	6.40	99.5	99.5	98.4-102			0.000	1

L840582-14 Original Sample (OS) • Duplicate (DUP)

(OS) L840582-14 06/10/16 09:51 • (DUP) WG879240-3 06/10/16 09:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.09	7.11	1	0.282		1

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

(LCS) WG879240-1 06/10/16 09:51 • (LCSD) WG879240-2 06/10/16 09:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.43	6.40	6.41	99.5	99.7	98.4-102			0.156	1

Method Blank (MB)

(MB) R3143088-1 06/11/16 06:59

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

L840580-12 Original Sample (OS) • Duplicate (DUP)

(OS) L840580-12 06/11/16 16:21 • (DUP) R3143088-4 06/11/16 16:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.0	12.0	1	1		15
Fluoride	ND	0.000	1	0		15
Sulfate	20.2	20.4	1	1		15

L840582-03 Original Sample (OS) • Duplicate (DUP)

(OS) L840582-03 06/11/16 20:05 • (DUP) R3143088-9 06/11/16 20:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46.2	46.2	1	0		15
Fluoride	0.569	0.568	1	0		15
Sulfate	8.99	8.95	1	0		15

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

(LCS) R3143088-2 06/11/16 07:14 • (LCSD) R3143088-3 06/11/16 07:29

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 %
Chloride	40.0	39.4	39.4	98	99	80-120			0	15
Fluoride	8.00	7.90	7.90	99	99	80-120			0	15
Sulfate	40.0	39.6	39.7	99	99	80-120			0	15

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/11/16 18:36 • (MS) R3143088-5 06/11/16 19:05 • (MSD) R3143088-7 06/11/16 19:35

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 %
Fluoride	5.00	0.493	5.37	5.79	98	106	1	80-120			8	15

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/11/16 18:51 • (MS) R3143088-6 06/11/16 19:20 • (MSD) R3143088-8 06/11/16 19:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	125	353	357	91	93	5	80-120			1	15
Sulfate	50.0	156	383	387	91	92	5	80-120			1	15

L840582-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L840582-11 06/12/16 00:19 • (MS) R3143088-10 06/12/16 00:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	37.9	85.7	96	1	80-120	
Fluoride	5.00	0.920	5.54	92	1	80-120	
Sulfate	50.0	ND	47.2	94	1	80-120	

Method Blank (MB)

(MB) R3143802-1 06/15/16 15:49

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

L840631-03 Original Sample (OS) • Duplicate (DUP)

(OS) L840631-03 06/16/16 00:09 • (DUP) R3143802-5 06/16/16 00:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	91.9	91.9	1	0		15
Fluoride	ND	0.0855	1	0		15
Sulfate	43.3	43.2	1	0		15

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

(LCS) R3143802-2 06/15/16 16:04 • (LCSD) R3143802-3 06/15/16 16:20

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 %
Chloride	40.0	39.4	39.4	99	99	80-120			0	15
Fluoride	8.00	7.94	7.89	99	99	80-120			1	15
Sulfate	40.0	39.7	39.6	99	99	80-120			0	15

L840582-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L840582-13 06/15/16 18:03 • (MS) R3143802-4 06/15/16 18:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	32.8	83.7	102	1	80-120	
Fluoride	5.00	0.532	5.72	104	1	80-120	
Sulfate	50.0	33.4	84.1	101	1	80-120	

L840633-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840633-01 06/16/16 02:17 • (MS) R3143802-6 06/16/16 02:33 • (MSD) R3143802-7 06/16/16 02:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5.00	0.303	5.28	5.11	100	96	1	80-120			3	15

Method Blank (MB)

(MB) R3143995-1 06/15/16 22:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Sulfate	0.288	J	0.0774	5.00

L840859-03 Original Sample (OS) • Duplicate (DUP)

(OS) L840859-03 06/16/16 01:18 • (DUP) R3143995-4 06/16/16 01:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8.94	8.93	1	0		15
Sulfate	13.7	13.6	1	1		15

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

(LCS) R3143995-2 06/15/16 22:19 • (LCSD) R3143995-3 06/15/16 22:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.3	39.3	98	98	80-120			0	15
Sulfate	40.0	39.9	39.9	100	100	80-120			0	15

L840859-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L840859-04 06/16/16 01:48 • (MS) R3143995-5 06/16/16 02:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	1.57	50.8	98	1	80-120	
Sulfate	50.0	33.2	80.6	95	1	80-120	

Method Blank (MB)

(MB) R3144188-1 06/16/16 05:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	0.109	B J	0.0774	5.00

L841517-06 Original Sample (OS) • Duplicate (DUP)

(OS) L841517-06 06/16/16 10:11 • (DUP) R3144188-5 06/16/16 10:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	39.2	39.0	1	1		15

L841719-15 Original Sample (OS) • Duplicate (DUP)

(OS) L841719-15 06/16/16 13:50 • (DUP) R3144188-8 06/16/16 14:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	20.8	20.9	1	0		15

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

(LCS) R3144188-2 06/16/16 05:59 • (LCSD) R3144188-3 06/16/16 06:17

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 %
Sulfate	40.0	40.2	40.4	100	101	80-120			0	15

L841435-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L841435-05 06/16/16 08:05 • (MS) R3144188-4 06/16/16 08:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	40.7	90.9	100	1	80-120	

Method Blank (MB)

(MB) R3142958-4 06/11/16 08:48

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

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

(LCS) R3142958-5 06/11/16 08:51 • (LCSD) R3142958-6 06/11/16 08:53

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	%	%	%			%	%
Mercury	0.00300	0.00304	0.00331	101	110	80-120			8	20

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/11/16 08:56 • (MS) R3142958-7 06/11/16 08:58 • (MSD) R3142958-8 06/11/16 09:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00334	0.00322	111	107	1	75-125			4	20

Method Blank (MB)

(MB) R3142928-1 06/10/16 18:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3142928-2 06/10/16 18:03 • (LCSD) R3142928-3 06/10/16 18:06

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 %
Boron	1.00	0.999	0.970	100	97	80-120			3	20
Lithium	1.00	1.04	1.02	104	102	80-120			2	20
Molybdenum	1.00	0.994	0.991	99	99	80-120			0	20

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/10/16 18:09 • (MS) R3142928-5 06/10/16 18:14 • (MSD) R3142928-6 06/10/16 18:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.729	1.71	1.70	98	98	1	75-125			0	20
Lithium	1.00	0.0659	1.09	1.10	102	103	1	75-125			1	20
Molybdenum	1.00	ND	0.983	0.999	98	100	1	75-125			2	20

Method Blank (MB)

(MB) R3144319-1 06/17/16 15:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000281	J	0.00021	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3144319-2 06/17/16 15:12 • (LCSD) R3144319-3 06/17/16 15:17

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	0.0485	0.0491	97	98	80-120			1	20
Arsenic	0.0500	0.0510	0.0521	102	104	80-120			2	20
Barium	0.0500	0.0486	0.0483	97	97	80-120			1	20
Beryllium	0.0500	0.0452	0.0465	90	93	80-120			3	20
Cadmium	0.0500	0.0489	0.0497	98	99	80-120			2	20
Calcium	5.00	5.08	5.15	102	103	80-120			1	20
Chromium	0.0500	0.0504	0.0512	101	102	80-120			2	20
Cobalt	0.0500	0.0516	0.0527	103	105	80-120			2	20
Lead	0.0500	0.0537	0.0544	107	109	80-120			1	20
Selenium	0.0500	0.0526	0.0543	105	109	80-120			3	20
Thallium	0.0500	0.0514	0.0522	103	104	80-120			2	20

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/17/16 15:22 • (MS) R3144319-5 06/17/16 15:31 • (MSD) R3144319-6 06/17/16 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 %
Antimony	0.0500	ND	0.0516	0.0512	103	102	1	75-125			1	20
Arsenic	0.0500	ND	0.0538	0.0536	107	106	1	75-125			0	20
Barium	0.0500	0.0366	0.0865	0.0858	100	98	1	75-125			1	20
Beryllium	0.0500	ND	0.0450	0.0455	90	91	1	75-125			1	20
Cadmium	0.0500	ND	0.0499	0.0499	100	100	1	75-125			0	20

L840582-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840582-02 06/17/16 15:22 • (MS) R3144319-5 06/17/16 15:31 • (MSD) R3144319-6 06/17/16 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 %
Calcium	5.00	71.0	74.4	75.0	70	81	1	75-125	V		1	20
Chromium	0.0500	ND	0.0500	0.0508	100	102	1	75-125			2	20
Cobalt	0.0500	ND	0.0500	0.0498	100	100	1	75-125			0	20
Lead	0.0500	ND	0.0531	0.0529	106	106	1	75-125			0	20
Selenium	0.0500	ND	0.0554	0.0561	108	110	1	75-125			1	20
Thallium	0.0500	ND	0.0521	0.0522	103	104	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.
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
Conneticut	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 [1 4]	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		

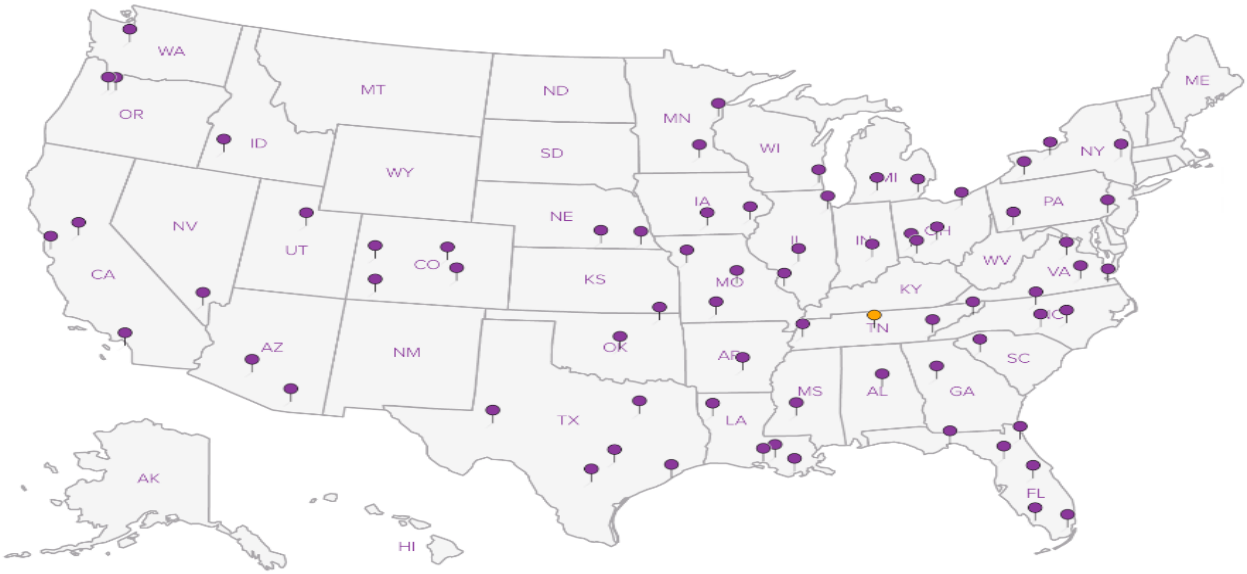
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. #: **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-10	G	GW		6/6/16	1325	3	X	X	X		-01
MW-11		GW			1445	3	X	X	X		02
MW-11-MS		GW			1445	3	X	X	X		03
MW-11-MSD		GW			1445	3	X	X	X		04
MW-701		GW		6/7	0935	3	X	X	X		05
MW-703		GW			1415	3	X	X	X		06
MW-704		GW			1510	3	X	X	X		07
MW-701		GW			1550	3	X	X	X		08
MW-705		GW			1725	3	X	X	X		09
MW-950		GW		6/8	0830	3	X	X	X		10

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

Remarks:Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

pH _____ Temp _____

Flow _____ Other _____

6711 0138 1732

Hold #

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L840582
J205

Acctnum: **URSKC**
Template:**T112860**
Prelogin: **P556948**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8	1735	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8/16	1810	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.1 °C Bottles Received: 66

Date: 6-9-16 Time: 0900

Condition: (lab use only) SW7 60

COC Seal Intact: ___Y ___N ___NA

pH Checked: C2 NCF:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. # **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-801	GRAB	GW		6/7/16	900	3	X	X	X		11
MW-951	GRAB	GW		6/7/16	910	3	X	X	X		12
MW-802	GRAB	GW		6/7/16	940	3	X	X	X		13
MW-805	GRAB	GW		6/7/16	1242	3	X	X	X		14
MW-902	GRAB	GW		6/7/16	1640	3	X	X	X		15
MW-804	GRAB	GW		6/8/16	845	3	X	X	X		16
MW-903	GRAB	GW		6/8/16	1025	3	X	X	X		17
MW-901	GRAB	GW		6/8/16	1100	3	X	X	X		18
		GW				3	X	X	X		
		GW				3	X	X	X		

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

Remarks:Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Skaskevych	6/8	1735	
	6/8/16	1810	

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: 3.1 °C Bottles Received:
Date: 6-9-16 Time: 0900
Received for lab by: (Signature)

Hold #
Condition: (lab use only) OK
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

Chain of Custody Page ___ of ___

ESC 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# L840582
Table #
Acctnum: **URSKC**
Template:**T112860**
Prelogin: **P556948**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-706	G	GW		6/8/16	1150	3	X	X	X		19
MW-702		GW			1250	3	X	X	X		20
MW-7		GW			1425	3	X	X	X		21
MW-6		GW			1545	3	X	X	X		22

Chain of Custody Page ___ of ___

ESC 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# L846582

Table #

Acctnum: URSKC
Template: T112860
Prelogin: P556948
TSR: 206 - Jeff Carr
PB:

Shipped Via:

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

Remarks: Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

pH ___ Temp ___

Flow ___ Other ___

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8	1735	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/8/16	1810	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 3.1 JW °C Bottles Received:

Date: 6-9-16 Time: 0900

Condition: (lab use only) JW OK

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: NCF:

ANALYTICAL REPORT

June 21, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L841085
Samples Received:	06/11/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

TABLE OF CONTENTS

MW-905 L841085-01 GW

Collected by | Collected date/time 06/09/16 09:30 | Received date/time 06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:17	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 16:40	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:01	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:11	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 17:39	06/16/16 17:39	CM

MW-803 L841085-02 GW

Collected by | Collected date/time 06/09/16 10:35 | Received date/time 06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:19	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 16:43	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:04	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 01:57	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 18:24	06/16/16 18:24	CM

MW-601 L841085-03 GW

Collected by | Collected date/time 06/09/16 11:30 | Received date/time 06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 17:43	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 15:52	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:07	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:13	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 18:39	06/16/16 18:39	CM
Wet Chemistry by Method 9056A	WG880292	10	06/16/16 20:23	06/16/16 20:23	CM

MW-14R L841085-04 GW

Collected by | Collected date/time 06/09/16 14:40 | Received date/time 06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:22	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 16:51	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:09	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:16	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 18:54	06/16/16 18:54	CM

MW-15 L841085-05 GW

Collected by | Collected date/time 06/09/16 16:30 | Received date/time 06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:25	TRB

MW-15 L841085-05 GW

Collected by	Collected date/time	Received date/time
	06/09/16 16:30	06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 16:54	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:12	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:18	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 19:09	06/16/16 19:09	CM
Wet Chemistry by Method 9056A	WG881690	20	06/20/16 18:29	06/20/16 18:29	CM

MW-602 L841085-06 GW

Collected by	Collected date/time	Received date/time
	06/10/16 09:30	06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880838	1	06/17/16 15:26	06/17/16 17:09	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:27	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 16:57	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:20	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:21	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 19:23	06/16/16 19:23	CM

TW-1 L841085-07 GW

Collected by	Collected date/time	Received date/time
	06/09/16 09:10	06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:30	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 17:00	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:23	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:23	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 19:38	06/16/16 19:38	CM

MW-13 L841085-08 GW

Collected by	Collected date/time	Received date/time
	06/09/16 12:40	06/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG880690	1	06/16/16 12:57	06/16/16 13:30	MMF
Mercury by Method 7470A	WG880127	1	06/14/16 12:42	06/14/16 18:32	TRB
Metals (ICP) by Method 6010B	WG880059	1	06/15/16 12:18	06/15/16 17:03	ST
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 01:26	CCE
Metals (ICPMS) by Method 6020	WG880090	1	06/15/16 17:52	06/21/16 02:25	JDG
Wet Chemistry by Method 9040C	WG879792	1	06/15/16 09:05	06/15/16 09:05	MHM
Wet Chemistry by Method 9056A	WG880292	1	06/16/16 19:53	06/16/16 19:53	CM
Wet Chemistry by Method 9056A	WG880995	1	06/17/16 21:18	06/17/16 21:18	SAM
Wet Chemistry by Method 9056A	WG880995	50	06/17/16 21:33	06/17/16 21:33	SAM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L841085-01	MW-905	9040C
L841085-02	MW-803	9040C
L841085-03	MW-601	9040C
L841085-04	MW-14R	9040C
L841085-05	MW-15	9040C
L841085-06	MW-602	9040C
L841085-07	TW-1	9040C
L841085-08	MW-13	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	696		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.21		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-01 WG879792: 7.21 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	51.5		1.00	1	06/16/2016 17:39	WG880292
Fluoride	0.542		0.100	1	06/16/2016 17:39	WG880292
Sulfate	68.5		5.00	1	06/16/2016 17:39	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:17	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.79		0.200	1	06/15/2016 16:40	WG880059
Lithium	0.0607		0.0150	1	06/16/2016 01:01	WG880626
Molybdenum	0.0165		0.00500	1	06/15/2016 16:40	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00326	B	0.00200	1	06/21/2016 02:11	WG880090
Arsenic	0.00387		0.00200	1	06/21/2016 02:11	WG880090
Barium	0.104		0.00500	1	06/21/2016 02:11	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:11	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:11	WG880090
Calcium	59.9		1.00	1	06/21/2016 02:11	WG880090
Chromium	0.00310	B	0.00200	1	06/21/2016 02:11	WG880090
Cobalt	0.00283		0.00200	1	06/21/2016 02:11	WG880090
Lead	ND		0.00200	1	06/21/2016 02:11	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:11	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:11	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	594		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.30		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-02 WG879792: 7.30 at 20.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.1		1.00	1	06/16/2016 18:24	WG880292
Fluoride	0.636		0.100	1	06/16/2016 18:24	WG880292
Sulfate	15.0		5.00	1	06/16/2016 18:24	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:19	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.04		0.200	1	06/15/2016 16:43	WG880059
Lithium	0.0649		0.0150	1	06/16/2016 01:04	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 16:43	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00256	B	0.00200	1	06/21/2016 01:57	WG880090
Arsenic	ND		0.00200	1	06/21/2016 01:57	WG880090
Barium	0.244		0.00500	1	06/21/2016 01:57	WG880090
Beryllium	ND		0.00200	1	06/21/2016 01:57	WG880090
Cadmium	ND		0.00100	1	06/21/2016 01:57	WG880090
Calcium	47.6		1.00	1	06/21/2016 01:57	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 01:57	WG880090
Cobalt	ND		0.00200	1	06/21/2016 01:57	WG880090
Lead	ND		0.00200	1	06/21/2016 01:57	WG880090
Selenium	ND		0.00200	1	06/21/2016 01:57	WG880090
Thallium	ND		0.00200	1	06/21/2016 01:57	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	956		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-03 WG879792: 7.52 at 20.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	161		10.0	10	06/16/2016 20:23	WG880292
Fluoride	1.63		0.100	1	06/16/2016 18:39	WG880292
Sulfate	ND		5.00	1	06/16/2016 18:39	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 17:43	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.79		0.200	1	06/15/2016 15:52	WG880059
Lithium	0.0712		0.0150	1	06/16/2016 01:07	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 15:52	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:13	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:13	WG880090
Barium	0.134		0.00500	1	06/21/2016 02:13	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:13	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:13	WG880090
Calcium	21.7		1.00	1	06/21/2016 02:13	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 02:13	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:13	WG880090
Lead	ND		0.00200	1	06/21/2016 02:13	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:13	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:13	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	559		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.24		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-04 WG879792: 7.24 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.95		1.00	1	06/16/2016 18:54	WG880292
Fluoride	0.265		0.100	1	06/16/2016 18:54	WG880292
Sulfate	75.8		5.00	1	06/16/2016 18:54	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:22	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.629		0.200	1	06/15/2016 16:51	WG880059
Lithium	0.0429		0.0150	1	06/16/2016 01:09	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 16:51	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:16	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:16	WG880090
Barium	0.0448		0.00500	1	06/21/2016 02:16	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:16	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:16	WG880090
Calcium	63.4		1.00	1	06/21/2016 02:16	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 02:16	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:16	WG880090
Lead	ND		0.00200	1	06/21/2016 02:16	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:16	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:16	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	751		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.12		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-05 WG879792: 7.12 at 20.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	14.4		1.00	1	06/16/2016 19:09	WG880292
Fluoride	0.257		0.100	1	06/16/2016 19:09	WG880292
Sulfate	200		100	20	06/20/2016 18:29	WG881690

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:25	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.282		0.200	1	06/15/2016 16:54	WG880059
Lithium	0.0271		0.0150	1	06/16/2016 01:12	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 16:54	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:18	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:18	WG880090
Barium	0.0472		0.00500	1	06/21/2016 02:18	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:18	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:18	WG880090
Calcium	106		1.00	1	06/21/2016 02:18	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 02:18	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:18	WG880090
Lead	ND		0.00200	1	06/21/2016 02:18	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:18	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:18	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	618		10.0	1	06/17/2016 17:09	WG880838

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.49		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-06 WG879792: 7.49 at 20.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.9		1.00	1	06/16/2016 19:23	WG880292
Fluoride	1.21		0.100	1	06/16/2016 19:23	WG880292
Sulfate	25.1		5.00	1	06/16/2016 19:23	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:27	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.28		0.200	1	06/15/2016 16:57	WG880059
Lithium	0.0628		0.0150	1	06/16/2016 01:20	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 16:57	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:21	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:21	WG880090
Barium	0.101		0.00500	1	06/21/2016 02:21	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:21	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:21	WG880090
Calcium	24.7		1.00	1	06/21/2016 02:21	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 02:21	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:21	WG880090
Lead	ND		0.00200	1	06/21/2016 02:21	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:21	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:21	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1010		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.48		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-07 WG879792: 7.48 at 20.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.5		1.00	1	06/16/2016 19:38	WG880292
Fluoride	0.404		0.100	1	06/16/2016 19:38	WG880292
Sulfate	63.4		5.00	1	06/16/2016 19:38	WG880292

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:30	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.47		0.200	1	06/15/2016 17:00	WG880059
Lithium	0.136		0.0150	1	06/16/2016 01:23	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 17:00	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:23	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:23	WG880090
Barium	0.0671		0.00500	1	06/21/2016 02:23	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:23	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:23	WG880090
Calcium	31.0		1.00	1	06/21/2016 02:23	WG880090
Chromium	ND	B	0.00200	1	06/21/2016 02:23	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:23	WG880090
Lead	ND		0.00200	1	06/21/2016 02:23	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:23	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:23	WG880090

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2490		10.0	1	06/16/2016 13:30	WG880690

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.88		1	06/15/2016 09:05	WG879792

Sample Narrative:

9040C L841085-08 WG879792: 6.88 at 20.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	18.0		1.00	1	06/16/2016 19:53	WG880292
Fluoride	0.170		0.100	1	06/17/2016 21:18	WG880995
Sulfate	1830		250	50	06/17/2016 21:33	WG880995

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/14/2016 18:32	WG880127

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.375		0.200	1	06/15/2016 17:03	WG880059
Lithium	0.0608		0.0150	1	06/16/2016 01:26	WG880626
Molybdenum	ND		0.00500	1	06/15/2016 17:03	WG880059

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	B	0.00200	1	06/21/2016 02:25	WG880090
Arsenic	ND		0.00200	1	06/21/2016 02:25	WG880090
Barium	0.0360		0.00500	1	06/21/2016 02:25	WG880090
Beryllium	ND		0.00200	1	06/21/2016 02:25	WG880090
Cadmium	ND		0.00100	1	06/21/2016 02:25	WG880090
Calcium	363		1.00	1	06/21/2016 02:25	WG880090
Chromium	0.00327	B	0.00200	1	06/21/2016 02:25	WG880090
Cobalt	ND		0.00200	1	06/21/2016 02:25	WG880090
Lead	ND		0.00200	1	06/21/2016 02:25	WG880090
Selenium	ND		0.00200	1	06/21/2016 02:25	WG880090
Thallium	ND		0.00200	1	06/21/2016 02:25	WG880090

Method Blank (MB)

(MB) R3144294-1 06/16/16 13:30

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

L840863-01 Original Sample (OS) • Duplicate (DUP)

(OS) L840863-01 06/16/16 13:30 • (DUP) R3144294-4 06/16/16 13:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	226	232	1	2.62		5

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

(LCS) R3144294-2 06/16/16 13:30 • (LCSD) R3144294-3 06/16/16 13:30

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	8510	8560	96.7	97.3	85.0-115			0.586	5

Method Blank (MB)

(MB) R3144646-1 06/17/16 17:09

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

L841269-06 Original Sample (OS) • Duplicate (DUP)

(OS) L841269-06 06/17/16 17:09 • (DUP) R3144646-4 06/17/16 17:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	410	416	1	1.45		5

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

(LCS) R3144646-2 06/17/16 17:09 • (LCSD) R3144646-3 06/17/16 17:09

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	8610	8660	97.8	98.4	85.0-115			0.579	5

L841053-02 Original Sample (OS) • Duplicate (DUP)

(OS) L841053-02 06/15/16 09:05 • (DUP) WG879792-3 06/15/16 09:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	6.59	6.53	1	0.915		1

L841242-03 Original Sample (OS) • Duplicate (DUP)

(OS) L841242-03 06/15/16 09:05 • (DUP) WG879792-4 06/15/16 09:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	4.01	4.00	1	0.250		1

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

(LCS) WG879792-1 06/15/16 09:23 • (LCSD) WG879792-2 06/15/16 09:23

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.12	6.02	6.02	98.4	98.4	98.4-102			0.000	1

Method Blank (MB)

(MB) R3144210-1 06/16/16 09:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	0.155	J	0.0774	5.00

L840633-01 Original Sample (OS) • Duplicate (DUP)

(OS) L840633-01 06/16/16 15:55 • (DUP) R3144210-4 06/16/16 16:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	187	179	20	4		15
Fluoride	ND	0.000	20	0		15
Sulfate	1090	1080	20	1		15

L841085-08 Original Sample (OS) • Duplicate (DUP)

(OS) L841085-08 06/16/16 19:53 • (DUP) R3144210-6 06/16/16 20:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	18.0	18.1	1	0		15
Fluoride	0.118	0.182	1	42	P1	15

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

(LCS) R3144210-2 06/16/16 09:45 • (LCSD) R3144210-3 06/16/16 10:00

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 %
Chloride	40.0	39.3	39.2	98	98	80-120			0	15
Fluoride	8.00	7.92	7.94	99	99	80-120			0	15
Sulfate	40.0	39.9	40.1	100	100	80-120			1	15

L840777-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L840777-09 06/16/16 16:39 • (MS) R3144210-5 06/16/16 16:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	19.9	68.7	98	1	80-120	
Fluoride	5.00	0.461	5.17	94	1	80-120	
Sulfate	50.0	27.8	75.9	96	1	80-120	

L841269-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841269-01 06/16/16 21:53 • (MS) R3144210-7 06/16/16 22:08 • (MSD) R3144210-8 06/16/16 22:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	9.55	59.7	59.8	100	100	1	80-120			0	15
Fluoride	5.00	ND	5.28	4.91	104	96	1	80-120			7	15
Sulfate	50.0	69.9	115	115	91	90	1	80-120	E	E	0	15

Method Blank (MB)

(MB) R3144360-1 06/17/16 19:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0099	0.100
Sulfate	0.175	J	0.0774	5.00

L841481-03 Original Sample (OS) • Duplicate (DUP)

(OS) L841481-03 06/17/16 22:03 • (DUP) R3144360-4 06/17/16 22:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.159	0.153	1	4		15

L841481-05 Original Sample (OS) • Duplicate (DUP)

(OS) L841481-05 06/18/16 03:01 • (DUP) R3144360-7 06/18/16 03:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.268	0.273	1	2		15

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

(LCS) R3144360-2 06/17/16 20:04 • (LCSD) R3144360-3 06/17/16 20:19

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 %
Fluoride	8.00	7.84	7.89	98	99	80-120			1	15
Sulfate	40.0	39.5	39.6	99	99	80-120			0	15

L841481-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841481-04 06/17/16 23:03 • (MS) R3144360-5 06/17/16 23:18 • (MSD) R3144360-6 06/17/16 23:33

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 %
Fluoride	5.00	0.276	4.99	4.42	94	83	1	80-120			12	15

L841481-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L841481-06 06/18/16 03:31 • (MS) R3144360-8 06/18/16 07:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.151	4.45	86	1	80-120	

Method Blank (MB)

(MB) R3144599-1 06/20/16 09:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L842160-01 Original Sample (OS) • Duplicate (DUP)

(OS) L842160-01 06/20/16 11:44 • (DUP) R3144599-4 06/20/16 11:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	7.79	7.73	1	1		15

L840715-03 Original Sample (OS) • Duplicate (DUP)

(OS) L840715-03 06/20/16 14:36 • (DUP) R3144599-6 06/20/16 14:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	20.4	20.4	1	0		15

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

(LCS) R3144599-2 06/20/16 10:04 • (LCSD) R3144599-3 06/20/16 10:18

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	%	%	%			%	%
Sulfate	40.0	39.2	39.3	98	98	80-120			0	15

L840661-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L840661-01 06/20/16 12:56 • (MS) R3144599-5 06/20/16 13:09

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	66.0	113	94	1	80-120	E

L842405-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842405-03 06/20/16 17:29 • (MS) R3144599-7 06/20/16 17:43 • (MSD) R3144599-8 06/20/16 17:58

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	%	%		%			%	%
Sulfate	50.0	46.5	94.3	94.4	96	96	1	80-120			0	15

Method Blank (MB)

(MB) R3143519-1 06/14/16 17:30

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

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

(LCS) R3143519-2 06/14/16 17:33 • (LCSD) R3143519-3 06/14/16 17:36

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	%	%	%			%	%
Mercury	0.00300	0.00301	0.00292	100	97	80-120			3	20

L841085-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841085-03 06/14/16 17:43 • (MS) R3143519-4 06/14/16 17:46 • (MSD) R3143519-5 06/14/16 17:48

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	%	%		%			%	%
Mercury	0.00300	ND	0.00308	0.00301	101	98	1	75-125			2	20

Method Blank (MB)

(MB) R3143783-1 06/15/16 15:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Molybdenum	U		0.0016	0.00500

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

(LCS) R3143783-2 06/15/16 15:47 • (LCSD) R3143783-3 06/15/16 15:49

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 %
Boron	1.00	0.963	0.971	96	97	80-120			1	20
Molybdenum	1.00	0.909	0.909	91	91	80-120			0	20

L841085-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841085-03 06/15/16 15:52 • (MS) R3143783-5 06/15/16 15:58 • (MSD) R3143783-6 06/15/16 16:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.79	2.74	2.71	95	92	1	75-125			1	20
Molybdenum	1.00	ND	0.908	0.888	91	89	1	75-125			2	20

Method Blank (MB)

(MB) R3143824-1 06/16/16 00:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Lithium	U		0.0053	0.0150

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

(LCS) R3143824-2 06/16/16 00:15 • (LCSD) R3143824-3 06/16/16 00:17

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	0.996	100	100	80-120			1	20

L841088-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841088-02 06/16/16 00:23 • (MS) R3143824-5 06/16/16 00:28 • (MSD) R3143824-6 06/16/16 00:30

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	0.532	1.47	1.48	93	95	1	75-125			1	20

Method Blank (MB)

(MB) R3144689-1 06/21/16 01:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000795	J	0.00021	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	0.000591	J	0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3144689-2 06/21/16 01:53 • (LCSD) R3144689-3 06/21/16 01:55

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	0.0570	0.0558	114	112	80-120			2	20
Arsenic	0.0500	0.0552	0.0525	110	105	80-120			5	20
Barium	0.0500	0.0548	0.0539	110	108	80-120			2	20
Beryllium	0.0500	0.0510	0.0502	102	100	80-120			1	20
Cadmium	0.0500	0.0573	0.0545	115	109	80-120			5	20
Calcium	5.00	5.50	5.32	110	106	80-120			3	20
Chromium	0.0500	0.0567	0.0540	113	108	80-120			5	20
Cobalt	0.0500	0.0569	0.0551	114	110	80-120			3	20
Lead	0.0500	0.0534	0.0530	107	106	80-120			1	20
Selenium	0.0500	0.0535	0.0534	107	107	80-120			0	20
Thallium	0.0500	0.0524	0.0510	105	102	80-120			3	20

L841085-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841085-02 06/21/16 01:57 • (MS) R3144689-5 06/21/16 02:02 • (MSD) R3144689-6 06/21/16 02:04

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 %
Antimony	0.0500	0.00256	0.0589	0.0583	113	112	1	75-125			1	20
Arsenic	0.0500	ND	0.0549	0.0538	109	106	1	75-125			2	20
Barium	0.0500	0.244	0.301	0.296	114	105	1	75-125			2	20
Beryllium	0.0500	ND	0.0495	0.0503	99	101	1	75-125			2	20
Cadmium	0.0500	ND	0.0559	0.0538	112	108	1	75-125			4	20

L841085-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841085-02 06/21/16 01:57 • (MS) R3144689-5 06/21/16 02:02 • (MSD) R3144689-6 06/21/16 02:04

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 %
Calcium	5.00	47.6	52.9	53.8	107	124	1	75-125			2	20
Chromium	0.0500	ND	0.0530	0.0522	104	102	1	75-125			1	20
Cobalt	0.0500	ND	0.0516	0.0522	103	104	1	75-125			1	20
Lead	0.0500	ND	0.0521	0.0520	103	103	1	75-125			0	20
Selenium	0.0500	ND	0.0526	0.0534	104	106	1	75-125			2	20
Thallium	0.0500	ND	0.0504	0.0504	101	101	1	75-125			0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

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

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
Conneticut	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 [1 4]	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		

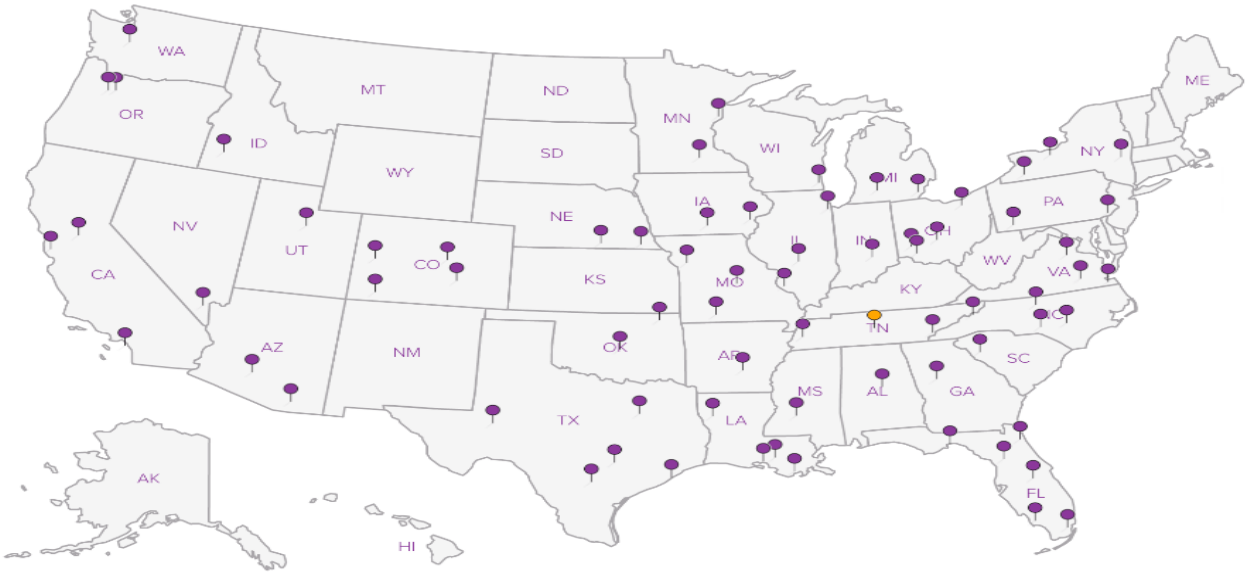
Third Party & Federal Accreditations

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.**



AECOM – Overland Park, KS 8300 College Blvd., Suite 200 Overland Park, KS 66210	Billing Information: Dana Monroe - 1334927 8300 College Blvd., Suite 200 Overland Park, KS 66210
Report to: Brian Linnan	Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Chain of Custody Page ___ of ___

ESC LAB SCIENCES — YOUR LAB OF CHOICE

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L # 841085

I092

Acctnum: URSKC
Template: T112860
Prelogin: P556948
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Project Description: La Cygne Generating Station		City/State Collected:
Phone: 913-344-1000 Fax: 913-344-1011	Client Project #	Lab Project # URSKC-LACYGNE
Collected by (print):	Site/Facility ID #	P.O. # URSKC1028155
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 Email? ___No X Yes FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3 <2	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-905	GRAB	GW		6/9/16	09:30	3	X	X	X		-01
MW-803	GRAB	GW		6/9/16	10:35	3	X	X	X		-02
MW-601	GRAB	GW		6/9/16	11:30	3	X	X	X		-03
MW-601 MS	GRAB	GW		6/9/16	11:30	3	X	X	X		-03
MW-601 MSD	GRAB	GW		6/9/16	11:30	3	X	X	X		-03
MW-14R	GRAB	GW		6/9/16	14:40	3	X	X	X		-04
MW-15	GRAB	GW		6/9/16	16:30	3	X	X	X		-05
MW-602	GRAB	GW		6/10/16	09:30	3	X	X	X		-06
TW-1	GRAB	GW		6/9/16	09:10	3	X	X	X		-07
MW-13	GRAB	GW		6/9/16	12:40	3	X	X	X		-08

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

Remarks: Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

Radium samples sent to outreach

pH ________ Temp ________

Flow ________ Other ________

6617 3610 6731

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
[signature]	6/10/16	1410	[signature]		OB9 OK
Relinquished by : (Signature)	Date: 6/10/16	Time: 1700	Received by: (Signature)	Temp: 2.4 °C Bottles Received: 30	COC Seal Intact: ___Y ___N ✓NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 6-11-16 Time: 0900	pH Checked: [initials] NCF:

ANALYTICAL REPORT

July 14, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L843388
Samples Received:	06/24/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

TABLE OF CONTENTS

MW-707B L843388-01 GW

Collected by	Collected date/time	Received date/time
	06/23/16 12:30	06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG884110	1	06/29/16 22:44	06/29/16 23:24	JM
Mercury by Method 7470A	WG883183	1	06/24/16 16:24	06/25/16 08:01	TRB
Metals (ICP) by Method 6010B	WG883799	1	06/29/16 22:38	06/30/16 01:59	CCE
Metals (ICP) by Method 6010B	WG883835	1	06/30/16 09:09	06/30/16 12:58	CCE
Metals (ICPMS) by Method 6020	WG883946	1	06/27/16 20:24	07/14/16 00:04	JD
Metals (ICPMS) by Method 6020	WG884066	1	07/01/16 11:10	07/13/16 05:50	JDG
Wet Chemistry by Method 9040C	WG883199	1	06/27/16 10:21	06/27/16 10:21	MHM
Wet Chemistry by Method 9056A	WG883487	1	06/27/16 22:26	06/27/16 22:26	CM
Wet Chemistry by Method 9056A	WG883487	10	06/27/16 22:44	06/27/16 22:44	CM
Wet Chemistry by Method 9056A	WG884179	100	06/29/16 17:07	06/29/16 17:07	CM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L843388-01	MW-707B	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	770		10.0	1	06/29/2016 23:24	WG884110

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.88		1	06/27/2016 10:21	WG883199

Sample Narrative:

9040C L843388-01 WG883199: 6.88 at 20.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	200		10.0	10	06/27/2016 22:44	WG883487
Fluoride	0.386	B	0.100	1	06/27/2016 22:26	WG883487
Sulfate	5010		500	100	06/29/2016 17:07	WG884179

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/25/2016 08:01	WG883183

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.38		0.200	1	06/30/2016 01:59	WG883799
Lithium	0.445		0.0150	1	06/30/2016 12:58	WG883835
Molybdenum	ND		0.00500	1	06/30/2016 01:59	WG883799

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND	J4	0.00200	1	07/14/2016 00:04	WG883946
Arsenic	ND		0.00200	1	07/14/2016 00:04	WG883946
Barium	0.0253		0.00500	1	07/14/2016 00:04	WG883946
Beryllium	ND		0.00200	1	07/14/2016 00:04	WG883946
Cadmium	ND		0.00100	1	07/14/2016 00:04	WG883946
Calcium	371		1.00	1	07/13/2016 05:50	WG884066
Chromium	0.00225		0.00200	1	07/14/2016 00:04	WG883946
Cobalt	0.00548		0.00200	1	07/14/2016 00:04	WG883946
Lead	0.00333		0.00200	1	07/14/2016 00:04	WG883946
Selenium	0.00337		0.00200	1	07/14/2016 00:04	WG883946
Thallium	ND		0.00200	1	07/14/2016 00:04	WG883946

Sample Narrative:

6020 L843388-01 WG883946: The standard used for the ICV and spikes is reading high for Sb.

Method Blank (MB)

(MB) R3146957-1 06/29/16 23:24

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

L843340-04 Original Sample (OS) • Duplicate (DUP)

(OS) L843340-04 06/29/16 23:24 • (DUP) R3146957-4 06/29/16 23:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	152	146	1	4.03		5

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

(LCS) R3146957-2 06/29/16 23:24 • (LCSD) R3146957-3 06/29/16 23:24

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	%	%	%			%	%
Dissolved Solids	8800	8470	8740	96.3	99.3	85.0-115			3.14	5

L843301-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843301-01 06/27/16 10:21 • (DUP) WG883199-3 06/27/16 10:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.28	8.31	1	0.362		1

L843560-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843560-01 06/27/16 10:21 • (DUP) WG883199-4 06/27/16 10:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.43	7.45	1	0.269		1

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

(LCS) WG883199-1 06/27/16 10:21 • (LCSD) WG883199-2 06/27/16 10:21

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.12	6.03	6.02	98.5	98.4	98.4-102			0.166	1

Method Blank (MB)

(MB) R3146208-3 06/27/16 11:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Fluoride	0.052	J	0.0099	0.100

L843381-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843381-01 06/27/16 20:57 • (DUP) R3146208-7 06/27/16 21:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20.9	20.5	1	2		15
Fluoride	0.153	0.150	1	2		15

L843419-06 Original Sample (OS) • Duplicate (DUP)

(OS) L843419-06 06/28/16 01:43 • (DUP) R3146208-8 06/28/16 02:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	36.3	36.3	1	0		15
Fluoride	0.124	0.123	1	1		15

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

(LCS) R3146208-4 06/27/16 11:53 • (LCSD) R3146208-5 06/27/16 12:11

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 %
Chloride	40.0	39.8	39.7	99	99	80-120			0	15
Fluoride	8.00	7.96	7.94	100	99	80-120			0	15

L843367-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L843367-01 06/27/16 17:22 • (MS) R3146208-6 06/27/16 17:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	15.3	65.2	100	1	80-120	
Fluoride	5.00	U	5.21	104	1	80-120	

Method Blank (MB)

(MB) R3146726-1 06/29/16 05:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L843098-19 Original Sample (OS) • Duplicate (DUP)

(OS) L843098-19 06/29/16 11:45 • (DUP) R3146726-4 06/29/16 11:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	0.670	0.692	1	3	J	15

L843159-06 Original Sample (OS) • Duplicate (DUP)

(OS) L843159-06 06/29/16 14:12 • (DUP) R3146726-6 06/29/16 14:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	43.7	43.6	1	0		15

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

(LCS) R3146726-2 06/29/16 05:54 • (LCSD) R3146726-3 06/29/16 06:07

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	%	%	%			%	%
Sulfate	40.0	40.1	40.1	100	100	80-120			0	15

L843098-20 Original Sample (OS) • Matrix Spike (MS)

(OS) L843098-20 06/29/16 12:12 • (MS) R3146726-5 06/29/16 12:25

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	1.36	54.3	106	1	80-120	

L843159-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843159-07 06/29/16 14:39 • (MS) R3146726-7 06/29/16 14:53 • (MSD) R3146726-8 06/29/16 15:06

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	%	%		%			%	%
Sulfate	50.0	43.7	91.5	91.3	96	95	1	80-120			0	15

Method Blank (MB)

(MB) R3145801-1 06/25/16 06:57

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

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

(LCS) R3145801-2 06/25/16 07:00 • (LCSD) R3145801-3 06/25/16 07:03

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	0.00329	0.00332	110	111	80-120			1	20

L843270-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843270-01 06/25/16 07:06 • (MS) R3145801-4 06/25/16 07:14 • (MSD) R3145801-5 06/25/16 07:17

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	U	0.00293	0.00299	98	100	1	75-125			2	20

Method Blank (MB)

(MB) R3146673-1 06/30/16 00:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0126	0.200
Molybdenum	U		0.0016	0.00500

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

(LCS) R3146673-2 06/30/16 00:50 • (LCSD) R3146673-3 06/30/16 00:53

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	%	%	%			%	%
Boron	1.00	1.00	0.987	100	99	80-120			2	20
Molybdenum	1.00	0.989	0.983	99	98	80-120			1	20

L843098-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843098-20 06/30/16 00:55 • (MS) R3146673-5 06/30/16 01:01 • (MSD) R3146673-6 06/30/16 01:03

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	%	%		%			%	%
Boron	1.00	0.0588	1.05	1.05	99	99	1	75-125			0	20
Molybdenum	1.00	U	0.992	0.986	99	99	1	75-125			1	20

Method Blank (MB)

(MB) R3146802-1 06/30/16 12:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Lithium	U		0.0053	0.0150

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

(LCS) R3146802-2 06/30/16 12:41 • (LCSD) R3146802-3 06/30/16 12:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Lithium	1.00	0.951	0.946	95	95	80-120			1	20

L843420-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843420-07 06/30/16 12:47 • (MS) R3146802-5 06/30/16 12:52 • (MSD) R3146802-6 06/30/16 12:55

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	0.0248	0.975	0.991	95	97	1	75-125			2	20

Method Blank (MB)

(MB) R3149558-1 07/13/16 22:48

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
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3149558-2 07/13/16 22:50 • (LCSD) R3149558-3 07/13/16 22:52

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 %
Antimony	0.0500	0.0595	0.0604	119	121	80-120		J4	2	20
Arsenic	0.0500	0.0479	0.0511	96	102	80-120			7	20
Barium	0.0500	0.0512	0.0522	102	104	80-120			2	20
Beryllium	0.0500	0.0493	0.0490	99	98	80-120			1	20
Cadmium	0.0500	0.0479	0.0519	96	104	80-120			8	20
Chromium	0.0500	0.0507	0.0505	101	101	80-120			0	20
Cobalt	0.0500	0.0500	0.0513	100	103	80-120			3	20
Lead	0.0500	0.0512	0.0516	102	103	80-120			1	20
Selenium	0.0500	0.0522	0.0487	104	97	80-120			7	20
Thallium	0.0500	0.0503	0.0506	101	101	80-120			0	20

L843345-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843345-06 07/13/16 22:55 • (MS) R3149558-5 07/13/16 22:59 • (MSD) R3149558-6 07/13/16 23:01

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	0.000326	0.0612	0.0602	122	120	1	75-125			2	20
Arsenic	0.0500	0.00460	0.0543	0.0569	99	105	1	75-125			5	20
Barium	0.0500	0.0991	0.152	0.149	106	100	1	75-125			2	20
Beryllium	0.0500	U	0.0481	0.0508	96	102	1	75-125			6	20
Cadmium	0.0500	U	0.0506	0.0519	101	104	1	75-125			3	20
Chromium	0.0500	0.00148	0.0465	0.0444	90	86	1	75-125			5	20
Cobalt	0.0500	0.000588	0.0448	0.0442	88	87	1	75-125			1	20

L843345-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843345-06 07/13/16 22:55 • (MS) R3149558-5 07/13/16 22:59 • (MSD) R3149558-6 07/13/16 23:01

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 %
Lead	0.0500	0.00238	0.0513	0.0521	98	99	1	75-125			2	20
Selenium	0.0500	0.000511	0.0535	0.0515	106	102	1	75-125			4	20
Thallium	0.0500	U	0.0506	0.0506	101	101	1	75-125			0	20

Method Blank (MB)

(MB) R3149305-2 07/13/16 04:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Calcium	U		0.046	1.00

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

(LCS) R3149305-7 07/13/16 08:17 • (LCSD) R3149305-3 07/13/16 04:13

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	%	%	%			%	%
Calcium	5.00	5.00	5.25	100	105	80-120			5	20

L843611-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843611-04 07/13/16 04:18 • (MS) R3149305-5 07/13/16 04:28 • (MSD) R3149305-6 07/13/16 04:33

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	%	%		%			%	%
Calcium	5.00	188	192	194	82	109	1	75-125			1	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.

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
Conneticut	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 [1 4]	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		

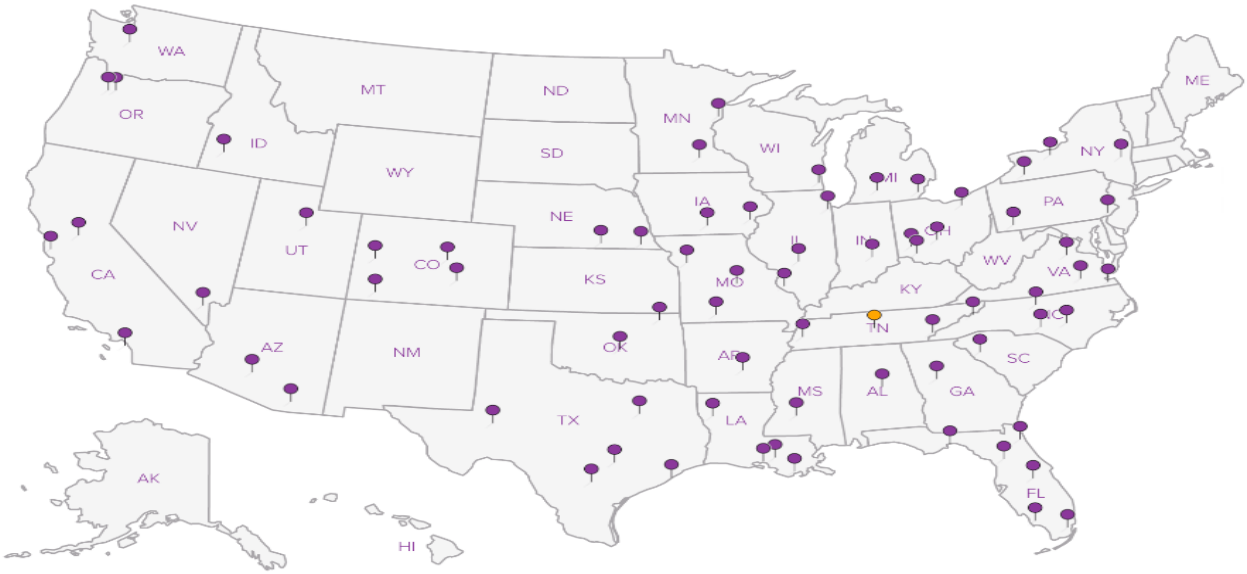
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID # **URSKC1028155**

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

Email? ___No **X**__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-707B	GRAB	GW	—	6/23/16	1230	3	X	X	X		01
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

Remarks:Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

pH _____ Temp _____

Flow _____ Other _____

6711 0138 1401

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1545	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.2 °C Bottles Received: 3

Date: 6-24-16 Time: 900

Chain of Custody Page ___ of ___

ESC 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 # 843788

L198

Acctnum: **URSKC**

Template: **T112860**

Prelogin: **P556948**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

Hold #

Condition: (lab use only) Good

COC Seal Intact: ____Y ____N ____NA

pH Checked: <2 NCF:

Case Narrative

Lab No: 20160603

This report contains the analytical results for the 1 sample(s) received under chain of custody by ESC Lab Sciences on 6/24/2016 12:23:55 PM. These samples are associated with your La Cygne 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:

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

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID :	**20160603-01**							
Client ID :	**MW-707B**							
Date Sampled :	**6/23/2016 12:30:00 PM**							
Matrix :	**NPW**							
	Radiochemical Analyses							
Combined Radium		3.59 +/- 1.25	1.47	pCi/l				
Radium-226	SM 7500 Ra B M*	0.950 +/- 0.656	0.751	pCi/l		06/29/16	07/06/16	AK
Radium-228	EPA 904*/9320*	2.64 +/- 0.590	.715	pCi/l		07/13/16	07/19/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.008	100.0			36.7	0.745	92.3	87.7	4.8	R1105
Radium-228	0.122	84.8			NC	0.013	76.1	84.4	9.1	R3831

Lab Approval:

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. # **URSKC1028155**

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

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-707B	Grab	GW	—	6/23/16	1230	2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X
		GW				2	X

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

Remarks:Report Radium 226 and 228 Combined.

Radium sent to Outreach lab

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1545	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1700	6/24/16 1203
Relinquished by : (Signature)	Date:	Time:	Received for lab (Signature)

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

Temp: °C Bottles Received:

Date: Time:

Hold #

Condition: (lab use only)

COC Seal Intact: ____ Y ____ N ____

pH Checked: NCF:

Chain of Custody Page _

ESC LAB SCIENCES

YOUR LAB OF C

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

L# 84405

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P556947
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant | Sample #

SAMPLE LOGIN

Date Received: *6/24/2016 12:23:5* **Lab Number:** **20160603** **Due:** **7/22/2016**

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160603-01 B	MW-707B	NPW	06/23/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160603-01 A	MW-707B	NPW	06/23/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION NA

 # Coolers 1 **Custody Seals Broken** ☒ **Temperature:** **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ☒ **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** NA ☐

Anomalies

Inspected By: _____ **DATE** 6/24/16

QA or Designee Review: _____ **DATE** 6/24/16

Sample Custodian Review: _____ **DATE** _____

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-2

August 2016 Sampling Event Laboratory Report

ANALYTICAL REPORT

August 19, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L852644
Samples Received:	08/11/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

MW-601 L852644-01 GW

Collected by | Collected date/time 08/09/16 17:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898514	1	08/15/16 14:15	08/15/16 14:44	JER
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:12	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:00	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:58	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 23:36	08/13/16 23:36	SAM
Wet Chemistry by Method 9056A	WG897980	10	08/13/16 20:52	08/13/16 20:52	SAM

MW-602 L852644-02 GW

Collected by | Collected date/time 08/09/16 16:10 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898514	1	08/15/16 14:15	08/15/16 14:44	JER
Mercury by Method 7470A	WG898326	1	08/12/16 15:06	08/13/16 07:57	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:11	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:11	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 16:09	08/13/16 16:09	NJM

MW-701 L852644-03 GW

Collected by | Collected date/time 08/09/16 12:40 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898514	1	08/15/16 14:15	08/15/16 14:44	JER
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:20	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:22	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:14	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 16:24	08/13/16 16:24	NJM

MW-702 L852644-04 GW

Collected by | Collected date/time 08/09/16 15:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:24	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:25	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:17	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 16:39	08/13/16 16:39	NJM

MW-703 L852644-05 GW

Collected by | Collected date/time 08/09/16 17:05 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:27	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:34	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:20	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 16:54	08/13/16 16:54	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/13/16 22:07	08/13/16 22:07	NJM

MW-704 L852644-06 GW

Collected by | Collected date/time 08/09/16 13:45 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:46	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:36	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:24	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 17:09	08/13/16 17:09	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/13/16 22:22	08/13/16 22:22	NJM

MW-705 L852644-07 GW

Collected by | Collected date/time 08/09/16 09:35 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:49	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:39	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:27	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 17:53	08/13/16 17:53	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/13/16 22:37	08/13/16 22:37	NJM

MW-706 L852644-08 GW

Collected by | Collected date/time 08/09/16 10:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:52	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:42	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:30	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 18:08	08/13/16 18:08	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/13/16 23:21	08/13/16 23:21	NJM

MW-707B L852644-09 GW

Collected by | Collected date/time 08/09/16 11:30 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:55	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:45	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:33	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 18:23	08/13/16 18:23	NJM
Wet Chemistry by Method 9056A	WG897980	100	08/14/16 00:21	08/14/16 00:21	NJM

MW-801 L852644-10 GW

Collected by | Collected date/time 08/09/16 15:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 11:58	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:48	LTB

MW-801 L852644-10 GW

Collected by | Collected date/time 08/09/16 15:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:36	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 18:38	08/13/16 18:38	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/14/16 00:36	08/14/16 00:36	NJM

MW-950 L852644-11 GW

Collected by | Collected date/time 08/09/16 10:30 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:01	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:51	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:39	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 18:53	08/13/16 18:53	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/14/16 00:51	08/14/16 00:51	NJM

MW-951 L852644-12 GW

Collected by | Collected date/time 08/09/16 09:30 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:04	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:54	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:49	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 19:08	08/13/16 19:08	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/14/16 01:06	08/14/16 01:06	NJM

MW-15 L852644-13 GW

Collected by | Collected date/time 08/09/16 16:40 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:07	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:57	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:52	JDG
Wet Chemistry by Method 9040C	WG897882	1	08/11/16 15:20	08/11/16 15:20	JJL
Wet Chemistry by Method 9056A	WG897980	1	08/13/16 19:23	08/13/16 19:23	NJM
Wet Chemistry by Method 9056A	WG897980	10	08/14/16 01:21	08/14/16 01:21	NJM

TW-1 L852644-14 GW

Collected by | Collected date/time 08/09/16 10:55 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG898515	1	08/14/16 05:20	08/15/16 13:39	JM
Mercury by Method 7470A	WG898326	1	08/12/16 15:06	08/13/16 08:00	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 10:59	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:55	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 15:20	08/12/16 15:20	SAM

MW-708 L852644-15 GW

Collected by | Collected date/time 08/10/16 11:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:10	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:08	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 04:58	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 15:49	08/12/16 15:49	SAM

MW-802 L852644-16 GW

Collected by | Collected date/time 08/10/16 14:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:13	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:10	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:02	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 16:04	08/12/16 16:04	SAM

MW-804 L852644-17 GW

Collected by | Collected date/time 08/10/16 14:30 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG898326	1	08/12/16 15:06	08/13/16 08:02	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:13	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:05	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 16:19	08/12/16 16:19	SAM

MW-805 L852644-18 GW

Collected by | Collected date/time 08/10/16 15:00 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 12:22	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:16	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:08	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 16:49	08/12/16 16:49	SAM
Wet Chemistry by Method 9056A	WG898008	10	08/12/16 17:04	08/12/16 17:04	SAM

MW-6 L852644-19 GW

Collected by | Collected date/time 08/10/16 15:10 | Received date/time 08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 13:42	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:19	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:11	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 17:19	08/12/16 17:19	SAM
Wet Chemistry by Method 9056A	WG898008	5	08/12/16 18:19	08/12/16 18:19	SAM

MW-7 L852644-20 GW

Collected by	Collected date/time	Received date/time
	08/10/16 13:15	08/11/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899432	1	08/17/16 06:25	08/17/16 06:46	JM
Mercury by Method 7470A	WG897893	1	08/11/16 11:50	08/12/16 13:45	TRB
Metals (ICP) by Method 6010B	WG897962	1	08/15/16 22:19	08/16/16 11:22	LTB
Metals (ICPMS) by Method 6020	WG897881	1	08/15/16 23:33	08/19/16 05:14	JDG
Wet Chemistry by Method 9040C	WG898064	1	08/15/16 14:05	08/15/16 14:05	JJL
Wet Chemistry by Method 9056A	WG898008	1	08/12/16 18:04	08/12/16 18:04	SAM
Wet Chemistry by Method 9056A	WG898008	5	08/12/16 18:33	08/12/16 18:33	SAM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L852644-01	MW-601	9040C
L852644-02	MW-602	9040C
L852644-03	MW-701	9040C
L852644-04	MW-702	9040C
L852644-05	MW-703	9040C
L852644-06	MW-704	9040C
L852644-07	MW-705	9040C
L852644-08	MW-706	9040C
L852644-09	MW-707B	9040C
L852644-10	MW-801	9040C
L852644-11	MW-950	9040C
L852644-12	MW-951	9040C
L852644-13	MW-15	9040C
L852644-14	TW-1	9040C
L852644-15	MW-708	9040C
L852644-16	MW-802	9040C
L852644-17	MW-804	9040C
L852644-18	MW-805	9040C
L852644-19	MW-6	9040C
L852644-20	MW-7	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	922		10.0	1	08/15/2016 14:44	WG898514

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.63		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-01 WG897882: 7.63 at 15.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	161		10.0	10	08/13/2016 20:52	WG897980
Fluoride	1.69		0.100	1	08/13/2016 23:36	WG897980
Sulfate	ND		5.00	1	08/13/2016 23:36	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:12	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.91	O1	0.200	1	08/16/2016 10:00	WG897962
Lithium	0.0727		0.0150	1	08/16/2016 10:00	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:00	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:58	WG897881
Arsenic	ND		0.00200	1	08/19/2016 05:58	WG897881
Barium	0.120		0.00500	1	08/19/2016 05:58	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:58	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:58	WG897881
Calcium	20.3		1.00	1	08/19/2016 05:58	WG897881
Chromium	ND		0.00200	1	08/19/2016 05:58	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:58	WG897881
Lead	ND		0.00200	1	08/19/2016 05:58	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:58	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:58	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	600		10.0	1	08/15/2016 14:44	WG898514

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-02 WG897882: 7.60 at 15.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.3		1.00	1	08/13/2016 16:09	WG897980
Fluoride	1.27		0.100	1	08/13/2016 16:09	WG897980
Sulfate	25.2		5.00	1	08/13/2016 16:09	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/13/2016 07:57	WG898326

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.39		0.200	1	08/16/2016 10:11	WG897962
Lithium	0.0587		0.0150	1	08/16/2016 10:11	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:11	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:11	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:11	WG897881
Barium	0.0927		0.00500	1	08/19/2016 04:11	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:11	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:11	WG897881
Calcium	23.3		1.00	1	08/19/2016 04:11	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:11	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:11	WG897881
Lead	ND		0.00200	1	08/19/2016 04:11	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:11	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:11	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	587		10.0	1	08/15/2016 14:44	WG898514

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.57		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-03 WG897882: 7.57 at 13.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	50.6		1.00	1	08/13/2016 16:24	WG897980
Fluoride	0.719		0.100	1	08/13/2016 16:24	WG897980
Sulfate	81.1		5.00	1	08/13/2016 16:24	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:20	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.06		0.200	1	08/16/2016 10:22	WG897962
Lithium	0.0314		0.0150	1	08/16/2016 10:22	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:22	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:14	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:14	WG897881
Barium	0.144		0.00500	1	08/19/2016 04:14	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:14	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:14	WG897881
Calcium	35.3		1.00	1	08/19/2016 04:14	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:14	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:14	WG897881
Lead	ND		0.00200	1	08/19/2016 04:14	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:14	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:14	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	619		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.01		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-04 WG897882: 9.01 at 13.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.7		1.00	1	08/13/2016 16:39	WG897980
Fluoride	1.44		0.100	1	08/13/2016 16:39	WG897980
Sulfate	5.46		5.00	1	08/13/2016 16:39	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:24	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.62		0.200	1	08/16/2016 10:25	WG897962
Lithium	0.251		0.0150	1	08/16/2016 10:25	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:25	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:17	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:17	WG897881
Barium	0.232		0.00500	1	08/19/2016 04:17	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:17	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:17	WG897881
Calcium	11.2		1.00	1	08/19/2016 04:17	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:17	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:17	WG897881
Lead	ND		0.00200	1	08/19/2016 04:17	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:17	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:17	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.79		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-05 WG897882: 7.79 at 15.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	106		10.0	10	08/13/2016 22:07	WG897980
Fluoride	1.44		0.100	1	08/13/2016 16:54	WG897980
Sulfate	ND		5.00	1	08/13/2016 16:54	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:27	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.93		0.200	1	08/16/2016 10:34	WG897962
Lithium	0.0623		0.0150	1	08/16/2016 10:34	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:34	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:20	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:20	WG897881
Barium	0.273		0.00500	1	08/19/2016 04:20	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:20	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:20	WG897881
Calcium	17.9		1.00	1	08/19/2016 04:20	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:20	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:20	WG897881
Lead	ND		0.00200	1	08/19/2016 04:20	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:20	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:20	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1220		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.69		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-06 WG897882: 7.69 at 16.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	83.4		1.00	1	08/13/2016 17:09	WG897980
Fluoride	0.874		0.100	1	08/13/2016 17:09	WG897980
Sulfate	194		50.0	10	08/13/2016 22:22	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:46	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.13		0.200	1	08/16/2016 10:36	WG897962
Lithium	0.0867		0.0150	1	08/16/2016 10:36	WG897962
Molybdenum	0.0143		0.00500	1	08/16/2016 10:36	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.0115		0.00200	1	08/19/2016 04:24	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:24	WG897881
Barium	0.104		0.00500	1	08/19/2016 04:24	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:24	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:24	WG897881
Calcium	28.9		1.00	1	08/19/2016 04:24	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:24	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:24	WG897881
Lead	ND		0.00200	1	08/19/2016 04:24	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:24	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:24	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	992		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-07 WG897882: 7.45 at 14.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		10.0	10	08/13/2016 22:37	WG897980
Fluoride	0.985		0.100	1	08/13/2016 17:53	WG897980
Sulfate	40.7		5.00	1	08/13/2016 17:53	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:49	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.22		0.200	1	08/16/2016 10:39	WG897962
Lithium	0.113		0.0150	1	08/16/2016 10:39	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:39	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:27	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:27	WG897881
Barium	0.0892		0.00500	1	08/19/2016 04:27	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:27	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:27	WG897881
Calcium	33.5		1.00	1	08/19/2016 04:27	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:27	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:27	WG897881
Lead	ND		0.00200	1	08/19/2016 04:27	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:27	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:27	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1250		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.61		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-08 WG897882: 7.61 at 15.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	269		10.0	10	08/13/2016 23:21	WG897980
Fluoride	1.12		0.100	1	08/13/2016 18:08	WG897980
Sulfate	ND		5.00	1	08/13/2016 18:08	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:52	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.19		0.200	1	08/16/2016 10:42	WG897962
Lithium	0.126		0.0150	1	08/16/2016 10:42	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:42	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:30	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:30	WG897881
Barium	0.280		0.00500	1	08/19/2016 04:30	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:30	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:30	WG897881
Calcium	29.0		1.00	1	08/19/2016 04:30	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:30	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:30	WG897881
Lead	ND		0.00200	1	08/19/2016 04:30	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:30	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:30	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	8420		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.03		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-09 WG897882: 7.30 at 14.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	235		100	100	08/14/2016 00:21	WG897980
Fluoride	0.347		0.100	1	08/13/2016 18:23	WG897980
Sulfate	4320		500	100	08/14/2016 00:21	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:55	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.94		0.200	1	08/16/2016 10:45	WG897962
Lithium	0.623		0.0150	1	08/16/2016 10:45	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:45	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:33	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:33	WG897881
Barium	0.0315		0.00500	1	08/19/2016 04:33	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:33	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:33	WG897881
Calcium	412		1.00	1	08/19/2016 04:33	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:33	WG897881
Cobalt	0.00347		0.00200	1	08/19/2016 04:33	WG897881
Lead	ND		0.00200	1	08/19/2016 04:33	WG897881
Selenium	0.00422		0.00200	1	08/19/2016 04:33	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:33	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	888		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-10 WG897882: 7.50 at 15.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	111		10.0	10	08/14/2016 00:36	WG897980
Fluoride	1.11		0.100	1	08/13/2016 18:38	WG897980
Sulfate	ND		5.00	1	08/13/2016 18:38	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 11:58	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.39		0.200	1	08/16/2016 10:48	WG897962
Lithium	0.0957		0.0150	1	08/16/2016 10:48	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:48	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:36	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:36	WG897881
Barium	0.592		0.00500	1	08/19/2016 04:36	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:36	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:36	WG897881
Calcium	30.9		1.00	1	08/19/2016 04:36	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:36	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:36	WG897881
Lead	ND		0.00200	1	08/19/2016 04:36	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:36	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:36	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1270		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-11 WG897882: 7.52 at 15.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	279		10.0	10	08/14/2016 00:51	WG897980
Fluoride	1.12		0.100	1	08/13/2016 18:53	WG897980
Sulfate	ND		5.00	1	08/13/2016 18:53	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:01	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.20		0.200	1	08/16/2016 10:51	WG897962
Lithium	0.126		0.0150	1	08/16/2016 10:51	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:51	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:39	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:39	WG897881
Barium	0.273		0.00500	1	08/19/2016 04:39	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:39	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:39	WG897881
Calcium	28.5		1.00	1	08/19/2016 04:39	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:39	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:39	WG897881
Lead	ND		0.00200	1	08/19/2016 04:39	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:39	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:39	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	840		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-12 WG897882: 7.50 at 15.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	112		10.0	10	08/14/2016 01:06	WG897980
Fluoride	1.08		0.100	1	08/13/2016 19:08	WG897980
Sulfate	ND		5.00	1	08/13/2016 19:08	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:04	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.37		0.200	1	08/16/2016 10:54	WG897962
Lithium	0.0950		0.0150	1	08/16/2016 10:54	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:54	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:49	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:49	WG897881
Barium	0.557		0.00500	1	08/19/2016 04:49	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:49	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:49	WG897881
Calcium	29.4		1.00	1	08/19/2016 04:49	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:49	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:49	WG897881
Lead	ND		0.00200	1	08/19/2016 04:49	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:49	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:49	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	777		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.11		1	08/11/2016 15:20	WG897882

Sample Narrative:

9040C L852644-13 WG897882: 7.11 at 13.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.8		1.00	1	08/13/2016 19:23	WG897980
Fluoride	0.220		0.100	1	08/13/2016 19:23	WG897980
Sulfate	219		50.0	10	08/14/2016 01:21	WG897980

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:07	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.255		0.200	1	08/16/2016 10:57	WG897962
Lithium	0.0231		0.0150	1	08/16/2016 10:57	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:57	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:52	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:52	WG897881
Barium	0.0476		0.00500	1	08/19/2016 04:52	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:52	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:52	WG897881
Calcium	95.2		1.00	1	08/19/2016 04:52	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:52	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:52	WG897881
Lead	ND		0.00200	1	08/19/2016 04:52	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:52	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:52	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	976		10.0	1	08/15/2016 13:39	WG898515

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-14 WG898064: 7.50 at 22.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.9		1.00	1	08/12/2016 15:20	WG898008
Fluoride	0.431		0.100	1	08/12/2016 15:20	WG898008
Sulfate	60.9		5.00	1	08/12/2016 15:20	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/13/2016 08:00	WG898326

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.54		0.200	1	08/16/2016 10:59	WG897962
Lithium	0.127		0.0150	1	08/16/2016 10:59	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 10:59	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:55	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:55	WG897881
Barium	0.0686		0.00500	1	08/19/2016 04:55	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:55	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:55	WG897881
Calcium	29.9		1.00	1	08/19/2016 04:55	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:55	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:55	WG897881
Lead	ND		0.00200	1	08/19/2016 04:55	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:55	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:55	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	881		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.54		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-15 WG898064: 7.54 at 21.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.0		1.00	1	08/12/2016 15:49	WG898008
Fluoride	0.619		0.100	1	08/12/2016 15:49	WG898008
Sulfate	8.98		5.00	1	08/12/2016 15:49	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:10	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.44		0.200	1	08/16/2016 11:08	WG897962
Lithium	0.0673		0.0150	1	08/16/2016 11:08	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:08	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 04:58	WG897881
Arsenic	ND		0.00200	1	08/19/2016 04:58	WG897881
Barium	0.240		0.00500	1	08/19/2016 04:58	WG897881
Beryllium	ND		0.00200	1	08/19/2016 04:58	WG897881
Cadmium	ND		0.00100	1	08/19/2016 04:58	WG897881
Calcium	30.2		1.00	1	08/19/2016 04:58	WG897881
Chromium	ND		0.00200	1	08/19/2016 04:58	WG897881
Cobalt	ND		0.00200	1	08/19/2016 04:58	WG897881
Lead	ND		0.00200	1	08/19/2016 04:58	WG897881
Selenium	ND		0.00200	1	08/19/2016 04:58	WG897881
Thallium	ND		0.00200	1	08/19/2016 04:58	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	681		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.41		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-16 WG898064: 7.41 at 21.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.5		1.00	1	08/12/2016 16:04	WG898008
Fluoride	0.972		0.100	1	08/12/2016 16:04	WG898008
Sulfate	ND		5.00	1	08/12/2016 16:04	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:13	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.59		0.200	1	08/16/2016 11:10	WG897962
Lithium	0.0870		0.0150	1	08/16/2016 11:10	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:10	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:02	WG897881
Arsenic	ND		0.00200	1	08/19/2016 05:02	WG897881
Barium	0.878		0.00500	1	08/19/2016 05:02	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:02	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:02	WG897881
Calcium	32.2		1.00	1	08/19/2016 05:02	WG897881
Chromium	ND		0.00200	1	08/19/2016 05:02	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:02	WG897881
Lead	ND		0.00200	1	08/19/2016 05:02	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:02	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:02	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	554		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.18		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-17 WG898064: 7.18 at 21.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.1		1.00	1	08/12/2016 16:19	WG898008
Fluoride	0.443		0.100	1	08/12/2016 16:19	WG898008
Sulfate	20.9		5.00	1	08/12/2016 16:19	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/13/2016 08:02	WG898326

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.58		0.200	1	08/16/2016 11:13	WG897962
Lithium	0.0382		0.0150	1	08/16/2016 11:13	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:13	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:05	WG897881
Arsenic	ND		0.00200	1	08/19/2016 05:05	WG897881
Barium	0.147		0.00500	1	08/19/2016 05:05	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:05	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:05	WG897881
Calcium	63.7		1.00	1	08/19/2016 05:05	WG897881
Chromium	ND		0.00200	1	08/19/2016 05:05	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:05	WG897881
Lead	ND		0.00200	1	08/19/2016 05:05	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:05	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:05	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2440		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.39		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-18 WG898064: 6.39 at 21.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	491		10.0	10	08/12/2016 17:04	WG898008
Fluoride	0.126		0.100	1	08/12/2016 16:49	WG898008
Sulfate	776		50.0	10	08/12/2016 17:04	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 12:22	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.415		0.200	1	08/16/2016 11:16	WG897962
Lithium	0.0217		0.0150	1	08/16/2016 11:16	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:16	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:08	WG897881
Arsenic	ND		0.00200	1	08/19/2016 05:08	WG897881
Barium	0.0471		0.00500	1	08/19/2016 05:08	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:08	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:08	WG897881
Calcium	437		1.00	1	08/19/2016 05:08	WG897881
Chromium	0.00284		0.00200	1	08/19/2016 05:08	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:08	WG897881
Lead	ND		0.00200	1	08/19/2016 05:08	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:08	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:08	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1280		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.40		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-19 WG898064: 7.40 at 22.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	214		5.00	5	08/12/2016 18:19	WG898008
Fluoride	0.495		0.100	1	08/12/2016 17:19	WG898008
Sulfate	177		25.0	5	08/12/2016 18:19	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 13:42	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.23		0.200	1	08/16/2016 11:19	WG897962
Lithium	0.0482		0.0150	1	08/16/2016 11:19	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:19	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:11	WG897881
Arsenic	0.00370		0.00200	1	08/19/2016 05:11	WG897881
Barium	0.175		0.00500	1	08/19/2016 05:11	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:11	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:11	WG897881
Calcium	101		1.00	1	08/19/2016 05:11	WG897881
Chromium	ND		0.00200	1	08/19/2016 05:11	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:11	WG897881
Lead	ND		0.00200	1	08/19/2016 05:11	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:11	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:11	WG897881

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	946		10.0	1	08/17/2016 06:46	WG899432

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.75		1	08/15/2016 14:05	WG898064

Sample Narrative:

9040C L852644-20 WG898064: 7.75 at 21.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	103		5.00	5	08/12/2016 18:33	WG898008
Fluoride	1.27		0.100	1	08/12/2016 18:04	WG898008
Sulfate	ND		5.00	1	08/12/2016 18:04	WG898008

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/12/2016 13:45	WG897893

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.71		0.200	1	08/16/2016 11:22	WG897962
Lithium	0.0736		0.0150	1	08/16/2016 11:22	WG897962
Molybdenum	ND		0.00500	1	08/16/2016 11:22	WG897962

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2016 05:14	WG897881
Arsenic	0.00212		0.00200	1	08/19/2016 05:14	WG897881
Barium	0.530		0.00500	1	08/19/2016 05:14	WG897881
Beryllium	ND		0.00200	1	08/19/2016 05:14	WG897881
Cadmium	ND		0.00100	1	08/19/2016 05:14	WG897881
Calcium	21.2		1.00	1	08/19/2016 05:14	WG897881
Chromium	ND		0.00200	1	08/19/2016 05:14	WG897881
Cobalt	ND		0.00200	1	08/19/2016 05:14	WG897881
Lead	ND		0.00200	1	08/19/2016 05:14	WG897881
Selenium	ND		0.00200	1	08/19/2016 05:14	WG897881
Thallium	ND		0.00200	1	08/19/2016 05:14	WG897881

Method Blank (MB)

(MB) R3157259-1 08/15/16 14:44

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

L852547-01 Original Sample (OS) • Duplicate (DUP)

(OS) L852547-01 08/15/16 14:44 • (DUP) R3157259-4 08/15/16 14:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2890	3020	1	4.57		5

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

(LCS) R3157259-2 08/15/16 14:44 • (LCSD) R3157259-3 08/15/16 14:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8590	8650	97.6	98.3	85.0-115			0.696	5

Method Blank (MB)

(MB) R3157268-1 08/15/16 13:39

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

L852644-04 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-04 08/15/16 13:39 • (DUP) R3157268-4 08/15/16 13:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	619	617	1	0.216		5

L852644-14 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-14 08/15/16 13:39 • (DUP) R3157268-5 08/15/16 13:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	976	1010	1	3.23		5

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

(LCS) R3157268-2 08/15/16 13:39 • (LCSD) R3157268-3 08/15/16 13:39

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	%	%	%			%	%
Dissolved Solids	8800	8550	8360	97.2	95.0	85.0-115			2.25	5

Method Blank (MB)

(MB) R3157517-1 08/17/16 06:46

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

L852644-15 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-15 08/17/16 06:46 • (DUP) R3157517-4 08/17/16 06:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	881	892	1	1.20		5

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

(LCS) R3157517-2 08/17/16 06:46 • (LCSD) R3157517-3 08/17/16 06:46

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	%	%	%			%	%
Dissolved Solids	8800	8300	8370	94.3	95.1	85.0-115			0.840	5

L852547-04 Original Sample (OS) • Duplicate (DUP)

(OS) L852547-04 08/11/16 15:20 • (DUP) WG897882-3 08/11/16 15:20

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	6.51	6.57	1	0.917		1

L852644-13 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-13 08/11/16 15:20 • (DUP) WG897882-4 08/11/16 15:20

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.11	7.14	1	0.421		1

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

(LCS) WG897882-1 08/11/16 15:20 • (LCSD) WG897882-2 08/11/16 15:20

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.11	6.03	6.08	98.7	99.5	98.4-102			0.826	1

L852644-14 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-14 08/15/16 14:05 • (DUP) WG898064-3 08/15/16 14:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.50	7.48	1	0.267		1

L852978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L852978-01 08/15/16 14:05 • (DUP) WG898064-4 08/15/16 14:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.26	9.28	1	0.216		1

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

(LCS) WG898064-1 08/15/16 14:05 • (LCSD) WG898064-2 08/15/16 14:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.10	6.10	99.8	99.8	98.4-102			0.000	1

Method Blank (MB)

(MB) R3156747-1 08/13/16 10:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	0.0688	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	0.148	J	0.0774	5.00

L852644-13 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-13 08/13/16 19:23 • (DUP) R3156747-5 08/13/16 19:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	15.8	15.8	1	0		15
Fluoride	0.220	0.223	1	1		15

L852644-13 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-13 08/14/16 01:21 • (DUP) R3156747-9 08/14/16 02:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	219	217	10	1		15

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

(LCS) R3156747-2 08/13/16 11:14 • (LCSD) R3156747-3 08/13/16 11:29

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	39.3	39.3	98	98	80-120			0	15
Fluoride	8.00	7.90	7.94	99	99	80-120			0	15
Sulfate	40.0	39.8	39.8	99	99	80-120			0	15

L852547-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L852547-05 08/13/16 15:39 • (MS) R3156747-4 08/13/16 15:54

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	12.4	83.4	142	1	80-120	J5
Fluoride	5.00	0.131	6.60	129	1	80-120	J5

L852644-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-01 08/13/16 23:36 • (MS) R3156747-7 08/13/16 23:51 • (MSD) R3156747-8 08/14/16 00:06

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 %
Fluoride	5.00	1.69	6.84	7.24	103	111	1	80-120			6	15
Sulfate	50.0	ND	58.4	62.3	108	116	1	80-120			6	15

Method Blank (MB)

(MB) R3156539-1 08/12/16 07:30

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

L852644-17 Original Sample (OS) • Duplicate (DUP)

(OS) L852644-17 08/12/16 16:19 • (DUP) R3156539-5 08/12/16 16:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	26.1	26.1	1	0		15
Fluoride	0.443	0.441	1	0		15
Sulfate	20.9	20.9	1	0		15

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

(LCS) R3156539-2 08/12/16 07:44 • (LCSD) R3156539-3 08/12/16 07:59

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	39.4	98	98	80-120			0	15
Fluoride	8.00	7.94	7.97	99	100	80-120			0	15
Sulfate	40.0	39.7	39.8	99	99	80-120			0	15

L852644-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L852644-14 08/12/16 15:20 • (MS) R3156539-4 08/12/16 15:34

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	42.9	90.7	96	1	80-120	
Fluoride	5.00	0.431	5.15	94	1	80-120	
Sulfate	50.0	60.9	107	93	1	80-120	E

L852644-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-20 08/12/16 18:04 • (MS) R3156539-6 08/12/16 18:48 • (MSD) R3156539-7 08/12/16 19:03

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	%	%		%			%	%
Fluoride	5.00	1.27	5.98	6.03	94	95	1	80-120			1	15
Sulfate	50.0	ND	48.1	48.4	96	97	1	80-120			1	15

Method Blank (MB)

(MB) R3156438-1 08/12/16 11:03

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

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

(LCS) R3156438-2 08/12/16 11:06 • (LCSD) R3156438-3 08/12/16 11:09

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	%	%	%			%	%
Mercury	0.00300	0.00298	0.00304	99	101	80-120			2	20

L852644-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-01 08/12/16 11:12 • (MS) R3156438-4 08/12/16 11:15 • (MSD) R3156438-5 08/12/16 11:18

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	%	%		%			%	%
Mercury	0.00300	ND	0.00269	0.00281	90	94	1	75-125			4	20

Method Blank (MB)

(MB) R3156545-1 08/13/16 07:37

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

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

(LCS) R3156545-2 08/13/16 07:39 • (LCSD) R3156545-3 08/13/16 07:42

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	%	%	%			%	%
Mercury	0.00300	0.00301	0.00298	100	99	80-120			1	20

L852726-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852726-01 08/13/16 07:44 • (MS) R3156545-4 08/13/16 07:47 • (MSD) R3156545-5 08/13/16 07:50

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	%	%		%			%	%
Mercury	0.00300	ND	0.00134	0.00139	45	46	1	75-125	J6	J6	4	20

Method Blank (MB)

(MB) R3157037-1 08/16/16 09:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3157037-2 08/16/16 09:55 • (LCSD) R3157037-3 08/16/16 09:58

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 %
Boron	1.00	1.03	1.04	103	104	80-120			1	20
Lithium	1.00	0.946	0.951	95	95	80-120			1	20
Molybdenum	1.00	1.00	1.00	100	100	80-120			0	20

L852644-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-01 08/16/16 10:00 • (MS) R3157037-5 08/16/16 10:06 • (MSD) R3157037-6 08/16/16 10:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.91	2.89	2.83	97	92	1	75-125			2	20
Lithium	1.00	0.0727	1.00	0.979	93	91	1	75-125			2	20
Molybdenum	1.00	ND	0.986	0.985	99	98	1	75-125			0	20

Method Blank (MB)

(MB) R3157848-7 08/19/16 05:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3157848-8 08/19/16 05:52 • (LCSD) R3157848-9 08/19/16 05:55

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	0.0579	0.0517	0.0510	89	88	80-120			1	20
Arsenic	0.0500	0.0478	0.0471	96	94	80-120			2	20
Barium	0.0500	0.0483	0.0477	97	95	80-120			1	20
Beryllium	0.0500	0.0495	0.0488	99	98	80-120			2	20
Cadmium	0.0500	0.0497	0.0486	99	97	80-120			2	20
Calcium	5.00	4.93	4.84	99	97	80-120			2	20
Chromium	0.0500	0.0504	0.0501	101	100	80-120			1	20
Cobalt	0.0500	0.0516	0.0514	103	103	80-120			1	20
Lead	0.0500	0.0507	0.0499	101	100	80-120			2	20
Selenium	0.0500	0.0475	0.0469	95	94	80-120			1	20
Thallium	0.0500	0.0504	0.0494	101	99	80-120			2	20

L852644-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-01 08/19/16 05:58 • (MS) R3157848-11 08/19/16 06:05 • (MSD) R3157848-12 08/19/16 06:08

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	0.0579	ND	0.0547	0.0555	94	96	1	75-125			1	20
Arsenic	0.0500	ND	0.0519	0.0514	104	103	1	75-125			1	20
Barium	0.0500	0.120	0.171	0.173	102	105	1	75-125			1	20
Beryllium	0.0500	ND	0.0491	0.0489	98	98	1	75-125			0	20
Cadmium	0.0500	ND	0.0518	0.0513	104	103	1	75-125			1	20

L852644-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L852644-01 08/19/16 05:58 • (MS) R3157848-11 08/19/16 06:05 • (MSD) R3157848-12 08/19/16 06:08

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	5.00	20.3	24.5	24.9	84	93	1	75-125			2	20
Chromium	0.0500	ND	0.0501	0.0499	99	98	1	75-125			0	20
Cobalt	0.0500	ND	0.0495	0.0502	99	100	1	75-125			1	20
Lead	0.0500	ND	0.0499	0.0498	99	99	1	75-125			0	20
Selenium	0.0500	ND	0.0515	0.0514	103	103	1	75-125			0	20
Thallium	0.0500	ND	0.0493	0.0491	99	98	1	75-125			0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

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

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Florida	E87487	North Carolina [2]	41
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Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	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		

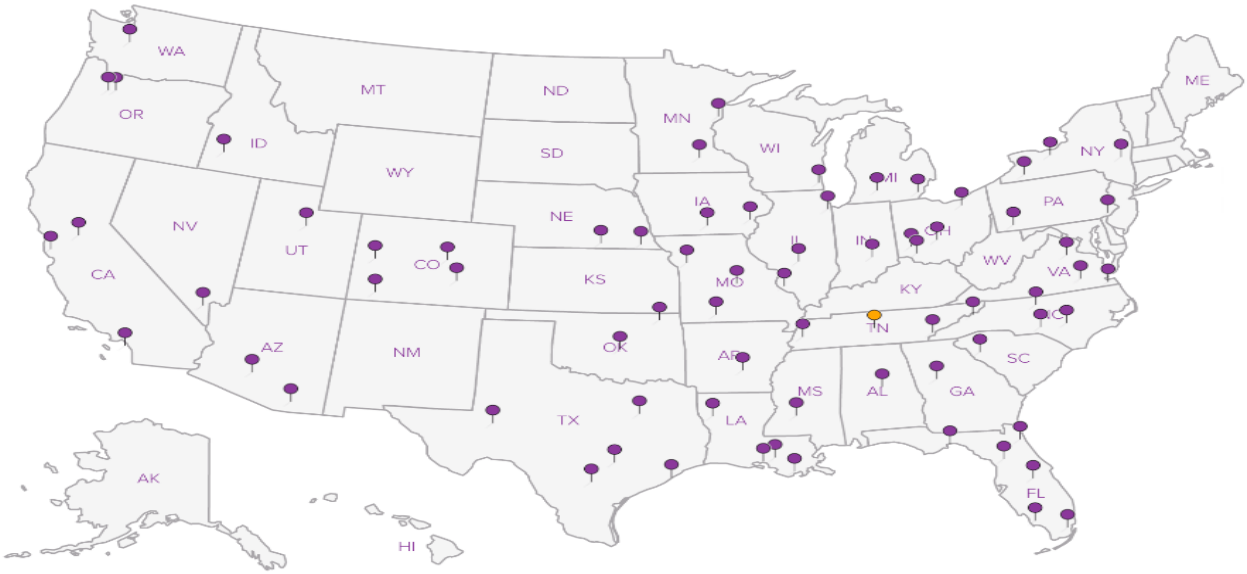
Third Party & Federal Accreditations

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:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station

City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. # URSKC-1028155

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

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions- Cld, F, SO4 250ml HDPE NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 500ml HDPE - HNO3	Rem./Contaminant	Sample # (lab only)
MW-601	Grab	GW		8/9/16	1700	3	X	X	X		01
MW-602					1610		X	X	X		02
MW-701					1240		X	X	X		03
MW-702					1500		X	X	X		04
MW-703					1705		X	X	X		05
MW-704					1345		X	X	X		06
MW-705					0935		X	X	X		07
MW-706					1000		X	X	X		08
MW-707D					1130		X	X	X		09
MW-801					1500		X	X	X		10

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

Remarks:

	Date:	Time:	
Relinquished by : (Signature)	8/10/16	1800	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

pH _____ Temp _____
Flow _____ Other _____

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

Temp: 2.1°C Bottles Received: 66

Date: 8/11/16 Time: 0920

Hold #

Condition: (lab use only) tall ✓

COC Seal Intact: ___Y ___N ___NA

pH Checked: 12 NCF: N

G777000588653

Chain of Custody Page ___ of ___

ESC 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# 352644

A171

Acctnum: URSKC
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnin@aecom.com**

Project Description: **La Cygne Generating Station**

City/State Collected: **Kansas**

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. # **URSKC-1028155**

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 ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions- Cld, F, SO4 250ml HDPE NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 500ml HDPE - HNO3 ✓2	Rem./Contaminant	Sample # (lab only)
MW-950	Grab	GW		8/9/16	1030	3	X	X	X		11
MW-951					0930		X	X	X		12
MW-15					1640		X	X	X		13
TW-1					1055		X	X	X		14
MW-601-MS					1700		X	X	X		01
MW-708				8/10/16	1100		X	X	X		15
MW-802					1400		X	X	X		16
MW-803					1430		X	X	X		17
MW-805					1500		X	X	X		18
MW-6					1510		X	X	X		19

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Hold #

Condition: (lab use only) Tall ✓

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 2.1° °C Bottles Received: 66

COC Seal Intact: ____Y ____N ____NA

pH Checked: C2 NCF: N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/16	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Date: 8/11/16 Time: 0900

Chain of Custody Page ___ of ___

ESC 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 # 857644

Table #

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P561498**
TSR: **206 - Jeff Carr**
Cooler:
Shipped Via:

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnin@aecom.com**

Project Description: **La Cygne Generating Station**

City/State Collected: **Kansas**

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. # **URSKC-1028155**

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 ✓Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions- Cld, F, SO4 250ml HDPE NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 500ml HDPE - HNO3 ≤2							Rem./Contaminant	Sample # (lab only)
MW-7	Grab	GW		8/10/16	1315	3	X	X	X								20
MW-601-MSD	↓	GW		8/9/16	1700	3	X	X	X								01

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC 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 # 352644
Table #
Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P561498**
TSR: **206 - Jeff Carr**
Cooler:
Shipped Via:

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

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/16	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 2.9°C Bottles Received: 66

Date: 8/11/16 Time: 0900

Condition: (lab use only) TBL

COC Seal Intact: ___Y ___N ___NA

pH Checked: 2 NCF: X

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Checklist

Client: URSKC SDG# 852644

Cooler Received/Opened On 8/11/2016 By: Ryan Jones

Temperature Upon Receipt: 2.1 °c

(Signature)

Cooler Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out (ink, signed, etc.)?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were correct preservatives used?	✓		
Were all applicable sample containers checked for preservation?	✓		
(Any samples not in accepted pH range noted on COC .)			
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated? (If yes see attached NCF)	✓		

ESC Lab Sciences
Non-Conformance Form

Login #852644	Client: URSKC	Date:8/11/16	Evaluated by:Ryan

Non-Conformance (check applicable items)

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

Login Comments: Received 804 @ 1430 not 803 @ 1430. Logged per COC

Client informed by:		Call		Email	X	Voice Mail		Date:8/11/16	Time:1442
TSR Initials: JC	Client Contact: B. Linnan								

Login Instructions: Log per COC.

ANALYTICAL REPORT

August 22, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L853420
Samples Received:	08/13/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

TABLE OF CONTENTS

MW-10 L853420-01 GW

Collected by | Collected date/time 08/11/16 12:10 | Received date/time 08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 09:52	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 16:58	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:02	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/16/16 14:59	08/16/16 14:59	SAM

MW-11 L853420-02 GW

Collected by | Collected date/time 08/11/16 14:30 | Received date/time 08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:30	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:13	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:23	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 09:59	08/17/16 09:59	SAM
Wet Chemistry by Method 9056A	WG899130	5	08/17/16 13:06	08/17/16 13:06	SAM

MW-13 L853420-03 GW

Collected by | Collected date/time 08/11/16 17:15 | Received date/time 08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:33	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:22	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:32	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 13:21	08/17/16 13:21	SAM
Wet Chemistry by Method 9056A	WG900360	20	08/18/16 23:49	08/18/16 23:49	SAM

MW-803 L853420-04 GW

Collected by | Collected date/time 08/12/16 10:35 | Received date/time 08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899814	1	08/18/16 04:34	08/18/16 05:11	JM
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:36	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:24	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:35	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 13:36	08/17/16 13:36	SAM

MW-905 L853420-05 GW

Collected by | Collected date/time 08/12/16 11:50 | Received date/time 08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899814	1	08/18/16 04:34	08/18/16 05:11	JM
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:39	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:27	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:38	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 13:50	08/17/16 13:50	SAM

MW-902 L853420-06 GW

Collected by	Collected date/time	Received date/time
	08/11/16 12:35	08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:42	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:30	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:41	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 15:05	08/17/16 15:05	SAM

MW-14R L853420-07 GW

Collected by	Collected date/time	Received date/time
	08/11/16 10:20	08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:45	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:32	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:45	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 14:05	08/17/16 14:05	SAM

MW-903 L853420-08 GW

Collected by	Collected date/time	Received date/time
	08/11/16 11:20	08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:53	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:35	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:48	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 14:20	08/17/16 14:20	SAM
Wet Chemistry by Method 9056A	WG900360	20	08/19/16 00:19	08/19/16 00:19	SAM

MW-901 L853420-09 GW

Collected by	Collected date/time	Received date/time
	08/11/16 14:40	08/13/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG899559	1	08/17/16 14:04	08/17/16 14:38	MMF
Mercury by Method 7470A	WG898825	1	08/15/16 10:55	08/16/16 10:56	NJB
Metals (ICP) by Method 6010B	WG899555	1	08/18/16 09:00	08/18/16 17:38	ST
Metals (ICPMS) by Method 6020	WG899572	1	08/18/16 09:44	08/22/16 09:51	LAT
Wet Chemistry by Method 9040C	WG898664	1	08/17/16 13:57	08/17/16 13:57	JJL
Wet Chemistry by Method 9056A	WG899130	1	08/17/16 15:35	08/17/16 15:35	SAM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L853420-01	MW-10	9040C
L853420-02	MW-11	9040C
L853420-03	MW-13	9040C
L853420-04	MW-803	9040C
L853420-05	MW-905	9040C
L853420-06	MW-902	9040C
L853420-07	MW-14R	9040C
L853420-08	MW-903	9040C
L853420-09	MW-901	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	649		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.35		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-01 WG898664: 7.35 at 21.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	60.2		1.00	1	08/16/2016 14:59	WG899130
Fluoride	0.380		0.100	1	08/16/2016 14:59	WG899130
Sulfate	19.9		5.00	1	08/16/2016 14:59	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND	J3	0.000200	1	08/16/2016 09:52	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.966		0.200	1	08/18/2016 16:58	WG899555
Lithium	0.0415		0.0150	1	08/18/2016 16:58	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 16:58	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:02	WG899572
Arsenic	0.00682		0.00200	1	08/22/2016 09:02	WG899572
Barium	0.322		0.00500	1	08/22/2016 09:02	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:02	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:02	WG899572
Calcium	58.7		1.00	1	08/22/2016 09:02	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:02	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:02	WG899572
Lead	ND		0.00200	1	08/22/2016 09:02	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:02	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:02	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1100		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-02 WG898664: 7.45 at 19.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	125		5.00	5	08/17/2016 13:06	WG899130
Fluoride	0.512		0.100	1	08/17/2016 09:59	WG899130
Sulfate	187		25.0	5	08/17/2016 13:06	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:30	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.739		0.200	1	08/18/2016 17:13	WG899555
Lithium	0.0594		0.0150	1	08/18/2016 17:13	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:13	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:23	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:23	WG899572
Barium	0.0342		0.00500	1	08/22/2016 09:23	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:23	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:23	WG899572
Calcium	66.9		1.00	1	08/22/2016 09:23	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:23	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:23	WG899572
Lead	ND		0.00200	1	08/22/2016 09:23	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:23	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:23	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2910		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.86		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-03 WG898664: 6.86 at 19.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	18.5		1.00	1	08/17/2016 13:21	WG899130
Fluoride	0.128		0.100	1	08/17/2016 13:21	WG899130
Sulfate	1730		100	20	08/18/2016 23:49	WG900360

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:33	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.397		0.200	1	08/18/2016 17:22	WG899555
Lithium	0.0567		0.0150	1	08/18/2016 17:22	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:22	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:32	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:32	WG899572
Barium	0.0235		0.00500	1	08/22/2016 09:32	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:32	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:32	WG899572
Calcium	371		1.00	1	08/22/2016 09:32	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:32	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:32	WG899572
Lead	ND		0.00200	1	08/22/2016 09:32	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:32	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:32	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	591		10.0	1	08/18/2016 05:11	WG899814

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.41		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-04 WG898664: 7.41 at 20.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.8		1.00	1	08/17/2016 13:36	WG899130
Fluoride	0.653		0.100	1	08/17/2016 13:36	WG899130
Sulfate	16.2		5.00	1	08/17/2016 13:36	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:36	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.15		0.200	1	08/18/2016 17:24	WG899555
Lithium	0.0650		0.0150	1	08/18/2016 17:24	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:24	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00250		0.00200	1	08/22/2016 09:35	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:35	WG899572
Barium	0.224		0.00500	1	08/22/2016 09:35	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:35	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:35	WG899572
Calcium	46.2		1.00	1	08/22/2016 09:35	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:35	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:35	WG899572
Lead	ND		0.00200	1	08/22/2016 09:35	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:35	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:35	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	557		10.0	1	08/18/2016 05:11	WG899814

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.18		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-05 WG898664: 7.18 at 20.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.4		1.00	1	08/17/2016 13:50	WG899130
Fluoride	0.506		0.100	1	08/17/2016 13:50	WG899130
Sulfate	16.6		5.00	1	08/17/2016 13:50	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:39	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.24		0.200	1	08/18/2016 17:27	WG899555
Lithium	0.0751		0.0150	1	08/18/2016 17:27	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:27	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:38	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:38	WG899572
Barium	0.171		0.00500	1	08/22/2016 09:38	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:38	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:38	WG899572
Calcium	54.6		1.00	1	08/22/2016 09:38	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:38	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:38	WG899572
Lead	ND		0.00200	1	08/22/2016 09:38	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:38	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:38	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	565		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.29		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-06 WG898664: 7.29 at 19.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.0		1.00	1	08/17/2016 15:05	WG899130
Fluoride	0.531		0.100	1	08/17/2016 15:05	WG899130
Sulfate	29.6		5.00	1	08/17/2016 15:05	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:42	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.20		0.200	1	08/18/2016 17:30	WG899555
Lithium	0.0353		0.0150	1	08/18/2016 17:30	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:30	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:41	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:41	WG899572
Barium	0.118		0.00500	1	08/22/2016 09:41	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:41	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:41	WG899572
Calcium	64.9		1.00	1	08/22/2016 09:41	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:41	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:41	WG899572
Lead	ND		0.00200	1	08/22/2016 09:41	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:41	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:41	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	607		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.38		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-07 WG898664: 7.38 at 19.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	5.05		1.00	1	08/17/2016 14:05	WG899130
Fluoride	0.299		0.100	1	08/17/2016 14:05	WG899130
Sulfate	74.2		5.00	1	08/17/2016 14:05	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:45	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.630		0.200	1	08/18/2016 17:32	WG899555
Lithium	0.0449		0.0150	1	08/18/2016 17:32	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:32	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:45	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:45	WG899572
Barium	0.0411		0.00500	1	08/22/2016 09:45	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:45	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:45	WG899572
Calcium	60.0		1.00	1	08/22/2016 09:45	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:45	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:45	WG899572
Lead	ND		0.00200	1	08/22/2016 09:45	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:45	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:45	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2040		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.82		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-08 WG898664: 6.82 at 19.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.8		1.00	1	08/17/2016 14:20	WG899130
Fluoride	ND		0.100	1	08/17/2016 14:20	WG899130
Sulfate	1030		100	20	08/19/2016 00:19	WG900360

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:53	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.427		0.200	1	08/18/2016 17:35	WG899555
Lithium	0.0539		0.0150	1	08/18/2016 17:35	WG899555
Molybdenum	ND		0.00500	1	08/18/2016 17:35	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:48	WG899572
Arsenic	ND		0.00200	1	08/22/2016 09:48	WG899572
Barium	0.0170		0.00500	1	08/22/2016 09:48	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:48	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:48	WG899572
Calcium	342		1.00	1	08/22/2016 09:48	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:48	WG899572
Cobalt	0.00306		0.00200	1	08/22/2016 09:48	WG899572
Lead	ND		0.00200	1	08/22/2016 09:48	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:48	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:48	WG899572

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	701		10.0	1	08/17/2016 14:38	WG899559

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45		1	08/17/2016 13:57	WG898664

Sample Narrative:

9040C L853420-09 WG898664: 7.45 at 19.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	51.5		1.00	1	08/17/2016 15:35	WG899130
Fluoride	0.533		0.100	1	08/17/2016 15:35	WG899130
Sulfate	33.8		5.00	1	08/17/2016 15:35	WG899130

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/16/2016 10:56	WG898825

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.90		0.200	1	08/18/2016 17:38	WG899555
Lithium	0.0636		0.0150	1	08/18/2016 17:38	WG899555
Molybdenum	0.00716		0.00500	1	08/18/2016 17:38	WG899555

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/22/2016 09:51	WG899572
Arsenic	0.00237		0.00200	1	08/22/2016 09:51	WG899572
Barium	0.0987		0.00500	1	08/22/2016 09:51	WG899572
Beryllium	ND		0.00200	1	08/22/2016 09:51	WG899572
Cadmium	ND		0.00100	1	08/22/2016 09:51	WG899572
Calcium	53.9		1.00	1	08/22/2016 09:51	WG899572
Chromium	ND		0.00200	1	08/22/2016 09:51	WG899572
Cobalt	ND		0.00200	1	08/22/2016 09:51	WG899572
Lead	ND		0.00200	1	08/22/2016 09:51	WG899572
Selenium	ND		0.00200	1	08/22/2016 09:51	WG899572
Thallium	ND		0.00200	1	08/22/2016 09:51	WG899572

Method Blank (MB)

(MB) R3157832-1 08/17/16 14:38

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

L852838-01 Original Sample (OS) • Duplicate (DUP)

(OS) L852838-01 08/17/16 14:38 • (DUP) R3157832-4 08/17/16 14:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	383	391	1	2.07		5

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

(LCS) R3157832-2 08/17/16 14:38 • (LCSD) R3157832-3 08/17/16 14:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8850	8980	101	102	85.0-115			1.46	5

Method Blank (MB)

(MB) R3157846-1 08/18/16 05:11

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

L852286-03 Original Sample (OS) • Duplicate (DUP)

(OS) L852286-03 08/18/16 05:11 • (DUP) R3157846-4 08/18/16 05:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	3100	3040	1	1.96		5

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

(LCS) R3157846-2 08/18/16 05:11 • (LCSD) R3157846-3 08/18/16 05:11

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	%	%	%			%	%
Dissolved Solids	8800	8230	8600	93.5	97.7	85.0-115			4.40	5

L853272-01 Original Sample (OS) • Duplicate (DUP)

(OS) L853272-01 08/17/16 13:57 • (DUP) WG898664-3 08/17/16 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.38	7.34	1	0.543		1

L853543-01 Original Sample (OS) • Duplicate (DUP)

(OS) L853543-01 08/17/16 13:57 • (DUP) WG898664-4 08/17/16 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.95	7.01	1	0.860		1

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

(LCS) WG898664-1 08/17/16 13:57 • (LCSD) WG898664-2 08/17/16 13:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.11	6.10	100	99.8	98.4-102			0.164	1

Method Blank (MB)

(MB) R3157542-4 08/16/16 11:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0545	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	0.154	J	0.0774	5.00

L853405-17 Original Sample (OS) • Duplicate (DUP)

(OS) L853405-17 08/16/16 14:29 • (DUP) R3157542-7 08/16/16 14:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2.51	2.47	1	1		15
Fluoride	U	0.0193	1	8	J	15
Sulfate	1.66	1.60	1	4	J	15

L853420-06 Original Sample (OS) • Duplicate (DUP)

(OS) L853420-06 08/17/16 15:05 • (DUP) R3157542-10 08/17/16 15:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	32.0	31.9	1	0		15
Fluoride	0.531	0.523	1	1		15
Sulfate	29.6	29.5	1	0		15

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

(LCS) R3157542-5 08/16/16 11:53 • (LCSD) R3157542-6 08/16/16 12:08

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 %
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	8.02	8.00	100	100	80-120			0	15
Sulfate	40.0	40.3	40.2	101	101	80-120			0	15

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/16/16 14:59 • (MS) R3157542-8 08/17/16 09:29 • (MSD) R3157542-9 08/17/16 09:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	60.2	109	109	98	99	1	80-120	E	E	0	15
Fluoride	5.00	0.380	5.29	5.57	98	104	1	80-120			5	15

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/16/16 14:59 • (MS) R3157542-8 08/17/16 09:29 • (MSD) R3157542-9 08/17/16 09:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	19.9	70.4	70.3	101	101	1	80-120			0	15

Method Blank (MB)

(MB) R3158021-1 08/18/16 17:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	0.225	J	0.0774	5.00

L854267-04 Original Sample (OS) • Duplicate (DUP)

(OS) L854267-04 08/18/16 22:05 • (DUP) R3158021-5 08/18/16 23:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	160	162	10	1		15

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

(LCS) R3158021-2 08/18/16 17:21 • (LCSD) R3158021-3 08/18/16 17:36

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	%	%	%			%	%
Sulfate	40.0	40.2	40.0	100	100	80-120			0	15

Method Blank (MB)

(MB) R3157074-1 08/16/16 09:43

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

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

(LCS) R3157074-2 08/16/16 09:46 • (LCSD) R3157074-3 08/16/16 09:49

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	%	%	%			%	%
Mercury	0.00300	0.00289	0.00291	96	97	80-120			1	20

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/16/16 09:52 • (MS) R3157074-4 08/16/16 09:55 • (MSD) R3157074-5 08/16/16 09:58

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	%	%		%			%	%
Mercury	0.00300	ND	0.00283	0.00228	94	76	1	75-125		J3	21	20

Method Blank (MB)

(MB) R3157811-1 08/18/16 16:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3157811-2 08/18/16 16:52 • (LCSD) R3157811-3 08/18/16 16:55

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 %
Boron	1.00	1.02	1.03	102	103	80-120			1	20
Lithium	1.00	1.01	1.02	101	102	80-120			1	20
Molybdenum	1.00	1.01	1.03	101	103	80-120			1	20

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/18/16 16:58 • (MS) R3157811-5 08/18/16 17:03 • (MSD) R3157811-6 08/18/16 17:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.966	1.96	1.98	99	101	1	75-125			1	20
Lithium	1.00	0.0415	1.04	1.05	100	101	1	75-125			1	20
Molybdenum	1.00	ND	1.01	1.02	101	102	1	75-125			0	20

Method Blank (MB)

(MB) R3158232-1 08/22/16 08:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	0.000684	J	0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3158232-2 08/22/16 08:56 • (LCSD) R3158232-3 08/22/16 08:59

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	0.0579	0.0531	0.0548	92	95	80-120			3	20
Arsenic	0.0500	0.0514	0.0531	103	106	80-120			3	20
Barium	0.0500	0.0485	0.0507	97	101	80-120			4	20
Beryllium	0.0500	0.0486	0.0494	97	99	80-120			2	20
Cadmium	0.0500	0.0540	0.0559	108	112	80-120			3	20
Calcium	5.00	4.93	5.17	99	103	80-120			5	20
Chromium	0.0500	0.0522	0.0547	104	109	80-120			5	20
Cobalt	0.0500	0.0525	0.0545	105	109	80-120			4	20
Lead	0.0500	0.0493	0.0505	99	101	80-120			3	20
Selenium	0.0500	0.0509	0.0531	102	106	80-120			4	20
Thallium	0.0500	0.0500	0.0511	100	102	80-120			2	20

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/22/16 09:02 • (MS) R3158232-5 08/22/16 09:08 • (MSD) R3158232-6 08/22/16 09:11

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	0.0579	ND	0.0557	0.0554	96	96	1	75-125			1	20
Arsenic	0.0500	0.00682	0.0591	0.0601	105	107	1	75-125			2	20
Barium	0.0500	0.322	0.374	0.374	103	104	1	75-125			0	20
Beryllium	0.0500	ND	0.0480	0.0481	96	96	1	75-125			0	20
Cadmium	0.0500	ND	0.0533	0.0543	107	109	1	75-125			2	20

L853420-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L853420-01 08/22/16 09:02 • (MS) R3158232-5 08/22/16 09:08 • (MSD) R3158232-6 08/22/16 09:11

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	5.00	58.7	63.0	63.1	86	88	1	75-125			0	20
Chromium	0.0500	ND	0.0524	0.0519	103	102	1	75-125			1	20
Cobalt	0.0500	ND	0.0511	0.0513	102	103	1	75-125			0	20
Lead	0.0500	ND	0.0495	0.0500	99	99	1	75-125			1	20
Selenium	0.0500	ND	0.0534	0.0538	107	108	1	75-125			1	20
Thallium	0.0500	ND	0.0500	0.0502	100	100	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.
J3	The associated batch QC was outside the established quality control range for precision.

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
Conneticut	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 [1 4]	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		

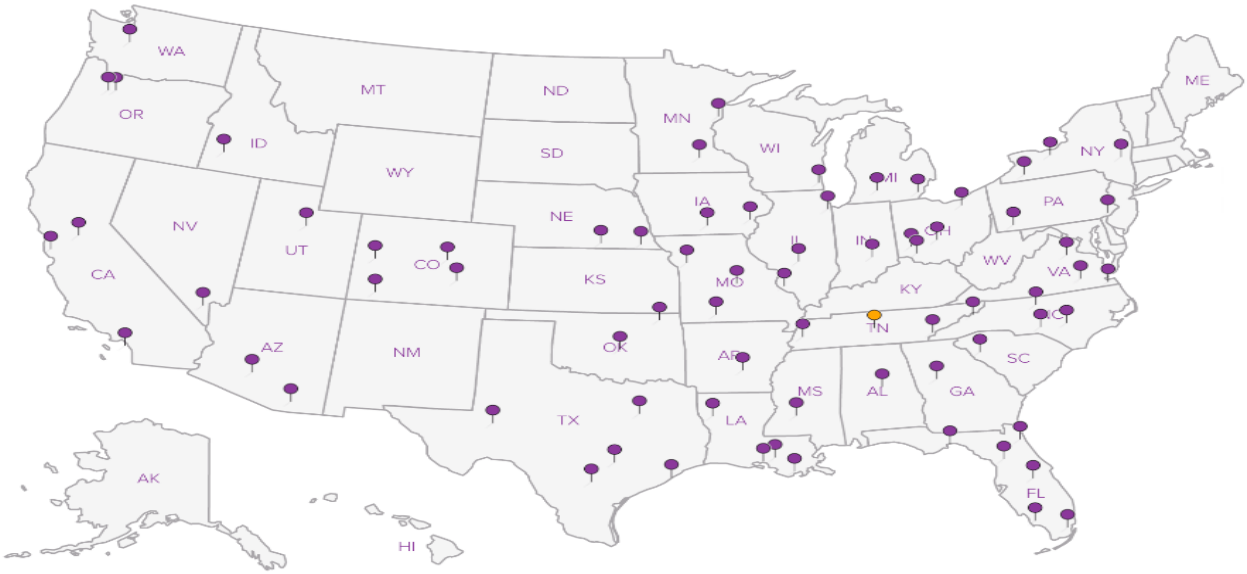
Third Party & Federal Accreditations

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:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan
Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station
City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011
Client Project #
Lab Project # URSKC-LACYGNE

Collected by (print):
Site/Facility ID #
P.O. # URSKC-1028155

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 ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions- Cld, F, SO4 250ml HDPE NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 500ml HDPE - HNO3	Rem./Contaminant	Sample # (lab only)
MW-10	Grab	GW		8/11/16	1210	3	X	X	X		-01
MW-10-MS	Grab	GW		8/11/16	1210	3	X	X	X		-01C
MW-10-MSD	Grab	GW		8/11/16	1210	3	X	X	X		-02 -01
MW-11	Grab	GW		8/11/16	1430	3	X	X	X		-04 -02
MW-13	Grab	GW		8/11/16	1715	3	X	X	X		-05 03
MW-803	Grab	GW		8/12/16	1035	3	X	X	X		-00 04
MW-905	Grab	GW		8/12/16	1150	3	X	X	X		-09 05
MW-902	Grab	GW		8/11/16	1235	3	X	X	X		-08 06
MW-14R	Grab	GW		8/11/16	1020	3	X	X	X		-09 07
MW-903	Grab	GW		8/11/16	1120	3	X	X	X		-10 08
MW-901	Grab	GW		8/11/16	14:40	3	X	X	X		+1 09

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

Remarks:

pH ___ Temp ___
Flow ___ Other ___

Chain of Custody Page ___ of ___

ESC 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# L853420
J001

Acctnum: URSKC
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Hold #
Condition: (lab use only) GW
COC Seal Intact: ___Y ___N ___NA
pH Checked: <2 NCF:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8-12-16	1622	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/12/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: 2.9 °C Bottles Received: 30
Date: 8-13-16 Time: 1300

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Checklist

Client: URSHC SDG# L853420

Cooler Received/Opened On: 8-13-16 By Richard Hughes

Temperature Upon Receipt: 2.9 °c

(Signature)

Cooler Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out (ink, signed, etc.)?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were correct preservatives used?	✓		
Were all applicable sample containers checked for preservation? (Any samples not in accepted pH range noted on COC .)	✓		
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated? (If yes see attached NCF)		✓	

Case Narrative

Lab No: 20160771

This report contains the analytical results for the 22 sample(s) received under chain of custody by ESC Lab Sciences on 8/11/2016 10:04:00 AM. These samples are associated with your La Cygne 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:

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

The following QC parameters are outside method control limits:
DUP RER SDG R1122

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160771-01**								
Client ID : **MW-601**								
Date Sampled : **8/9/2016 5:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.115 +/- 0.116	0.164	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.345 +/- 0.277	0.339	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-02**								
Client ID : **MW-602**								
Date Sampled : **8/9/2016 4:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.123 +/- 0.097	0.121	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	-0.234 +/- 0.430	0.517	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-03**								
Client ID : **MW-701**								
Date Sampled : **8/9/2016 12:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.206 +/- 0.205	0.289	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.009 +/- 0.283	0.338	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-04**								
Client ID : **MW-702**								
Date Sampled : **8/9/2016 3:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.462 +/- 0.302	0.387	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	1.23 +/- 0.370	0.527	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-05**								
Client ID : **MW-703**								
Date Sampled : **8/9/2016 5:05:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	1.37 +/- 0.377	0.155	pCi/l		08/18/16	08/21/16	AK

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	0.533 +/- 0.351	0.395	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-06
Client ID : MW-704
Date Sampled : 8/9/2016 1:45:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.270 +/- 0.122	0.122	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.554 +/- 0.344	0.419	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-07
Client ID : MW-705
Date Sampled : 8/9/2016 9:35:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.153 +/- 0.192	0.289	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.105 +/- 0.446	0.559	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-08
Client ID : MW-706
Date Sampled : 8/9/2016 10:00:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.532 +/- 0.194	0.134	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.172 +/- 0.352	0.437	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-09
Client ID : MW-707B
Date Sampled : 8/9/2016 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.404 +/- 0.153	0.158	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.209 +/- 0.422	0.616	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-10
Client ID : MW-801
Date Sampled : 8/9/2016 3:00:00 PM
Matrix : NPW

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.423 +/- 0.146	0.087	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.447 +/- 0.358	0.448	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-11
Client ID : MW-950
Date Sampled : 8/9/2016 10:30:00 AM
Matrix : NPW

		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.405 +/- 0.204	0.232	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.670 +/- 0.295	0.349	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-12
Client ID : MW-951
Date Sampled : 8/9/2016 9:30:00 AM
Matrix : NPW

		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.238 +/- 0.131	0.135	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	-0.475 +/- 0.431	0.546	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-13
Client ID : MW-15
Date Sampled : 8/9/2016 4:40:00 PM
Matrix : NPW

		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.470 +/- 0.237	0.252	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.521 +/- 0.287	0.338	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-14
Client ID : TW-1
Date Sampled : 8/9/2016 10:55:00 AM
Matrix : NPW

		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.035 +/- 0.300	0.530	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.491 +/- 0.423	0.507	pCi/l		08/19/16	08/24/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160771-15**								
Client ID : **MW-601-MS**								
Date Sampled : **8/9/2016 5:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	97.6		% Rec		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	78.5		% Rec		08/19/16	08/26/16	JR
Lab ID : **20160771-16**								
Client ID : **MW-708**								
Date Sampled : **8/10/2016 11:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.194 +/- 0.284	0.443	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	1.35 +/- 0.880	1.06	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-17**								
Client ID : **MW-802**								
Date Sampled : **8/10/2016 2:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.488 +/- 0.226	0.189	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	1.74 +/- 0.644	0.927	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-18**								
Client ID : **MW-804**								
Date Sampled : **8/10/2016 2:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.537 +/- 0.275	0.325	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.393 +/- 0.334	0.413	pCi/l		08/19/16	08/24/16	JR
Lab ID : **20160771-19**								
Client ID : **MW-805**								
Date Sampled : **8/10/2016 3:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.319 +/- 0.130	0.090	pCi/l		08/18/16	08/21/16	AK

*NELAC Certified Parameter BDL = Below Detection Limit

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	0.609 +/- 0.395	0.491	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-20
Client ID : MW-6
Date Sampled : 8/10/2016 3:10:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.191 +/- 0.236	0.357	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.330 +/- 0.338	0.442	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-21
Client ID : MW-7
Date Sampled : 8/10/2016 1:15:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	1.40 +/- 0.343	0.191	pCi/l		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	0.395 +/- 0.451	0.533	pCi/l		08/19/16	08/24/16	JR

Lab ID : 20160771-22
Client ID : MW-601-MSD
Date Sampled : 8/9/2016 5:00:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	19.9		RPD		08/18/16	08/21/16	AK
Radium-228	EPA 904*/9320*	6.96		RPD		08/19/16	08/24/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.012	92.6			NC	3.210	97.6	119.0	19.9	R1122
Radium-228	-0.265	92.8			NC	1.290	78.5	84.6	7.0	R3843

Lab Approval: 

*NELAC Certified Parameter BDL = Below Detection Limit

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
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Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan
Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station
City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011
Client Project #
Lab Project # URSKC-LACYGNE

Collected by (print):
Site/Facility ID #
P.O. # URSKC-1028155

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 ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# 853578
Table #
Acctnum: URSKC
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L HDPE-Add HN03								Rem./Contaminant	Sample # (lab only)
MW-601	Grab	GW		8/9/16	1700	2	X							- 1		
MW-602					1610		X							- 2		
MW-701					1240		X							- 3		
MW-702					1500		X							- 4		
MW-703					1705		X							- 5		
MW-704					1345		X							- 6		
MW-705					0935		X							- 7		
MW-706					1000		X							- 8		
MW-707B					1130		X							- 9		
MW-801					1500		X							- 10		

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

pH _____ Temp _____
Flow _____ Other _____

Remarks:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/16	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Amber Taylor

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: 2.6 °C Bottles Received:
Date: 8/11/16 Time: 1004

Condition: (lab use only)
COC Seal Intact: ___Y ___N ✓NA
pH Checked: NCF:

20160771

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan
Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station
City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011
Client Project #
Lab Project #: URSKC-LACYGNE

Collected by (print):
Site/Facility ID #
P.O. #: URSKC-1028155

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 ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L #
Table #
Acctnum: URSKC
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L HDPE-Add HN03								Rem./Contaminant	Sample # (lab only)
MW-950	Grab	GW		8/9/16	1030	2	X							-11		
MW-951					0930		X							-12		
MW-15					1640		X							-13		
TW-1					1055		X							-14		
MW-601-MS					1700		X							-15		
MW-708				8/10/16	1100		X							-16		
MW-802					1400		X							-17		
MW-803					1430		X							-18		
MW-805					1500		X							-19		
MW-6					1510		X							-20		

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

pH _____ Temp _____
Flow _____ Other _____

Remarks:

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	8/10/16	1800			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.0 °C Bottles Received:	COC Seal Intact: ___Y ___N ✓NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/11/16 Time: 1084	pH Checked: / NCF:

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station

City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project #
URSKC-LACYGNE

Collected by (print):

Site/Facility ID #

P.O. #
URSKC-1028155

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

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L HDPE-Add HN03								
MW-7	Grab	GW		8/10/16	1315	2	X							-21	
MW-601-MSD	↓	↓		8/9/16	1700	2	X							-22	

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

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/16	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 4.1 °C Bottles Received:

Date: 8/11/16 Time: 1004

Condition: (lab use only)

COC Seal Intact: ___Y ___N ✓NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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Phone: 800-767-5859
Fax: 615-758-5859

L#

Table #

Acctnum: URSKC

Template: T114093

Prelogin: P561498

TSR: 206 - Jeff Carr

Cooler:

Shipped Via:

Rem./Contaminant | Sample # (lab only)

SAMPLE LOGIN

Date Received: *8/11/2016 10:04:0* **Lab Number:** 20160771 **Due:** 9/8/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160771-01 B	MW-601	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-01 A	MW-601	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-02 A	MW-602	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-02 B	MW-602	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-03 A	MW-701	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-03 B	MW-701	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-04 A	MW-702	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-04 B	MW-702	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-05 A	MW-703	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-05 B	MW-703	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-06 A	MW-704	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-06 B	MW-704	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-07 B	MW-705	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-07 A	MW-705	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160771-08 A	MW-706	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-08 B	MW-706	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-09 A	MW-707B	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-09 B	MW-707B	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-10 A	MW-801	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-10 B	MW-801	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-11 A	MW-950	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-11 B	MW-950	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-12 B	MW-951	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-12 A	MW-951	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226	time on		SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-13 A	MW-15	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-13 B	MW-15	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-14 A	TW-1	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-14 B	TW-1	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-15 A	MW-601-MS	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-15 B	MW-601-MS	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-16 A	MW-708	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-16 B	MW-708	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-17 A	MW-802	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-17 B	MW-802	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-18 B	MW-803	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-18 A	MW-803	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-19 A	MW-805	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-19 B	MW-805	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-20 A	MW-6	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-20 B	MW-6	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-21 A	MW-7	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-21 B	MW-7	NPW	08/10/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160771-22 B	MW-601-MSD	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160771-22 A	MW-601-MSD	NPW	08/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken N/A Temperature: Amb °C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ✓ Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete N/A

Anomalies time on MW951 15:00 – sample # 12 05/10/16 NT

Simple -18 Received mw-904 instead of mw-903 on COC #7

Inspected By: Amber Taylor DATE 8/11/16

QA or Designee Review: Raymond Thomas DATE 08/11/16

Sample Custodian Review: [signature] DATE 8/11/16

Project Notes:

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: Brian Linnan
Email To: brian.linnin@aecom.com

Project Description: La Cygne Generating Station
City/State Collected: Kansas

Phone: 913-344-1000
Fax: 913-344-1011
Client Project #
Lab Project # URSKC-LACYGNE

Collected by (print):
Site/Facility ID #
P.O. # URSKC-1028155

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 ✓Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L HDPE-Add HN03	Rem./Contaminant	Sample # (lab only)
MW-10	Grab	GW		8/11/16	1210	2	X	-01	~~01~~
MW-10-MS	Grab	GW		8/11/16	1210	2	X	-02	~~01~~
MW-10-MSD	Grab	GW		8/11/16	1210	2	X	-03	~~04~~
MW-11	Grab	GW		8/11/16	1430	2	X	-04	~~04~~
MW-13	Grab	GW		8/11/16	1715	2	X	05	~~05~~
MW-803	Grab	GW		8/12/16	1035	2	X	06	~~04~~
MW-905	Grab	GW		8/12/16	1150	2	X	07	~~05~~
MW-902	Grab	GW		8/11/16	1235	2	X	1235 08	~~12~~
MW-14R	Grab	GW		8/11/16	10:20	2	X	09	~~07~~
MW-903	Grab	GW		8/11/16	11:20	2	X	10	~~08~~
MW-901	Grab	GW		8/11/16	14:40	2	X	11	~~04~~

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

Remarks: Radium To Broken Arrow

	Date:	Time:	
Relinquished by : (Signature)	8-12-16	1622	Received by: (Signature)
Relinquished by : (Signature)	8/12/16	1702	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

pH ___ Temp ___
Flow ___ Other ___
Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___
Temp: 2.9 °C Bottles Received: 30
Date: 8-13-16 Time: 1300

Chain of Custody Page ___ of ___

ESC 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# ~~L853420/853421~~
Table # L853641
Acctnum: URSKC AV 8/17/16
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Hold #
Condition: (lab use only) a
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

Case Narrative

Lab No: 20160782

This report contains the analytical results for the 11 sample(s) received under chain of custody by ESC Lab Sciences on 8/15/2016 1:30:00 PM. These samples are associated with your La Cygne 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:

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

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160782-01**								
Client ID : **MW-10**								
Date Sampled : **8/11/2016 12:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.294 +/- 0.248	0.326	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.995 +/- 0.401	0.474	pCi/l		08/31/16	09/06/16	JR
Lab ID : **20160782-02**								
Client ID : **MW-10 MS**								
Date Sampled : **8/11/2016 12:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	90.5		% Rec		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	96.1		% Rec		08/31/16	09/06/16	JR
Lab ID : **20160782-03**								
Client ID : **MW-10 MSD**								
Date Sampled : **8/11/2016 12:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	11.8		RPD		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	4.44		RPD		08/31/16	09/06/16	JR
Lab ID : **20160782-04**								
Client ID : **MW-11**								
Date Sampled : **8/11/2016 2:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	-0.039 +/- 0.096	0.246	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	1.07 +/- 0.505	0.735	pCi/l		08/31/16	09/06/16	JR
Lab ID : **20160782-05**								
Client ID : **MW-13**								
Date Sampled : **8/11/2016 5:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.158 +/- 0.116	0.145	pCi/l		08/22/16	08/23/16	AK

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*/9320*	0.510 +/- 0.462	0.520	pCi/l		08/31/16	09/06/16	JR

Lab ID : 20160782-06
Client ID : MW-803
Date Sampled : 8/12/2016 10:35:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	1.41 +/- 0.269	0.176	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.246 +/- 0.721	0.890	pCi/l		08/31/16	09/06/16	JR

Lab ID : 20160782-07
Client ID : MW-905
Date Sampled : 8/12/2016 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.354 +/- 0.171	0.118	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.854 +/- 0.465	0.543	pCi/l		08/31/16	09/06/16	JR

Lab ID : 20160782-08
Client ID : MW-902
Date Sampled : 8/11/2016 12:35:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.992 +/- 0.232	0.146	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.466 +/- 0.527	0.646	pCi/l		08/31/16	09/06/16	JR

Lab ID : 20160782-09
Client ID : MW-14R
Date Sampled : 8/11/2016 10:20:00 AM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	0.993 +/- 0.231	0.174	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.231 +/- 0.450	0.538	pCi/l		08/31/16	09/06/16	JR

Lab ID : 20160782-10
Client ID : MW-903
Date Sampled : 8/11/2016 11:20:00 AM
Matrix : NPW

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	0.184 +/- 0.144	0.193	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	0.673 +/- 0.273	0.470	pCi/l		08/31/16	09/06/16	JR

Lab ID : **20160782-11**
Client ID : **MW-901**
Date Sampled : **8/11/2016 2:40:00 PM**
Matrix : **NPW**

Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	0.261 +/- 0.124	0.106	pCi/l		08/22/16	08/23/16	AK
Radium-228	EPA 904*/9320*	1.93 +/- 0.415	0.713	pCi/l		08/31/16	09/06/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.033	94.4			NC	0.312	90.5	102.0	11.8	R1124
Radium-228	0.305	103.0			NC	0.326	96.1	101.0	4.4	R3849

Lab Approval:

Ron Eidson
Director of Radiochemistry

*NELAC Certified Parameter BDL = Below Detection Limit

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Company Name/Address:
AECOM-Overland Park, KS
8300 College Blvd, Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe -1334927
8300 College Blvd. Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnin@aecom.com**

Project Description: **La Cygne Generating Station**

City/State Collected: **Kansas**

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print):

Site/Facility ID #

P.O. #: **URSKC-1028155**

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 ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# 853641

Table #

Acctnum: URSKC
Template: T114093
Prelogin: P561498
TSR: 206 - Jeff Carr
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L HDPE-Add HN03	Rem./Contaminant	Sample # (lab only)
MW-10	Grab	GW		8/11/16	1210	2	X		
MW-10-MS	Grab	GW		8/11/16	1210	2	X		
MW-10-MSD	Grab	GW		8/11/16	1210	2	X		
MW-11	Grab	GW		8/11/16	1430	2	X		
MW-13	Grab	GW		8/11/16	1715	2	X		
MW-803	Grab	GW		8/12/16	1035	2	X		
MW-905	Grab	GW		8/12/16	1150	2	X		
MW-902	Grab	GW		8/11/16	1235	2	X	1235	
MW-14R	Grab	GW		8/11/16	10:20	2	X		
MW-903	Grab	GW		8/11/16	11:20	2	X		
MW-901	Grab	GW		8/11/16	14:40	2	X		

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

Remarks: 20160787

pH ___ Temp ___
Flow ___ Other ___

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8-12-16	1622	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: Amb °C Bottles Received:

Date: 8/15/16 Time: 1330

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

SAMPLE LOGIN

Date Received: *8/15/2016 1:30:00* **Lab Number:** 20160782 **Due:** 9/12/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160782-01 B	MW-10	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-01 A	MW-10	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-02 A	MW-10 MS	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-02 B	MW-10 MS	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-03 A	MW-10 MSD	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-03 B	MW-10 MSD	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-04 A	MW-11	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-04 B	MW-11	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-05 B	MW-13	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-05 A	MW-13	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-06 B	MW-803	NPW	08/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-06 A	MW-803	NPW	08/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-07 A	MW-905	NPW	08/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20160782-07 B	MW-905	NPW	08/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160782-08 A	MW-902	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160782-08 B	MW-902	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-09 A	MW-14R	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20160782-09 B	MW-14R	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-10 A	MW-903	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20160782-10 B	MW-903	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160782-11 B	MW-901	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20160782-11 A	MW-901	NPW	08/11/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** N/A ☐ **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: Amber Taylor **DATE** 8/15/16

QA or Designee Review: Raymond Thomas **DATE** 08/15/16

Sample Custodian Review: [signature] **DATE** 8/15/16

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-3

October 2016 Sampling Event Laboratory Report

ANALYTICAL REPORT

October 24, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L865759
Samples Received:	10/13/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

MW-801 L865759-01 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 10:30 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:07	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:42	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:06	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917586	1	10/17/16 22:35	10/17/16 22:35	SAM
Wet Chemistry by Method 9056A	WG917586	5	10/17/16 22:50	10/17/16 22:50	SAM

MW-802 L865759-02 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 11:35 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:10	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:45	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:10	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917586	1	10/17/16 23:06	10/17/16 23:06	SAM

MW-804 L865759-03 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 12:25 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:13	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:48	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:13	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917586	1	10/17/16 23:21	10/17/16 23:21	SAM

MW-805 L865759-04 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 15:10 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 15:58	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:18	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 17:44	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917907	1	10/17/16 20:42	10/17/16 20:42	CM
Wet Chemistry by Method 9056A	WG917907	20	10/17/16 20:58	10/17/16 20:58	CM

MW-15 L865759-05 GW

Collected by: JM/TA/DM | Collected date/time: 10/12/16 10:35 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918323	1	10/19/16 02:44	10/19/16 06:51	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:16	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:51	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:16	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM

MW-15 L865759-05 GW

Collected by: JM/TA/DM
Collected date/time: 10/12/16 10:35
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG917907	1	10/17/16 22:15	10/17/16 22:15	CM
Wet Chemistry by Method 9056A	WG918288	5	10/19/16 11:08	10/19/16 11:08	CM

MW-705 L865759-06 GW

Collected by: JM/TA/DM
Collected date/time: 10/11/16 11:25
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:19	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:54	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:19	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917907	1	10/17/16 22:30	10/17/16 22:30	CM
Wet Chemistry by Method 9056A	WG917907	10	10/17/16 22:46	10/17/16 22:46	CM

TW-1 L865759-07 GW

Collected by: JM/TA/DM
Collected date/time: 10/11/16 12:00
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:22	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:56	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:22	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917907	1	10/17/16 23:01	10/17/16 23:01	CM

MW-707B L865759-08 GW

Collected by: JM/TA/DM
Collected date/time: 10/11/16 12:55
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:30	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 00:59	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:25	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 10:57	10/18/16 10:57	CM
Wet Chemistry by Method 9056A	WG917930	20	10/18/16 11:12	10/18/16 11:12	CM
Wet Chemistry by Method 9056A	WG918588	100	10/19/16 11:28	10/19/16 11:28	CM

MW-706 L865759-09 GW

Collected by: JM/TA/DM
Collected date/time: 10/11/16 13:35
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:33	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:02	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:29	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 11:27	10/18/16 11:27	CM
Wet Chemistry by Method 9056A	WG917930	10	10/18/16 11:43	10/18/16 11:43	CM

MW-701 L865759-10 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 14:25 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:36	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:05	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:32	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 11:58	10/18/16 11:58	CM

MW-704 L865759-11 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 15:05 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917364	1	10/16/16 04:48	10/16/16 06:30	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:39	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:08	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:44	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 13:00	10/18/16 13:00	CM
Wet Chemistry by Method 9056A	WG918588	5	10/19/16 11:42	10/19/16 11:42	CM

MW-702 L865759-12 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 15:50 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917474	1	10/18/16 06:57	10/18/16 07:18	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:42	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:16	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:48	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 13:31	10/18/16 13:31	CM

MW-703 L865759-13 GW

Collected by: JM/TA/DM | Collected date/time: 10/11/16 17:10 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG917474	1	10/18/16 06:57	10/18/16 07:18	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:45	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:19	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:51	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 13:46	10/18/16 13:46	CM
Wet Chemistry by Method 9056A	WG917930	5	10/18/16 14:01	10/18/16 14:01	CM

MW-950 L865759-14 GW

Collected by: JM/TA/DM | Collected date/time: 10/12/16 10:30 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918323	1	10/19/16 02:44	10/19/16 06:51	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:48	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:21	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:54	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 14:17	10/18/16 14:17	CM

MW-708 L865759-15 GW

Collected by: JM/TA/DM
Collected date/time: 10/12/16 10:55
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918323	1	10/19/16 02:44	10/19/16 06:51	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:51	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:24	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 18:57	JPD
Wet Chemistry by Method 9040C	WG917242	1	10/19/16 11:00	10/19/16 11:00	MHM
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 14:32	10/18/16 14:32	CM

MW-10 L865759-16 GW

Collected by: JM/TA/DM
Collected date/time: 10/12/16 13:20
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918323	1	10/19/16 02:44	10/19/16 06:51	JM
Mercury by Method 7470A	WG917085	1	10/14/16 10:48	10/15/16 06:27	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:27	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 19:00	JPD
Wet Chemistry by Method 9040C	WG917243	1	10/20/16 09:51	10/20/16 09:51	JJL
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 14:48	10/18/16 14:48	CM

MW-11 L865759-17 GW

Collected by: JM/TA/DM
Collected date/time: 10/12/16 15:30
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918323	1	10/19/16 02:44	10/19/16 06:51	JM
Mercury by Method 7470A	WG917083	1	10/14/16 10:47	10/14/16 16:54	TRB
Metals (ICP) by Method 6010B	WG917403	1	10/18/16 13:00	10/19/16 01:35	CCE
Metals (ICPMS) by Method 6020	WG918368	1	10/19/16 06:35	10/21/16 19:10	JPD
Wet Chemistry by Method 9040C	WG917243	1	10/20/16 09:51	10/20/16 09:51	JJL
Wet Chemistry by Method 9056A	WG917930	1	10/18/16 16:05	10/18/16 16:05	CM
Wet Chemistry by Method 9056A	WG917930	5	10/18/16 16:20	10/18/16 16:20	CM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L865759-01	MW-801	9040C
L865759-02	MW-802	9040C
L865759-03	MW-804	9040C
L865759-04	MW-805	9040C
L865759-05	MW-15	9040C
L865759-06	MW-705	9040C
L865759-07	TW-1	9040C
L865759-08	MW-707B	9040C
L865759-09	MW-706	9040C
L865759-10	MW-701	9040C
L865759-11	MW-704	9040C
L865759-12	MW-702	9040C
L865759-13	MW-703	9040C
L865759-14	MW-950	9040C
L865759-15	MW-708	9040C
L865759-16	MW-10	9040C
L865759-17	MW-11	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	970		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.63		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-01 WG917242: 7.63 at 11.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	117		5.00	5	10/17/2016 22:50	WG917586
Fluoride	1.11		0.100	1	10/17/2016 22:35	WG917586
Sulfate	ND		5.00	1	10/17/2016 22:35	WG917586

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:07	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.32		0.200	1	10/19/2016 00:42	WG917403
Lithium	0.102		0.0150	1	10/19/2016 00:42	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:42	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:06	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:06	WG918368
Barium	0.573		0.00500	1	10/21/2016 18:06	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:06	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:06	WG918368
Calcium	33.5		1.00	1	10/21/2016 18:06	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:06	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:06	WG918368
Lead	ND		0.00200	1	10/21/2016 18:06	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:06	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:06	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	713		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.66		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-02 WG917242: 7.66 at 10.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.3		1.00	1	10/17/2016 23:06	WG917586
Fluoride	0.986		0.100	1	10/17/2016 23:06	WG917586
Sulfate	ND		5.00	1	10/17/2016 23:06	WG917586

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:10	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.50		0.200	1	10/19/2016 00:45	WG917403
Lithium	0.0908		0.0150	1	10/19/2016 00:45	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:45	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:10	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:10	WG918368
Barium	0.868		0.00500	1	10/21/2016 18:10	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:10	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:10	WG918368
Calcium	37.2		1.00	1	10/21/2016 18:10	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:10	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:10	WG918368
Lead	ND		0.00200	1	10/21/2016 18:10	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:10	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:10	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	577		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.29		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-03 WG917242: 7.29 at 10.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.3		1.00	1	10/17/2016 23:21	WG917586
Fluoride	0.448		0.100	1	10/17/2016 23:21	WG917586
Sulfate	20.9		5.00	1	10/17/2016 23:21	WG917586

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:13	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.59		0.200	1	10/19/2016 00:48	WG917403
Lithium	0.0408		0.0150	1	10/19/2016 00:48	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:48	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:13	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:13	WG918368
Barium	0.146		0.00500	1	10/21/2016 18:13	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:13	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:13	WG918368
Calcium	65.1		1.00	1	10/21/2016 18:13	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:13	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:13	WG918368
Lead	ND		0.00200	1	10/21/2016 18:13	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:13	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:13	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1820		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.53		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-04 WG917242: 6.53 at 11.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	466		20.0	20	10/17/2016 20:58	WG917907
Fluoride	0.136		0.100	1	10/17/2016 20:42	WG917907
Sulfate	726		100	20	10/17/2016 20:58	WG917907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND	J6 O1	0.000200	1	10/14/2016 15:58	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.462		0.200	1	10/19/2016 00:18	WG917403
Lithium	0.0234		0.0150	1	10/19/2016 00:18	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:18	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 17:44	WG918368
Arsenic	0.00267		0.00200	1	10/21/2016 17:44	WG918368
Barium	0.0401		0.00500	1	10/21/2016 17:44	WG918368
Beryllium	ND		0.00200	1	10/21/2016 17:44	WG918368
Cadmium	ND		0.00100	1	10/21/2016 17:44	WG918368
Calcium	422		1.00	1	10/21/2016 17:44	WG918368
Chromium	ND		0.00200	1	10/21/2016 17:44	WG918368
Cobalt	0.00790		0.00200	1	10/21/2016 17:44	WG918368
Lead	ND		0.00200	1	10/21/2016 17:44	WG918368
Selenium	ND		0.00200	1	10/21/2016 17:44	WG918368
Thallium	ND		0.00200	1	10/21/2016 17:44	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	772		10.0	1	10/19/2016 06:51	WG918323

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-05 WG917242: 7.56 at 15.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	12.9		1.00	1	10/17/2016 22:15	WG917907
Fluoride	0.232		0.100	1	10/17/2016 22:15	WG917907
Sulfate	200		25.0	5	10/19/2016 11:08	WG918288

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:16	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.252		0.200	1	10/19/2016 00:51	WG917403
Lithium	0.0263		0.0150	1	10/19/2016 00:51	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:51	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:16	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:16	WG918368
Barium	0.0466		0.00500	1	10/21/2016 18:16	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:16	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:16	WG918368
Calcium	103		1.00	1	10/21/2016 18:16	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:16	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:16	WG918368
Lead	ND		0.00200	1	10/21/2016 18:16	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:16	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:16	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1130		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-06 WG917242: 7.65 at 12.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	138		10.0	10	10/17/2016 22:46	WG917907
Fluoride	0.998		0.100	1	10/17/2016 22:30	WG917907
Sulfate	39.2		5.00	1	10/17/2016 22:30	WG917907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:19	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.21		0.200	1	10/19/2016 00:54	WG917403
Lithium	0.119		0.0150	1	10/19/2016 00:54	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:54	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:19	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:19	WG918368
Barium	0.0881		0.00500	1	10/21/2016 18:19	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:19	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:19	WG918368
Calcium	39.6		1.00	1	10/21/2016 18:19	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:19	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:19	WG918368
Lead	ND		0.00200	1	10/21/2016 18:19	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:19	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:19	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.74		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-07 WG917242: 7.74 at 11.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.4		1.00	1	10/17/2016 23:01	WG917907
Fluoride	0.431		0.100	1	10/17/2016 23:01	WG917907
Sulfate	58.8		5.00	1	10/17/2016 23:01	WG917907

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:22	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.60		0.200	1	10/19/2016 00:56	WG917403
Lithium	0.137		0.0150	1	10/19/2016 00:56	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:56	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:22	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:22	WG918368
Barium	0.0701		0.00500	1	10/21/2016 18:22	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:22	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:22	WG918368
Calcium	35.3		1.00	1	10/21/2016 18:22	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:22	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:22	WG918368
Lead	ND		0.00200	1	10/21/2016 18:22	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:22	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:22	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6160		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.08		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-08 WG917242: 7.08 at 12.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	211		20.0	20	10/18/2016 11:12	WG917930
Fluoride	0.382		0.100	1	10/18/2016 10:57	WG917930
Sulfate	4860		500	100	10/19/2016 11:28	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:30	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.88		0.200	1	10/19/2016 00:59	WG917403
Lithium	0.715		0.0150	1	10/19/2016 00:59	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 00:59	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00235		0.00200	1	10/21/2016 18:25	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:25	WG918368
Barium	0.0347		0.00500	1	10/21/2016 18:25	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:25	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:25	WG918368
Calcium	408		1.00	1	10/21/2016 18:25	WG918368
Chromium	0.00684		0.00200	1	10/21/2016 18:25	WG918368
Cobalt	0.0234		0.00200	1	10/21/2016 18:25	WG918368
Lead	ND		0.00200	1	10/21/2016 18:25	WG918368
Selenium	0.00326		0.00200	1	10/21/2016 18:25	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:25	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1560		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.71		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-09 WG917242: 7.71 at 12.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	274		10.0	10	10/18/2016 11:43	WG917930
Fluoride	1.21		0.100	1	10/18/2016 11:27	WG917930
Sulfate	ND		5.00	1	10/18/2016 11:27	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:33	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.17		0.200	1	10/19/2016 01:02	WG917403
Lithium	0.136		0.0150	1	10/19/2016 01:02	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:02	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:29	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:29	WG918368
Barium	0.274		0.00500	1	10/21/2016 18:29	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:29	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:29	WG918368
Calcium	33.1		1.00	1	10/21/2016 18:29	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:29	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:29	WG918368
Lead	ND		0.00200	1	10/21/2016 18:29	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:29	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:29	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	619		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.80		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-10 WG917242: 7.80 at 11.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.1		1.00	1	10/18/2016 11:58	WG917930
Fluoride	0.751		0.100	1	10/18/2016 11:58	WG917930
Sulfate	80.3		5.00	1	10/18/2016 11:58	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:36	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.04		0.200	1	10/19/2016 01:05	WG917403
Lithium	0.0374		0.0150	1	10/19/2016 01:05	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:05	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:32	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:32	WG918368
Barium	0.159		0.00500	1	10/21/2016 18:32	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:32	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:32	WG918368
Calcium	37.2		1.00	1	10/21/2016 18:32	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:32	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:32	WG918368
Lead	ND		0.00200	1	10/21/2016 18:32	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:32	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:32	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1240		10.0	1	10/16/2016 06:30	WG917364

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-11 WG917242: 7.67 at 11.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	80.8		1.00	1	10/18/2016 13:00	WG917930
Fluoride	0.865		0.100	1	10/18/2016 13:00	WG917930
Sulfate	180		25.0	5	10/19/2016 11:42	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:39	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.08		0.200	1	10/19/2016 01:08	WG917403
Lithium	0.0953		0.0150	1	10/19/2016 01:08	WG917403
Molybdenum	0.0128		0.00500	1	10/19/2016 01:08	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.0112		0.00200	1	10/21/2016 18:44	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:44	WG918368
Barium	0.0776		0.00500	1	10/21/2016 18:44	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:44	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:44	WG918368
Calcium	32.9		1.00	1	10/21/2016 18:44	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:44	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:44	WG918368
Lead	ND		0.00200	1	10/21/2016 18:44	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:44	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:44	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	747		10.0	1	10/18/2016 07:18	WG917474

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.26		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-12 WG917242: 9.26 at 13.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.8		1.00	1	10/18/2016 13:31	WG917930
Fluoride	1.37		0.100	1	10/18/2016 13:31	WG917930
Sulfate	ND		5.00	1	10/18/2016 13:31	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:42	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.64		0.200	1	10/19/2016 01:16	WG917403
Lithium	0.278		0.0150	1	10/19/2016 01:16	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:16	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:48	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:48	WG918368
Barium	0.199		0.00500	1	10/21/2016 18:48	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:48	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:48	WG918368
Calcium	14.9		1.00	1	10/21/2016 18:48	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:48	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:48	WG918368
Lead	ND		0.00200	1	10/21/2016 18:48	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:48	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:48	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	902		10.0	1	10/18/2016 07:18	WG917474

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.86		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-13 WG917242: 7.86 at 14.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	105		5.00	5	10/18/2016 14:01	WG917930
Fluoride	1.45		0.100	1	10/18/2016 13:46	WG917930
Sulfate	ND		5.00	1	10/18/2016 13:46	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:45	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.88		0.200	1	10/19/2016 01:19	WG917403
Lithium	0.0656		0.0150	1	10/19/2016 01:19	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:19	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:51	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:51	WG918368
Barium	0.259		0.00500	1	10/21/2016 18:51	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:51	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:51	WG918368
Calcium	20.5		1.00	1	10/21/2016 18:51	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:51	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:51	WG918368
Lead	ND		0.00200	1	10/21/2016 18:51	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:51	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:51	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	696		10.0	1	10/19/2016 06:51	WG918323

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.69		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-14 WG917242: 7.69 at 15.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.6		1.00	1	10/18/2016 14:17	WG917930
Fluoride	0.642		0.100	1	10/18/2016 14:17	WG917930
Sulfate	8.30		5.00	1	10/18/2016 14:17	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:48	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.45		0.200	1	10/19/2016 01:21	WG917403
Lithium	0.0743		0.0150	1	10/19/2016 01:21	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:21	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:54	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:54	WG918368
Barium	0.246		0.00500	1	10/21/2016 18:54	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:54	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:54	WG918368
Calcium	33.2		1.00	1	10/21/2016 18:54	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:54	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:54	WG918368
Lead	ND		0.00200	1	10/21/2016 18:54	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:54	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:54	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	684		10.0	1	10/19/2016 06:51	WG918323

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.59		1	10/19/2016 11:00	WG917242

Sample Narrative:

9040C L865759-15 WG917242: 7.59 at 15.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.5		1.00	1	10/18/2016 14:32	WG917930
Fluoride	0.632		0.100	1	10/18/2016 14:32	WG917930
Sulfate	8.24		5.00	1	10/18/2016 14:32	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:51	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.47		0.200	1	10/19/2016 01:24	WG917403
Lithium	0.0731		0.0150	1	10/19/2016 01:24	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:24	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 18:57	WG918368
Arsenic	ND		0.00200	1	10/21/2016 18:57	WG918368
Barium	0.244		0.00500	1	10/21/2016 18:57	WG918368
Beryllium	ND		0.00200	1	10/21/2016 18:57	WG918368
Cadmium	ND		0.00100	1	10/21/2016 18:57	WG918368
Calcium	32.2		1.00	1	10/21/2016 18:57	WG918368
Chromium	ND		0.00200	1	10/21/2016 18:57	WG918368
Cobalt	ND		0.00200	1	10/21/2016 18:57	WG918368
Lead	ND		0.00200	1	10/21/2016 18:57	WG918368
Selenium	ND		0.00200	1	10/21/2016 18:57	WG918368
Thallium	ND		0.00200	1	10/21/2016 18:57	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	600		10.0	1	10/19/2016 06:51	WG918323

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.49		1	10/20/2016 09:51	WG917243

Sample Narrative:

9040C L865759-16 WG917243: 7.49 at 10.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	62.7		1.00	1	10/18/2016 14:48	WG917930
Fluoride	0.376		0.100	1	10/18/2016 14:48	WG917930
Sulfate	21.6		5.00	1	10/18/2016 14:48	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/15/2016 06:27	WG917085

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.964		0.200	1	10/19/2016 01:27	WG917403
Lithium	0.0425		0.0150	1	10/19/2016 01:27	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:27	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 19:00	WG918368
Arsenic	0.00603		0.00200	1	10/21/2016 19:00	WG918368
Barium	0.324		0.00500	1	10/21/2016 19:00	WG918368
Beryllium	ND		0.00200	1	10/21/2016 19:00	WG918368
Cadmium	ND		0.00100	1	10/21/2016 19:00	WG918368
Calcium	60.7		1.00	1	10/21/2016 19:00	WG918368
Chromium	ND		0.00200	1	10/21/2016 19:00	WG918368
Cobalt	ND		0.00200	1	10/21/2016 19:00	WG918368
Lead	ND		0.00200	1	10/21/2016 19:00	WG918368
Selenium	ND		0.00200	1	10/21/2016 19:00	WG918368
Thallium	ND		0.00200	1	10/21/2016 19:00	WG918368

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1140		10.0	1	10/19/2016 06:51	WG918323

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.53		1	10/20/2016 09:51	WG917243

Sample Narrative:

9040C L865759-17 WG917243: 7.53 at 10.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	123		5.00	5	10/18/2016 16:20	WG917930
Fluoride	0.504		0.100	1	10/18/2016 16:05	WG917930
Sulfate	212		25.0	5	10/18/2016 16:20	WG917930

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/14/2016 16:54	WG917083

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.730		0.200	1	10/19/2016 01:35	WG917403
Lithium	0.0596		0.0150	1	10/19/2016 01:35	WG917403
Molybdenum	ND		0.00500	1	10/19/2016 01:35	WG917403

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/21/2016 19:10	WG918368
Arsenic	ND		0.00200	1	10/21/2016 19:10	WG918368
Barium	0.0324		0.00500	1	10/21/2016 19:10	WG918368
Beryllium	ND		0.00200	1	10/21/2016 19:10	WG918368
Cadmium	ND		0.00100	1	10/21/2016 19:10	WG918368
Calcium	69.2		1.00	1	10/21/2016 19:10	WG918368
Chromium	ND		0.00200	1	10/21/2016 19:10	WG918368
Cobalt	ND		0.00200	1	10/21/2016 19:10	WG918368
Lead	ND		0.00200	1	10/21/2016 19:10	WG918368
Selenium	ND		0.00200	1	10/21/2016 19:10	WG918368
Thallium	ND		0.00200	1	10/21/2016 19:10	WG918368

Method Blank (MB)

(MB) R3171204-1 10/16/16 06:30

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

L865759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865759-01 10/16/16 06:30 • (DUP) R3171204-4 10/16/16 06:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	970	940	1	3.14		5

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

(LCS) R3171204-2 10/16/16 06:30 • (LCSD) R3171204-3 10/16/16 06:30

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	%	%	%			%	%
Dissolved Solids	8800	8500	8500	96.6	96.6	85.0-115			0.000	5

Method Blank (MB)

(MB) R3171529-1 10/18/16 07:18

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

L865759-12 Original Sample (OS) • Duplicate (DUP)

(OS) L865759-12 10/18/16 07:18 • (DUP) R3171529-4 10/18/16 07:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	747	723	1	3.27		5

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

(LCS) R3171529-2 10/18/16 07:18 • (LCSD) R3171529-3 10/18/16 07:18

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	%	%	%			%	%
Dissolved Solids	8800	9770	9380	111	107	85.0-115			4.07	5

Method Blank (MB)

(MB) R3171889-1 10/19/16 06:51

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

L865741-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865741-01 10/19/16 06:51 • (DUP) R3171889-4 10/19/16 06:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	240	235	1	2.11		5

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

(LCS) R3171889-2 10/19/16 06:51 • (LCSD) R3171889-3 10/19/16 06:51

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	%	%	%			%	%
Dissolved Solids	8800	8200	8530	93.2	96.9	85.0-115			3.95	5

L865508-05 Original Sample (OS) • Duplicate (DUP)

(OS) L865508-05 10/19/16 11:00 • (DUP) WG917242-3 10/19/16 11:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.84	7.86	1	0.255		1

L865759-15 Original Sample (OS) • Duplicate (DUP)

(OS) L865759-15 10/19/16 11:00 • (DUP) WG917242-4 10/19/16 11:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.59	7.59	1	0.000		1

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

(LCS) WG917242-1 10/19/16 11:00 • (LCSD) WG917242-2 10/19/16 11:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.08	6.09	99.5	99.7	98.4-102			0.164	1

L865759-16 Original Sample (OS) • Duplicate (DUP)

(OS) L865759-16 10/20/16 09:51 • (DUP) WG917243-3 10/20/16 09:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.49	7.55	1	0.798		1

L866049-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866049-01 10/20/16 09:51 • (DUP) WG917243-4 10/20/16 09:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.28	7.25	1	0.413		1

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

(LCS) WG917243-1 10/20/16 09:51 • (LCSD) WG917243-2 10/20/16 09:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.07	6.03	99.3	98.7	98.4-102			0.661	1

Method Blank (MB)

(MB) R3171219-1 10/17/16 17:42

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

L865649-02 Original Sample (OS) • Duplicate (DUP)

(OS) L865649-02 10/17/16 20:01 • (DUP) R3171219-5 10/17/16 20:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.89	4.90	1	0		15
Fluoride	U	0.000	1	0		15
Sulfate	2.46	2.51	1	2	J	15

L865688-05 Original Sample (OS) • Duplicate (DUP)

(OS) L865688-05 10/18/16 02:57 • (DUP) R3171219-8 10/18/16 03:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	72.4	73.2	10	1		15
Fluoride	ND	0.443	10	0		15
Sulfate	389	385	10	1		15

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

(LCS) R3171219-2 10/17/16 17:57 • (LCSD) R3171219-3 10/17/16 18:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	38.3	38.4	96	96	80-120			0	15
Fluoride	8.00	7.70	7.71	96	96	80-120			0	15
Sulfate	40.0	39.1	39.2	98	98	80-120			0	15

L865649-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L865649-01 10/17/16 19:30 • (MS) R3171219-4 10/17/16 19:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	5.80	54.6	98	1	80-120	
Fluoride	5.00	U	4.93	99	1	80-120	

L865649-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L865649-01 10/17/16 19:30 • (MS) R3171219-4 10/17/16 19:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	5.72	54.2	97	1	80-120	

L865682-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865682-01 10/18/16 00:07 • (MS) R3171219-6 10/18/16 00:23 • (MSD) R3171219-7 10/18/16 00:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	6.38	55.4	55.5	98	98	1	80-120			0	15
Fluoride	5.00	0.710	5.66	5.42	99	94	1	80-120			4	15
Sulfate	50.0	34.7	81.9	82.4	94	95	1	80-120			1	15

Method Blank (MB)

(MB) R3171111-1 10/17/16 12:41

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

L865403-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865403-01 10/17/16 17:53 • (DUP) R3171111-5 10/17/16 18:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	34.8	34.8	1	0		15
Fluoride	0.141	0.138	1	3		15
Sulfate	1.20	1.34	1	10	J	15

L865485-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865485-01 10/17/16 19:25 • (DUP) R3171111-6 10/17/16 19:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	47.2	47.8	10	1		15
Fluoride	U	0.000	10	0		15
Sulfate	250	243	10	3		15

L865204-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L865204-02 10/17/16 17:07 • (MS) R3171111-4 10/17/16 17:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	76.3	122	91	1	80-120	E
Fluoride	5.00	0.261	5.14	98	1	80-120	
Sulfate	50.0	12.6	60.7	96	1	80-120	

L865759-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-04 10/17/16 20:42 • (MS) R3171111-7 10/17/16 21:13 • (MSD) R3171111-8 10/17/16 21:29

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 %
Fluoride	5.00	0.136	4.86	4.82	94	94	1	80-120			1	15

Method Blank (MB)

(MB) R3171514-1 10/18/16 09:21

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

L865759-10 Original Sample (OS) • Duplicate (DUP)

(OS) L865759-10 10/18/16 11:58 • (DUP) R3171514-4 10/18/16 12:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	49.1	49.2	1	0		15
Fluoride	0.751	0.751	1	0		15
Sulfate	80.3	80.0	1	0		15

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3171514-8 10/18/16 20:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		mg/l		%		%
Chloride		0.134	1	14	J	15
Fluoride		0.000	1	0		15
Sulfate		0.000	1	0		15

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

(LCS) R3171514-2 10/18/16 09:37 • (LCSD) R3171514-3 10/18/16 09:52

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	38.5	38.4	96	96	80-120			0	15
Fluoride	8.00	7.76	7.74	97	97	80-120			0	15
Sulfate	40.0	38.8	38.6	97	96	80-120			0	15

L865759-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L865759-11 10/18/16 13:00 • (MS) R3171514-5 10/18/16 13:15

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	80.8	128	95	1	80-120	E
Fluoride	5.00	0.865	5.93	101	1	80-120	

L865759-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-16 10/18/16 14:48 • (MS) R3171514-6 10/18/16 15:34 • (MSD) R3171514-7 10/18/16 15:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	62.7	111	111	97	97	1	80-120	E	E	0	15
Fluoride	5.00	0.376	5.44	5.48	101	102	1	80-120			1	15
Sulfate	50.0	21.6	71.4	71.8	100	100	1	80-120			1	15

Method Blank (MB)

(MB) R3171895-1 10/19/16 07:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L865976-04 Original Sample (OS) • Duplicate (DUP)

(OS) L865976-04 10/19/16 13:22 • (DUP) R3171895-5 10/19/16 13:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	411	409	10	1		15

L866048-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866048-01 10/19/16 15:37 • (DUP) R3171895-6 10/19/16 15:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	ND	3.43	1	2	J	15

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

(LCS) R3171895-2 10/19/16 07:51 • (LCSD) R3171895-3 10/19/16 08:06

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	%	%	%			%	%
Sulfate	40.0	39.3	39.2	98	98	80-120			0	15

L865895-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L865895-10 10/19/16 12:37 • (MS) R3171895-4 10/19/16 12:52

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	1.76	53.0	102	1	80-120	

L866076-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866076-03 10/19/16 16:52 • (MS) R3171895-7 10/19/16 17:36 • (MSD) R3171895-8 10/19/16 17:51

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	%	%		%			%	%
Sulfate	50.0	36.2	83.1	82.9	94	93	1	80-120			0	15

Method Blank (MB)

(MB) R3171910-1 10/19/16 07:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.0774	5.00

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3171910-5 10/19/16 12:54

Analyte	Original Result	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate		706	10	1		15

L865895-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865895-01 10/19/16 15:04 • (DUP) R3171910-6 10/19/16 15:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	493	496	10	1		15

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

(LCS) R3171910-2 10/19/16 07:39 • (LCSD) R3171910-3 10/19/16 07:54

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 %
Sulfate	40.0	38.8	38.9	97	97	80-120			0	15

L866342-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-08 10/19/16 16:47 • (MS) R3171910-7 10/19/16 17:01 • (MSD) R3171910-8 10/19/16 17:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	29.5	76.9	77.0	95	95	1	80-120			0	15

Method Blank (MB)

(MB) R3170812-1 10/14/16 15:40

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

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

(LCS) R3170812-2 10/14/16 15:43 • (LCSD) R3170812-3 10/14/16 15:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00285	0.00312	95	104	80-120			9	20

L865759-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-04 10/14/16 15:58 • (MS) R3170812-4 10/14/16 16:01 • (MSD) R3170812-5 10/14/16 16:04

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	%	%		%			%	%
Mercury	0.00300	ND	0.000545	0.000522	18	17	1	75-125	J6	J6	4	20

Method Blank (MB)

(MB) R3170843-1 10/15/16 06:18

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

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

(LCS) R3170843-2 10/15/16 06:21 • (LCSD) R3170843-3 10/15/16 06:24

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	%	%	%			%	%
Mercury	0.00300	0.00325	0.00287	108	96	80-120			12	20

L865759-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-16 10/15/16 06:27 • (MS) R3170843-4 10/15/16 06:30 • (MSD) R3170843-5 10/15/16 06:33

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	%	%		%			%	%
Mercury	0.00300	ND	0.00330	0.00314	110	105	1	75-125			5	20

Method Blank (MB)

(MB) R3171509-1 10/19/16 00:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3171509-2 10/19/16 00:11 • (LCSD) R3171509-3 10/19/16 00:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.994	1.00	99	100	80-120			1	20
Lithium	1.00	0.970	0.967	97	97	80-120			0	20
Molybdenum	1.00	1.02	1.02	102	102	80-120			0	20

L865759-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-04 10/19/16 00:18 • (MS) R3171509-5 10/19/16 00:23 • (MSD) R3171509-6 10/19/16 00:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.462	1.46	1.45	100	99	1	75-125			1	20
Lithium	1.00	0.0234	1.02	1.02	100	99	1	75-125			0	20
Molybdenum	1.00	ND	1.02	1.01	102	101	1	75-125			1	20

L865759-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-16 10/19/16 01:27 • (MS) R3171509-7 10/19/16 01:29 • (MSD) R3171509-8 10/19/16 01:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.964	1.94	1.95	98	98	1	75-125			0	20
Lithium	1.00	0.0425	1.01	1.01	97	97	1	75-125			0	20
Molybdenum	1.00	ND	1.02	1.02	102	102	1	75-125			1	20

Method Blank (MB)

(MB) R3172564-1 10/21/16 17:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000793	J	0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3172564-2 10/21/16 17:38 • (LCSD) R3172564-3 10/21/16 17:41

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	0.0579	0.0513	0.0509	89	88	80-120			1	20
Arsenic	0.0500	0.0526	0.0505	105	101	80-120			4	20
Barium	0.0500	0.0466	0.0451	93	90	80-120			3	20
Beryllium	0.0500	0.0485	0.0477	97	95	80-120			2	20
Cadmium	0.0500	0.0518	0.0504	104	101	80-120			3	20
Calcium	5.00	4.97	4.70	99	94	80-120			6	20
Chromium	0.0500	0.0549	0.0516	110	103	80-120			6	20
Cobalt	0.0500	0.0551	0.0526	110	105	80-120			5	20
Lead	0.0500	0.0495	0.0487	99	97	80-120			2	20
Selenium	0.0500	0.0485	0.0509	97	102	80-120			5	20
Thallium	0.0500	0.0486	0.0477	97	95	80-120			2	20

L865759-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-04 10/21/16 17:44 • (MS) R3172564-5 10/21/16 17:51 • (MSD) R3172564-6 10/21/16 17:54

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	0.0579	ND	0.0507	0.0518	86	88	1	75-125			2	20
Arsenic	0.0500	0.00267	0.0543	0.0548	103	104	1	75-125			1	20
Barium	0.0500	0.0401	0.0859	0.0825	92	85	1	75-125			4	20
Beryllium	0.0500	ND	0.0467	0.0476	93	95	1	75-125			2	20
Cadmium	0.0500	ND	0.0492	0.0510	98	102	1	75-125			4	20

L865759-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-04 10/21/16 17:44 • (MS) R3172564-5 10/21/16 17:51 • (MSD) R3172564-6 10/21/16 17:54

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	5.00	422	418	428	0	109	1	75-125	V		2	20
Chromium	0.0500	ND	0.0528	0.0524	103	103	1	75-125			1	20
Cobalt	0.0500	0.00790	0.0589	0.0590	102	102	1	75-125			0	20
Lead	0.0500	ND	0.0498	0.0507	98	100	1	75-125			2	20
Selenium	0.0500	ND	0.0489	0.0511	98	102	1	75-125			4	20
Thallium	0.0500	ND	0.0478	0.0487	96	97	1	75-125			2	20

L865759-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865759-16 10/21/16 19:00 • (MS) R3172564-7 10/21/16 19:03 • (MSD) R3172564-8 10/21/16 19:06

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	0.0579	ND	0.0522	0.0529	90	91	1	75-125			2	20
Arsenic	0.0500	0.00603	0.0582	0.0586	104	105	1	75-125			1	20
Barium	0.0500	0.324	0.359	0.358	71	68	1	75-125	V	V	0	20
Beryllium	0.0500	ND	0.0486	0.0483	97	97	1	75-125			1	20
Cadmium	0.0500	ND	0.0511	0.0520	102	104	1	75-125			2	20
Calcium	5.00	60.7	64.3	63.0	71	47	1	75-125	V	V	2	20
Chromium	0.0500	ND	0.0505	0.0510	101	102	1	75-125			1	20
Cobalt	0.0500	ND	0.0507	0.0513	101	103	1	75-125			1	20
Lead	0.0500	ND	0.0499	0.0494	100	99	1	75-125			1	20
Selenium	0.0500	ND	0.0506	0.0519	101	104	1	75-125			3	20
Thallium	0.0500	ND	0.0492	0.0485	98	97	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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
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
Conneticut	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 [1 4]	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		

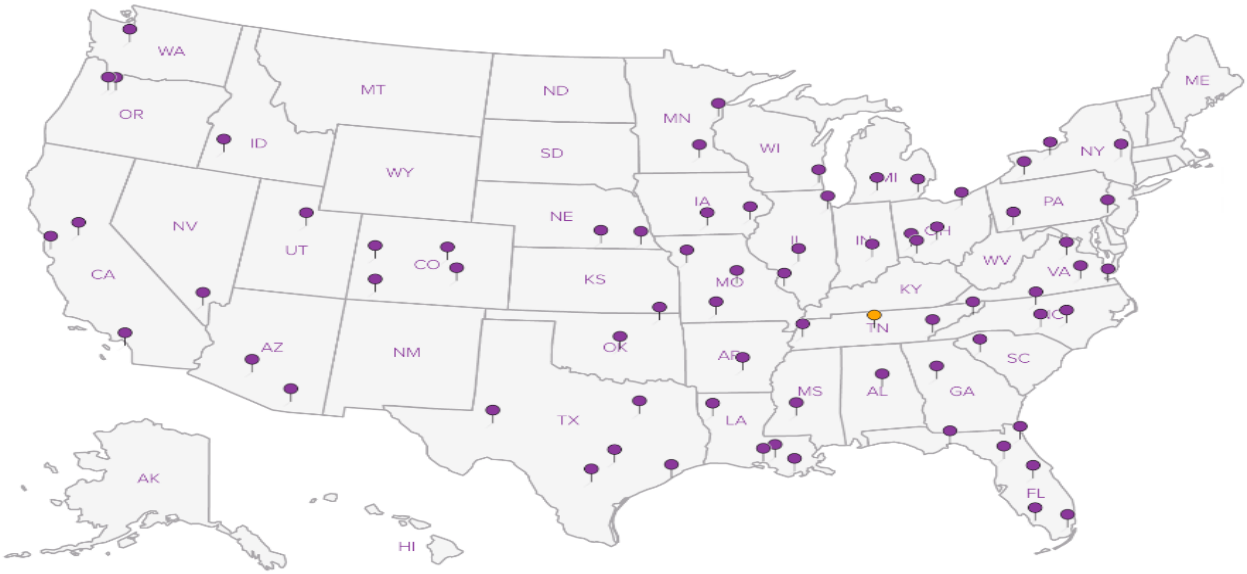
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Terry Andrews + Dillon Moran

Site/Facility ID #

P.O. # **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3 (2)	Rem./Contaminant	Sample # (lab only)
MW-801	Grab	GW		10-11-16	10:30	3	X	X	X		-01
MW-802	Grab	GW		10-11-16	11:35	3	X	X	X		-02
MW-804	Grab	GW		10-11-16	12:25	3	X	X	X		-03
MW-805	Grab	GW		10-11-16	15:10	3	X	X	X		-04
MW-805 MS	Grab	GW		10-11-16	15:10	3	X	X	X		-04
MW-805 MSD	Grab	GW		10-11-16	15:10	3	X	X	X		-04
MW-15	Grab	GW		10-12-16	10:35	3	X	X	X		-05
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10-12-16	16:20	
Relinquished by : (Signature)	Date: 10/12	Time: 1830	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.4 °C Bottles Received: 63

Date: 10-13-16 Time: 900

Condition: (lab use only) a OK

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: 2 NCF:

Chain of Custody Page ___ of ___

ESC LABS 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 # L865759

D110

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P570773**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print): AS NZG

Site/Facility ID #

P.O. # **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
Mw-705	G	GW		10/11	1125	3	X	X	X		-06
Tw-1		GW			1200	3	X	X	X		-07
Mw-707B		GW			1255	3	X	X	X		-08
Mw-706		GW			1335	3	X	X	X		-09
Mw-701		GW			1425	3	X	X	X		-10
Mw-704		GW			1505	3	X	X	X		-11
Mw-702		GW			1550	3	X	X	X		-12
Mw-703		GW			1710	3	X	X	X		-13
Mw-950		GW		10/12	1030	3	X	X	X		-14
Mw-708		GW		10/12	1055	3	X	X	X		-15

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1850	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.4 °C Bottles Received: 63

Date: 10-13-16 Time: 900

Hold #

Condition: (lab use only) ok

COC Seal Intact: ___Y ___N ___NA

pH Checked: ok NCF:

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L865759

Table #

Acctnum: **URSKC**

Template: **T114093**

Prelogin: **P570773**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print): AS NZG

Site/Facility ID #

P.O. #: **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3								Rem./Contaminant	Sample # (lab only)
MW-10	G	GW		10/12	1320	3	X	X	X									-16
MW-10-MS		GW			1320	3	X	X	X									-16
MW-10-MSD		GW			1320	3	X	X	X									-16
MW-11		GW			1530	3	X	X	X									-17
		GW				3	X	X	X									
		GW				3	X	X	X									
		GW				3	X	X	X									
		GW				3	X	X	X									
		GW				3	X	X	X									
		GW				3	X	X	X									

Analysis / Container / Preservative

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.4 °C Bottles Received: 63

Date: 10-13-16 Time: 940

Hold #

Condition: (lab use only) OK

COC Seal Intact: ___Y ___N ___NA

pH Checked: c2 NCF:

Chain of Custody Page ___ of ___

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

L # L865759

Table #

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P570773**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

ESC
LAB SCIENCES
YOUR LAB OF CHOICE

Cooler Receipt Form

Client: URSFC	SDG# L865759
Cooler Received/Opened On: 10-13-16	Temperature Upon Receipt: 3.4 °c
Received By: Timiesha Scott	
Signature:	

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	✓		
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated. (If yes see attached NCF)			

Case Narrative

Lab No: 20160997

This report contains the analytical results for the 21 sample(s) received under chain of custody by ESC Lab Sciences on 10/13/2016 1:43:33 PM. These samples are associated with your La Cygne 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:

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

L866024

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160997-01**								
Client ID : **MW-705**								
Date Sampled : **10/11/2016 11:25:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.39 +/- 0.649	0.787	pCi/l				
Radium-226	SM 7500 Ra B M*	0.186 +/- 0.121	0.135	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	1.20 +/- 0.528	0.652	pCi/l		10/18/16	10/27/16	JR
Lab ID : **20160997-02**								
Client ID : **TW-1**								
Date Sampled : **10/11/2016 12:00:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.27 +/- 0.837	0.551	pCi/l				
Radium-226	SM 7500 Ra B M*	0.208 +/- 0.119	0.142	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	1.06 +/- 0.718	0.409	pCi/l		10/18/16	10/26/16	JR
Lab ID : **20160997-03**								
Client ID : **MW-707B**								
Date Sampled : **10/11/2016 12:55:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.41 +/- 1.02	0.821	pCi/l				
Radium-226	SM 7500 Ra B M*	0.546 +/- 0.170	0.140	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	0.860 +/- 0.847	0.681	pCi/l		10/18/16	10/26/16	JR
Lab ID : **20160997-04**								
Client ID : **MW-706**								
Date Sampled : **10/11/2016 1:35:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.38 +/- 0.559	0.650	pCi/l				
Radium-226	SM 7500 Ra B M*	0.379 +/- 0.175	0.199	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	0.998 +/- 0.384	0.451	pCi/l		10/18/16	10/27/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160997-05**								
Client ID : **MW-701**								
Date Sampled : **10/11/2016 2:25:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.39 +/- 0.656	0.790	pCi/l				
Radium-226	SM 7500 Ra B M*	0.152 +/- 0.105	0.120	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	1.24 +/- 0.551	0.670	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-06**								
Client ID : **MW-704**								
Date Sampled : **10/11/2016 3:05:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.45 +/- 0.595	0.730	pCi/l				
Radium-226	SM 7500 Ra B M*	0.208 +/- 0.135	0.177	pCi/l		10/17/16	10/19/16	AK
Radium-228	EPA 904*/9320*	1.24 +/- 0.460	0.553	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-07**								
Client ID : **MW-702**								
Date Sampled : **10/11/2016 3:50:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.06 +/- 0.626	0.740	pCi/l				
Radium-226	SM 7500 Ra B M*	0.346 +/- 0.172	0.166	pCi/l		10/26/16	10/29/16	RE
Radium-228	EPA 904*/9320*	0.713 +/- 0.454	0.574	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-08**								
Client ID : **MW-703**								
Date Sampled : **10/11/2016 5:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.19 +/- 0.849	0.877	pCi/l				
Radium-226	SM 7500 Ra B M*	1.19 +/- 0.293	0.187	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	-0.038 +/- 0.556	0.690	pCi/l		10/28/16	11/02/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160997-09**								
Client ID : **MW-950**								
Date Sampled : **10/12/2016 10:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.809 +/- 0.554	0.696	pCi/l				
Radium-226	SM 7500 Ra B M*	0.143 +/- 0.140	0.201	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	0.666 +/- 0.414	0.495	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-10**								
Client ID : **MW-708**								
Date Sampled : **10/12/2016 10:55:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.52 +/- 0.653	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.168 +/- 0.132	0.165	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	1.35 +/- 0.521	0.852	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-11**								
Client ID : **MW-801**								
Date Sampled : **10/11/2016 10:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.25 +/- 0.655	0.758	pCi/l				
Radium-226	SM 7500 Ra B M*	0.437 +/- 0.155	0.143	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	0.812 +/- 0.500	0.615	pCi/l		10/28/16	11/02/16	JR
Lab ID : **20160997-12**								
Client ID : **MW-802**								
Date Sampled : **10/11/2016 11:35:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.99 +/- 0.777	0.885	pCi/l				
Radium-226	SM 7500 Ra B M*	0.659 +/- 0.184	0.140	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	1.33 +/- 0.593	0.745	pCi/l		10/28/16	11/02/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20160997-13**								
Client ID : **MW-804**								
Date Sampled : **10/11/2016 12:25:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.344 +/- 0.779	0.576	pCi/l				
Radium-226	SM 7500 Ra B M*	0.344 +/- 0.163	0.187	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	-0.215 +/- 0.616	0.389	pCi/l		10/28/16	11/03/16	JR
Lab ID : **20160997-14**								
Client ID : **MW-805**								
Date Sampled : **10/11/2016 3:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.698 +/- 0.824	0.565	pCi/l				
Radium-226	SM 7500 Ra B M*	0.211 +/- 0.125	0.131	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	0.487 +/- 0.699	0.434	pCi/l		10/28/16	11/03/16	JR
Lab ID : **20160997-15**								
Client ID : **MW-805 MS**								
Date Sampled : **10/11/2016 3:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	96.8		% Rec		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	73.3		% Rec		10/28/16	11/03/16	JR
Lab ID : **20160997-16**								
Client ID : **MW-805 MSD**								
Date Sampled : **10/11/2016 3:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	1.5		RPD		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	7.44		RPD		10/28/16	11/03/16	JR
Lab ID : **20160997-17**								
Client ID : **MW-15**								
Date Sampled : **10/12/2016 10:35:00 AM**								
Matrix : **NPW**								

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		1.97 +/- 0.607	0.362	pCi/l				
Radium-226	SM 7500 Ra B M*	0.289 +/- 0.129	0.097	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	1.68 +/- 0.478	0.265	pCi/l		10/28/16	11/03/16	JR

Lab ID : 20160997-18
Client ID : MW-10
Date Sampled : 10/12/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.401 +/- 0.706	0.500	pCi/l				
Radium-226	SM 7500 Ra B M*	0.401 +/- 0.172	0.164	pCi/l		10/19/16	10/22/16	AK
Radium-228	EPA 904*/9320*	-0.030 +/- 0.534	0.336	pCi/l		10/28/16	11/03/16	JR

Lab ID : 20160997-19
Client ID : MW-10-MS
Date Sampled : 10/12/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	116		% Rec		10/19/16	10/23/16	AK
Radium-228	EPA 904*/9320*	98.9		% Rec		10/28/16	11/03/16	JR

Lab ID : 20160997-20
Client ID : MW-10-MSD
Date Sampled : 10/12/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	9.3		RPD		10/19/16	10/23/16	AK
Radium-228	EPA 904*/9320*	6.20		RPD		10/28/16	11/03/16	JR

Lab ID : 20160997-21
Client ID : MW-11
Date Sampled : 10/12/2016 3:30:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.136 +/- 0.786	0.632	pCi/l				
Radium-226	SM 7500 Ra B M*	0.136 +/- 0.133	0.191	pCi/l		10/19/16	10/23/16	AK
Radium-228	EPA 904*/9320*	-0.551 +/- 0.653	0.441	pCi/l		10/28/16	11/03/16	JR

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.011	112.0			NC	1.100	108.0	111.0	2.3	R1146
Radium-226	0.053	103.0			NC	0.410	101.0	102.0	0.8	R1149
Radium-226							116.0	105.0	9.3	R1147
Radium-226	-0.004	107.0			NC	0.225	96.8	98.3	1.5	R1147
Radium-228							98.9	93.0	6.2	R3873
Radium-228	0.263	104.0			NC	0.143	73.3	79.5	7.4	R3873
Radium-228	-0.230	99.9			NC	0.396	85.5	78.5	7.8	R3867
Radium-228	-0.091	89.4			NC	1.290	91.7	98.4	9.9	R3868

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print): JS N2G

Site/Facility ID #

P.O. #: **URSKC1028155**

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

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
1 MW-705	G	NPW		10/11	1125	2	X
2 TW-1		NPW			1200	2	X
3 MW-707B		NPW			1255	2	X
4 MW-706		NPW			1335	2	X
5 MW-701		NPW			1425	2	X
6 MW-704		NPW			1505	2	X
7 MW-702		NPW			1550	2	X
8 MW-703		NPW			1710	2	X
9 MW-950		NPW		10/12	1030	2	X
10 MW-708		NPW		10/12	1055	2	X

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page ___ of ___

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

L# 966024

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P570767
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)

Hold #

Condition: good (lab use only)

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1830	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: Amb °C Bottles Received: 42

Date: 10/13/16 Time: 1342

COC Seal Intact: ___Y ___N X NA

pH Checked: <2 NCF:

201600997

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Terry Andrews + Dillon Moran

Site/Facility ID #

P.O. # URSKC1028155

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

Chain of Custody Page ___ of ___

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

L# 860024

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P570767
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3									Rem./Contaminant	Sample # (lab only)
11 MW-801	Grab	NPW		10-11-16	10:30	2	X										
12 MW-802	Grab	NPW		10-11-16	11:35	2	X										
13 MW-804	Grab	NPW		10-11-16	12:25	2	X										
14 MW-805	Grab	NPW		10-11-16	15:10	2	X										
15 MW-805 MS	Grab	NPW		10-11-16	15:10	2	X										
16 MW-805 MSD	Grab	NPW		10-11-16	15:10	2	X										
17 MW-15	Grab	NPW		10-12-16	10:35	2	X										
		NPW				2	X										
		NPW				2	X										
		NPW				2	X										

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10-12-16	16:20	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12/16	1620	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: tmb °C Bottles Received: 42

Date: 10/13/16 Time: 1342

Condition: good (lab use only)

COC Seal Intact: ___Y ___N X NA

pH Checked: <2 NCF:

20160957

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print): Skrabalak, Gwyn

Site/Facility ID #

P.O. # **URSKC1028155**

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

Chain of Custody Page ___ of ___

ESC LABORATORY 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#

Table #

Acctnum: **URSKC**
Template: **T112863**
Prelogin: **P570767**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
18 MW-10	G	NPW		10/12	1320	2	X		
19 MW-10-MS		NPW			1320	2	X		
20 MW-10-MSD		NPW			1320	2	X		
21 MW-11					1530	2	X		

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/12	1830	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: Amb °C Bottles Received: 42

Date: 10/13/16 Time: 1342

Condition: good (lab use only)

COC Seal Intact: ___Y ___N X NA

pH Checked: <2 NCF:

20160997

SAMPLE LOGIN

Date Received: 10/13/2016 1:43:3

Lab Number: 20160997

Due: 11/10/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160997-01 B	MW-705	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-01 A	MW-705	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-02 A	TW-1	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-02 B	TW-1	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-03 A	MW-707B	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-03 B	MW-707B	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-04 A	MW-706	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-04 B	MW-706	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-05 B	MW-701	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-05 A	MW-701	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-06 A	MW-704	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-06 B	MW-704	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160997-07 A	MW-702	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
20160997-07 B	MW-702	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160997-08 A	MW-703	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-08 B	MW-703	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-09 A	MW-950	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-09 B	MW-950	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-10 A	MW-708	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-10 B	MW-708	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-11 B	MW-801	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-11 A	MW-801	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-12 A	MW-802	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-12 B	MW-802	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-13 A	MW-804	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-13 B	MW-804	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-14 A	MW-805	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-14 B	MW-805	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-15 A	MW-805 MS	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-15 B	MW-805 MS	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-16 A	MW-805 MSD	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-16 B	MW-805 MSD	NPW	10/11/16	Plastic	1 L	HNO3, pH < 2	No	No

Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904* 9320*					
20160997-17 B	MW-15	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-17 A	MW-15	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-18 A	MW-10	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-18 B	MW-10	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-19 A	MW-10-MS	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-19 B	MW-10-MS	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-20 A	MW-10-MSD	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-20 B	MW-10-MSD	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20160997-21 B	MW-11	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
20160997-21 A	MW-11	NPW	10/12/16	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					

CONTAINER INSPECTION

Coolers 3 Custody Seals Broken Ø Temperature: Amb °C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete N/A

Anomalies

Inspected By: _____ DATE 10/13/16

QA or Designee Review: Raymond Thomas DATE 10/13/16

Sample Custodian Review: Debbie Mims DATE 10/13/16

Project Notes:

ANALYTICAL REPORT

October 21, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L866319
Samples Received:	10/15/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

TABLE OF CONTENTS

MW-602 L866319-01 GW

Collected by	Collected date/time	Received date/time
	10/13/16 11:50	10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918710	1	10/20/16 04:38	10/20/16 06:51	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 16:58	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:27	LTB
Metals (ICPMS) by Method 6020	WG918369	1	10/19/16 07:46	10/20/16 11:14	JPD
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/19/16 17:22	10/19/16 17:22	SAM

MW-13 L866319-02 GW

Collected by	Collected date/time	Received date/time
	10/13/16 13:40	10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918710	1	10/20/16 04:38	10/20/16 06:51	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:13	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:30	LTB
Metals (ICPMS) by Method 6020	WG918369	1	10/19/16 07:46	10/20/16 11:17	JPD
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/19/16 17:53	10/19/16 17:53	SAM
Wet Chemistry by Method 9056A	WG918299	100	10/19/16 18:39	10/19/16 18:39	SAM

MW-7 L866319-03 GW

Collected by	Collected date/time	Received date/time
	10/13/16 15:15	10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:16	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:33	LTB
Metals (ICPMS) by Method 6020	WG918369	1	10/19/16 07:46	10/20/16 11:20	JPD
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/19/16 18:55	10/19/16 18:55	SAM
Wet Chemistry by Method 9056A	WG918299	5	10/19/16 19:10	10/19/16 19:10	SAM

MW-6 L866319-04 GW

Collected by	Collected date/time	Received date/time
	10/13/16 17:30	10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 18:09	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:41	LTB
Metals (ICPMS) by Method 6020	WG918369	1	10/19/16 07:46	10/20/16 11:23	JPD
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/19/16 19:25	10/19/16 19:25	SAM
Wet Chemistry by Method 9056A	WG918299	10	10/19/16 19:41	10/19/16 19:41	SAM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L866319-01	MW-602	9040C
L866319-02	MW-13	9040C
L866319-03	MW-7	9040C
L866319-04	MW-6	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	667		10.0	1	10/20/2016 06:51	WG918710

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.91		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866319-01 WG917853: 7.91 at 13.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.8		1.00	1	10/19/2016 17:22	WG918299
Fluoride	1.30		0.100	1	10/19/2016 17:22	WG918299
Sulfate	23.4		5.00	1	10/19/2016 17:22	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 16:58	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.39		0.200	1	10/20/2016 03:27	WG918724
Lithium	0.0615		0.0150	1	10/20/2016 03:27	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:27	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2016 11:14	WG918369
Arsenic	ND		0.00200	1	10/20/2016 11:14	WG918369
Barium	0.0906		0.00500	1	10/20/2016 11:14	WG918369
Beryllium	ND		0.00200	1	10/20/2016 11:14	WG918369
Cadmium	ND		0.00100	1	10/20/2016 11:14	WG918369
Calcium	25.7		1.00	1	10/20/2016 11:14	WG918369
Chromium	ND		0.00200	1	10/20/2016 11:14	WG918369
Cobalt	ND		0.00200	1	10/20/2016 11:14	WG918369
Lead	ND		0.00200	1	10/20/2016 11:14	WG918369
Selenium	ND		0.00200	1	10/20/2016 11:14	WG918369
Thallium	ND		0.00200	1	10/20/2016 11:14	WG918369

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2640		10.0	1	10/20/2016 06:51	WG918710

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.01		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866319-02 WG917853: 7.01 at 13.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	19.2		1.00	1	10/19/2016 17:53	WG918299
Fluoride	0.171		0.100	1	10/19/2016 17:53	WG918299
Sulfate	1830		500	100	10/19/2016 18:39	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:13	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.381		0.200	1	10/20/2016 03:30	WG918724
Lithium	0.0568		0.0150	1	10/20/2016 03:30	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:30	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2016 11:17	WG918369
Arsenic	ND		0.00200	1	10/20/2016 11:17	WG918369
Barium	0.0187		0.00500	1	10/20/2016 11:17	WG918369
Beryllium	ND		0.00200	1	10/20/2016 11:17	WG918369
Cadmium	ND		0.00100	1	10/20/2016 11:17	WG918369
Calcium	395		1.00	1	10/20/2016 11:17	WG918369
Chromium	ND		0.00200	1	10/20/2016 11:17	WG918369
Cobalt	ND		0.00200	1	10/20/2016 11:17	WG918369
Lead	ND		0.00200	1	10/20/2016 11:17	WG918369
Selenium	ND		0.00200	1	10/20/2016 11:17	WG918369
Thallium	ND		0.00200	1	10/20/2016 11:17	WG918369

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	938		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.07		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866319-03 WG917853: 8.07 at 12.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	99.9		5.00	5	10/19/2016 19:10	WG918299
Fluoride	1.28		0.100	1	10/19/2016 18:55	WG918299
Sulfate	ND		5.00	1	10/19/2016 18:55	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:16	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.64		0.200	1	10/20/2016 03:33	WG918724
Lithium	0.0759		0.0150	1	10/20/2016 03:33	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:33	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2016 11:20	WG918369
Arsenic	0.00302		0.00200	1	10/20/2016 11:20	WG918369
Barium	0.532		0.00500	1	10/20/2016 11:20	WG918369
Beryllium	ND		0.00200	1	10/20/2016 11:20	WG918369
Cadmium	ND		0.00100	1	10/20/2016 11:20	WG918369
Calcium	24.2		1.00	1	10/20/2016 11:20	WG918369
Chromium	ND		0.00200	1	10/20/2016 11:20	WG918369
Cobalt	ND		0.00200	1	10/20/2016 11:20	WG918369
Lead	ND		0.00200	1	10/20/2016 11:20	WG918369
Selenium	ND		0.00200	1	10/20/2016 11:20	WG918369
Thallium	ND		0.00200	1	10/20/2016 11:20	WG918369

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1140		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.38		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866319-04 WG917853: 7.38 at 13.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	206		10.0	10	10/19/2016 19:41	WG918299
Fluoride	0.497		0.100	1	10/19/2016 19:25	WG918299
Sulfate	165		50.0	10	10/19/2016 19:41	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 18:09	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	10/20/2016 03:41	WG918724
Lithium	0.0507		0.0150	1	10/20/2016 03:41	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:41	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2016 11:23	WG918369
Arsenic	0.00421		0.00200	1	10/20/2016 11:23	WG918369
Barium	0.174		0.00500	1	10/20/2016 11:23	WG918369
Beryllium	ND		0.00200	1	10/20/2016 11:23	WG918369
Cadmium	ND		0.00100	1	10/20/2016 11:23	WG918369
Calcium	114		1.00	1	10/20/2016 11:23	WG918369
Chromium	ND		0.00200	1	10/20/2016 11:23	WG918369
Cobalt	ND		0.00200	1	10/20/2016 11:23	WG918369
Lead	ND		0.00200	1	10/20/2016 11:23	WG918369
Selenium	ND		0.00200	1	10/20/2016 11:23	WG918369
Thallium	ND		0.00200	1	10/20/2016 11:23	WG918369

Method Blank (MB)

(MB) R3172253-1 10/20/16 06:51

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

L866086-05 Original Sample (OS) • Duplicate (DUP)

(OS) L866086-05 10/20/16 06:51 • (DUP) R3172253-4 10/20/16 06:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1080	1050	1	2.64		5

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

(LCS) R3172253-2 10/20/16 06:51 • (LCSD) R3172253-3 10/20/16 06:51

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	%	%	%			%	%
Dissolved Solids	8800	8170	8490	92.8	96.5	85.0-115			3.84	5

Method Blank (MB)

(MB) R3172256-1 10/20/16 05:52

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

L866319-03 Original Sample (OS) • Duplicate (DUP)

(OS) L866319-03 10/20/16 05:52 • (DUP) R3172256-4 10/20/16 05:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	938	898	1	4.36		5

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

(LCS) R3172256-2 10/20/16 05:52 • (LCSD) R3172256-3 10/20/16 05:52

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	%	%	%			%	%
Dissolved Solids	8800	8230	8420	93.5	95.7	85.0-115			2.28	5

L866258-02 Original Sample (OS) • Duplicate (DUP)

(OS) L866258-02 10/20/16 13:16 • (DUP) WG917853-3 10/20/16 13:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.19	7.15	1	0.558		1

L866362-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866362-01 10/20/16 13:16 • (DUP) WG917853-4 10/20/16 13:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.41	6.39	1	0.313		1

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

(LCS) WG917853-1 10/20/16 13:16 • (LCSD) WG917853-2 10/20/16 13:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.11	6.08	6.06	99.5	99.2	98.4-102			0.329	1

Method Blank (MB)

(MB) R3171908-1 10/19/16 07:53

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

L866168-03 Original Sample (OS) • Duplicate (DUP)

(OS) L866168-03 10/19/16 15:50 • (DUP) R3171908-4 10/19/16 16:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	6.90	6.89	1	0		15
Fluoride	0.387	0.387	1	0		15
Sulfate	22.2	22.1	1	1		15

L866326-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866326-01 10/19/16 19:56 • (DUP) R3171908-6 10/19/16 20:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	2.31	2.28	1	1		15
Fluoride	ND	0.0255	1	0		15
Sulfate	ND	0.375	1	0		15

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

(LCS) R3171908-2 10/19/16 08:09 • (LCSD) R3171908-3 10/19/16 08:24

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	38.7	38.7	97	97	80-120			0	15
Fluoride	8.00	7.81	7.81	98	98	80-120			0	15
Sulfate	40.0	38.9	38.9	97	97	80-120			0	15

L866319-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L866319-01 10/19/16 17:22 • (MS) R3171908-5 10/19/16 17:37

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	16.8	65.8	98	1	80-120	
Fluoride	5.00	1.30	6.18	97	1	80-120	

L866319-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L866319-01 10/19/16 17:22 • (MS) R3171908-5 10/19/16 17:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	23.4	71.6	96	1	80-120	

L866342-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-03 10/20/16 00:49 • (MS) R3171908-7 10/20/16 01:04 • (MSD) R3171908-8 10/20/16 01:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	4.22	52.4	53.6	96	99	1	80-120			2	15
Fluoride	5.00	0.215	4.96	5.11	95	98	1	80-120			3	15
Sulfate	50.0	40.1	86.1	87.5	92	95	1	80-120			2	15

Method Blank (MB)

(MB) R3171449-1 10/18/16 16:50

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

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

(LCS) R3171449-2 10/18/16 16:53 • (LCSD) R3171449-3 10/18/16 16:56

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	%	%	%			%	%
Mercury	0.00300	0.00309	0.00312	103	104	80-120			1	20

L866319-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866319-01 10/18/16 16:58 • (MS) R3171449-4 10/18/16 17:01 • (MSD) R3171449-5 10/18/16 17:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00300	0.00308	100	103	1	75-125			3	20

Method Blank (MB)

(MB) R3171877-1 10/20/16 03:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3171877-2 10/20/16 03:11 • (LCSD) R3171877-3 10/20/16 03:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.01	0.994	101	99	80-120			1	20
Lithium	1.00	1.00	0.993	100	99	80-120			1	20
Molybdenum	1.00	1.04	1.02	104	102	80-120			1	20

L866342-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-08 10/20/16 03:16 • (MS) R3171877-5 10/20/16 03:22 • (MSD) R3171877-6 10/20/16 03:24

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 %
Boron	1.00	1.87	2.82	2.84	95	98	1	75-125			1	20
Lithium	1.00	0.0639	1.03	1.04	97	97	1	75-125			0	20
Molybdenum	1.00	ND	1.01	0.997	101	99	1	75-125			2	20

Method Blank (MB)

(MB) R3172016-1 10/20/16 10:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.00104	J	0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3172016-2 10/20/16 10:15 • (LCSD) R3172016-3 10/20/16 10:18

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 %
Antimony	0.0579	0.0543	0.0540	94	93	80-120			0	20
Arsenic	0.0500	0.0534	0.0484	107	97	80-120			10	20
Barium	0.0500	0.0474	0.0478	95	96	80-120			1	20
Beryllium	0.0500	0.0486	0.0495	97	99	80-120			2	20
Cadmium	0.0500	0.0534	0.0490	107	98	80-120			9	20
Calcium	5.00	4.90	4.88	98	98	80-120			0	20
Chromium	0.0500	0.0510	0.0513	102	103	80-120			1	20
Cobalt	0.0500	0.0522	0.0506	104	101	80-120			3	20
Lead	0.0500	0.0497	0.0497	99	99	80-120			0	20
Selenium	0.0500	0.0494	0.0497	99	99	80-120			1	20
Thallium	0.0500	0.0478	0.0479	96	96	80-120			0	20

L865718-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865718-01 10/20/16 10:21 • (MS) R3172016-5 10/20/16 10:28 • (MSD) R3172016-6 10/20/16 10:31

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	0.0579	ND	0.0540	0.0533	91	90	1	75-125			1	20
Arsenic	0.0500	0.00352	0.0528	0.0520	99	97	1	75-125			2	20
Barium	0.0500	0.0144	0.0591	0.0593	89	90	1	75-125			0	20
Beryllium	0.0500	ND	0.0477	0.0471	95	94	1	75-125			1	20
Cadmium	0.0500	ND	0.0496	0.0482	99	96	1	75-125			3	20

L865718-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865718-01 10/20/16 10:21 • (MS) R3172016-5 10/20/16 10:28 • (MSD) R3172016-6 10/20/16 10:31

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	5.00	79.5	85.4	83.6	118	82	1	75-125			2	20
Chromium	0.0500	ND	0.0487	0.0477	96	94	1	75-125			2	20
Cobalt	0.0500	ND	0.0491	0.0486	97	96	1	75-125			1	20
Lead	0.0500	ND	0.0492	0.0488	98	97	1	75-125			1	20
Selenium	0.0500	ND	0.0494	0.0502	99	100	1	75-125			2	20
Thallium	0.0500	ND	0.0473	0.0472	95	94	1	75-125			0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

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

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
Conneticut	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 [1 4]	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
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Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

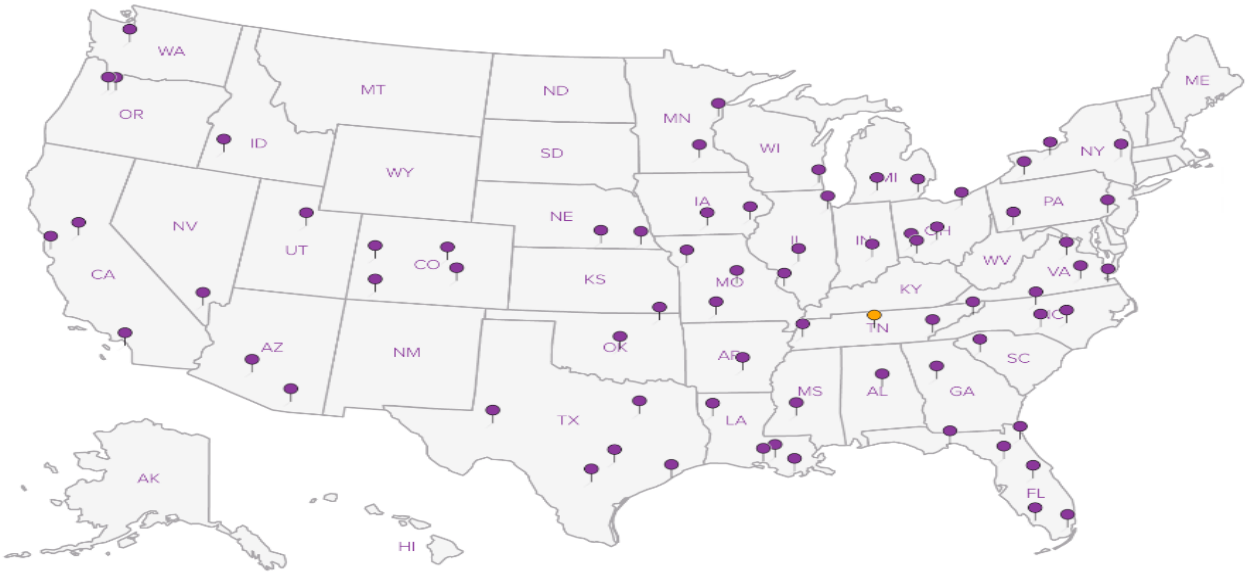
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Skasburych Guy

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-602	Grab	GW		10/13	1150	3	X	X	X		-01
MW-13		GW			1340	3	X	X	X		-07
MW-7		GW			1515	3	X	X	X		-03
MW-6		GW			1730	3	X	X	X		-02
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

Analysis / Container / Preservative

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

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

Please indicate sample ID for the MS/MSD.

pH ___ Temp ___

Flow ___ Other ___

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10-14-16	14:02	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 3.2 °C Bottles Received: 12

Date: 10-15-16 Time: 9W

Hold #

Condition: (lab use only) OK

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
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L # L866319

D187

Acctnum: URSKC
Template: T114093
Prelogin: P570773
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	URSKC	SDG#	C86319
Cooler Received/Opened On:	10-15-16	Temperature Upon Receipt:	3.2 °c
Received By:	Jimiesha Scott		
Signature:			

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	✓		
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated. (If yes see attached NCF)			

ANALYTICAL REPORT

November 09, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L866342
Samples Received:	10/15/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-951 L866342-01 GW

Collected by: JM / TA
Collected date/time: 10/13/16 09:40
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:19	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:44	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:20	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:29	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/20/16 00:18	10/20/16 00:18	SAM

MW-803 L866342-02 GW

Collected by: JM / TA
Collected date/time: 10/13/16 10:15
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:22	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:47	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:23	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:33	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/20/16 00:34	10/20/16 00:34	SAM

MW-14R L866342-03 GW

Collected by: JM / TA
Collected date/time: 10/13/16 11:25
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:25	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:50	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:26	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:36	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918299	1	10/20/16 00:49	10/20/16 00:49	SAM

MW-601 L866342-04 GW

Collected by: JM / TA
Collected date/time: 10/13/16 12:20
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG918084	1	10/18/16 13:16	10/19/16 15:39	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:53	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:35	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:39	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918588	1	10/19/16 14:21	10/19/16 14:21	CM
Wet Chemistry by Method 9056A	WG918588	10	10/19/16 15:33	10/19/16 15:33	CM

MW-903 L866342-05 GW

Collected by: JM / TA
Collected date/time: 10/13/16 15:50
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:28	NJB

MW-903 L866342-05 GW

Collected by: JM / TA
Collected date/time: 10/13/16 15:50
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:56	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:38	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:42	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918588	1	10/19/16 15:47	10/19/16 15:47	CM
Wet Chemistry by Method 9056A	WG919075	20	10/20/16 17:24	10/20/16 17:24	SAM

MW-902 L866342-06 GW

Collected by: JM / TA
Collected date/time: 10/13/16 16:15
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918711	1	10/20/16 04:21	10/20/16 05:52	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:31	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:58	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:41	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:45	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918588	1	10/19/16 16:16	10/19/16 16:16	CM

MW-901 L866342-07 GW

Collected by: JM / TA
Collected date/time: 10/14/16 09:50
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918712	1	10/20/16 04:42	10/20/16 07:09	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:34	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 04:01	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:44	JDG
Metals (ICPMS) by Method 6020	WG920405	1	10/24/16 23:34	10/26/16 04:48	JDG
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918588	1	10/19/16 16:30	10/19/16 16:30	CM

MW-905 L866342-08 GW

Collected by: JM / TA
Collected date/time: 10/14/16 10:20
Received date/time: 10/15/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG918712	1	10/20/16 04:42	10/20/16 07:09	JM
Mercury by Method 7470A	WG917807	1	10/17/16 13:17	10/18/16 17:37	NJB
Metals (ICP) by Method 6010B	WG918724	1	10/19/16 14:29	10/20/16 03:16	LTB
Metals (ICPMS) by Method 6020	WG918486	1	10/20/16 14:42	10/24/16 14:48	JDG
Metals (ICPMS) by Method 6020	WG920430	9	10/26/16 10:22	10/28/16 10:05	JPD
Wet Chemistry by Method 9040C	WG917853	1	10/20/16 13:16	10/20/16 13:16	MHM
Wet Chemistry by Method 9056A	WG918588	1	10/19/16 16:47	10/19/16 16:47	CM

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L866342-01	MW-951	9040C
L866342-02	MW-803	9040C
L866342-03	MW-14R	9040C
L866342-04	MW-601	9040C
L866342-05	MW-903	9040C
L866342-06	MW-902	9040C
L866342-07	MW-901	9040C
L866342-08	MW-905	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	539		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.54		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-01 WG917853: 7.54 at 13.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.36		1.00	1	10/20/2016 00:18	WG918299
Fluoride	0.193		0.100	1	10/20/2016 00:18	WG918299
Sulfate	41.4		5.00	1	10/20/2016 00:18	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:19	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.475		0.200	1	10/20/2016 03:44	WG918724
Lithium	0.0362		0.0150	1	10/20/2016 03:44	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:44	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:20	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:20	WG918486
Barium	0.0355		0.00500	1	10/24/2016 14:20	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:20	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:20	WG918486
Calcium	58.6		1.00	1	10/24/2016 14:20	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:29	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:20	WG918486
Lead	ND		0.00200	1	10/24/2016 14:20	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:20	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:20	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	592		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.74		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-02 WG917853: 7.74 at 13.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.4		1.00	1	10/20/2016 00:34	WG918299
Fluoride	0.645		0.100	1	10/20/2016 00:34	WG918299
Sulfate	17.9		5.00	1	10/20/2016 00:34	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:22	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.12		0.200	1	10/20/2016 03:47	WG918724
Lithium	0.0686		0.0150	1	10/20/2016 03:47	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:47	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:23	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:23	WG918486
Barium	0.220		0.00500	1	10/24/2016 14:23	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:23	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:23	WG918486
Calcium	49.7		1.00	1	10/24/2016 14:23	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:33	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:23	WG918486
Lead	ND		0.00200	1	10/24/2016 14:23	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:23	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:23	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	545		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.54		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-03 WG917853: 7.54 at 12.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.22		1.00	1	10/20/2016 00:49	WG918299
Fluoride	0.215		0.100	1	10/20/2016 00:49	WG918299
Sulfate	40.1		5.00	1	10/20/2016 00:49	WG918299

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:25	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.463		0.200	1	10/20/2016 03:50	WG918724
Lithium	0.0347		0.0150	1	10/20/2016 03:50	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:50	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:26	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:26	WG918486
Barium	0.0370		0.00500	1	10/24/2016 14:26	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:26	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:26	WG918486
Calcium	59.1		1.00	1	10/24/2016 14:26	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:36	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:26	WG918486
Lead	ND		0.00200	1	10/24/2016 14:26	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:26	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:26	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1000		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.84		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-04 WG917853: 7.84 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	201		10.0	10	10/19/2016 15:33	WG918588
Fluoride	1.68		0.100	1	10/19/2016 14:21	WG918588
Sulfate	ND		5.00	1	10/19/2016 14:21	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/19/2016 15:39	WG918084

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.81		0.200	1	10/20/2016 03:53	WG918724
Lithium	0.0725		0.0150	1	10/20/2016 03:53	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:53	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:35	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:35	WG918486
Barium	0.117		0.00500	1	10/24/2016 14:35	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:35	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:35	WG918486
Calcium	23.9		1.00	1	10/24/2016 14:35	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:39	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:35	WG918486
Lead	ND		0.00200	1	10/24/2016 14:35	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:35	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:35	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2120		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.94		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-05 WG917853: 6.94 at 20.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	24.8		1.00	1	10/19/2016 15:47	WG918588
Fluoride	ND		0.100	1	10/19/2016 15:47	WG918588
Sulfate	1030		100	20	10/20/2016 17:24	WG919075

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:28	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.401		0.200	1	10/20/2016 03:56	WG918724
Lithium	0.0546		0.0150	1	10/20/2016 03:56	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:56	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:38	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:38	WG918486
Barium	0.0232		0.00500	1	10/24/2016 14:38	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:38	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:38	WG918486
Calcium	333		1.00	1	10/24/2016 14:38	WG918486
Chromium	0.00315		0.00200	1	10/26/2016 04:42	WG920405
Cobalt	0.00424		0.00200	1	10/24/2016 14:38	WG918486
Lead	ND		0.00200	1	10/24/2016 14:38	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:38	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:38	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	537		10.0	1	10/20/2016 05:52	WG918711

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-06 WG917853: 7.56 at 15.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.9		1.00	1	10/19/2016 16:16	WG918588
Fluoride	0.490		0.100	1	10/19/2016 16:16	WG918588
Sulfate	29.2		5.00	1	10/19/2016 16:16	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:31	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.26		0.200	1	10/20/2016 03:58	WG918724
Lithium	0.0386		0.0150	1	10/20/2016 03:58	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:58	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:41	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:41	WG918486
Barium	0.106		0.00500	1	10/24/2016 14:41	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:41	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:41	WG918486
Calcium	65.7		1.00	1	10/24/2016 14:41	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:45	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:41	WG918486
Lead	ND		0.00200	1	10/24/2016 14:41	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:41	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:41	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	516		10.0	1	10/20/2016 07:09	WG918712

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-07 WG917853: 7.45 at 16.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	21.8		1.00	1	10/19/2016 16:30	WG918588
Fluoride	0.497		0.100	1	10/19/2016 16:30	WG918588
Sulfate	15.6		5.00	1	10/19/2016 16:30	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:34	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	10/20/2016 04:01	WG918724
Lithium	0.0865		0.0150	1	10/20/2016 04:01	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 04:01	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:44	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:44	WG918486
Barium	0.155		0.00500	1	10/24/2016 14:44	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:44	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:44	WG918486
Calcium	52.1		1.00	1	10/24/2016 14:44	WG918486
Chromium	ND		0.00200	1	10/26/2016 04:48	WG920405
Cobalt	ND		0.00200	1	10/24/2016 14:44	WG918486
Lead	ND		0.00200	1	10/24/2016 14:44	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:44	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:44	WG918486

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	603		10.0	1	10/20/2016 07:09	WG918712

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52		1	10/20/2016 13:16	WG917853

Sample Narrative:

9040C L866342-08 WG917853: 7.52 at 16.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	50.7		1.00	1	10/19/2016 16:47	WG918588
Fluoride	0.535		0.100	1	10/19/2016 16:47	WG918588
Sulfate	29.5		5.00	1	10/19/2016 16:47	WG918588

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/18/2016 17:37	WG917807

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.87		0.200	1	10/20/2016 03:16	WG918724
Lithium	0.0639		0.0150	1	10/20/2016 03:16	WG918724
Molybdenum	ND		0.00500	1	10/20/2016 03:16	WG918724

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/24/2016 14:48	WG918486
Arsenic	ND		0.00200	1	10/24/2016 14:48	WG918486
Barium	0.0985		0.00500	1	10/24/2016 14:48	WG918486
Beryllium	ND		0.00200	1	10/24/2016 14:48	WG918486
Cadmium	ND		0.00100	1	10/24/2016 14:48	WG918486
Calcium	52.7		1.00	1	10/24/2016 14:48	WG918486
Chromium	ND		0.0180	9	10/28/2016 10:05	WG920430
Cobalt	ND		0.00200	1	10/24/2016 14:48	WG918486
Lead	ND		0.00200	1	10/24/2016 14:48	WG918486
Selenium	ND		0.00200	1	10/24/2016 14:48	WG918486
Thallium	ND		0.00200	1	10/24/2016 14:48	WG918486

Method Blank (MB)

(MB) R3172256-1 10/20/16 05:52

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

L866319-03 Original Sample (OS) • Duplicate (DUP)

(OS) L866319-03 10/20/16 05:52 • (DUP) R3172256-4 10/20/16 05:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	938	898	1	4.36		5

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

(LCS) R3172256-2 10/20/16 05:52 • (LCSD) R3172256-3 10/20/16 05:52

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	%	%	%			%	%
Dissolved Solids	8800	8230	8420	93.5	95.7	85.0-115			2.28	5

Method Blank (MB)

(MB) R3172254-1 10/20/16 07:09

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

L866296-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866296-01 10/20/16 07:09 • (DUP) R3172254-4 10/20/16 07:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1000	970	1	3.44		5

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

(LCS) R3172254-2 10/20/16 07:09 • (LCSD) R3172254-3 10/20/16 07:09

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	%	%	%			%	%
Dissolved Solids	8800	8270	8560	94.0	97.3	85.0-115			3.45	5

L866258-02 Original Sample (OS) • Duplicate (DUP)

(OS) L866258-02 10/20/16 13:16 • (DUP) WG917853-3 10/20/16 13:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.19	7.15	1	0.558		1

L866362-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866362-01 10/20/16 13:16 • (DUP) WG917853-4 10/20/16 13:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	6.41	6.39	1	0.313		1

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

(LCS) WG917853-1 10/20/16 13:16 • (LCSD) WG917853-2 10/20/16 13:16

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.11	6.08	6.06	99.5	99.2	98.4-102			0.329	1

Method Blank (MB)

(MB) R3171908-1 10/19/16 07:53

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

L866168-03 Original Sample (OS) • Duplicate (DUP)

(OS) L866168-03 10/19/16 15:50 • (DUP) R3171908-4 10/19/16 16:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	6.90	6.89	1	0		15
Fluoride	0.387	0.387	1	0		15
Sulfate	22.2	22.1	1	1		15

L866326-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866326-01 10/19/16 19:56 • (DUP) R3171908-6 10/19/16 20:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	2.31	2.28	1	1		15
Fluoride	ND	0.0255	1	0		15
Sulfate	ND	0.375	1	0		15

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

(LCS) R3171908-2 10/19/16 08:09 • (LCSD) R3171908-3 10/19/16 08:24

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	38.7	38.7	97	97	80-120			0	15
Fluoride	8.00	7.81	7.81	98	98	80-120			0	15
Sulfate	40.0	38.9	38.9	97	97	80-120			0	15

L866319-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L866319-01 10/19/16 17:22 • (MS) R3171908-5 10/19/16 17:37

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	16.8	65.8	98	1	80-120	
Fluoride	5.00	1.30	6.18	97	1	80-120	

L866319-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L866319-01 10/19/16 17:22 • (MS) R3171908-5 10/19/16 17:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	23.4	71.6	96	1	80-120	

L866342-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-03 10/20/16 00:49 • (MS) R3171908-7 10/20/16 01:04 • (MSD) R3171908-8 10/20/16 01:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	4.22	52.4	53.6	96	99	1	80-120			2	15
Fluoride	5.00	0.215	4.96	5.11	95	98	1	80-120			3	15
Sulfate	50.0	40.1	86.1	87.5	92	95	1	80-120			2	15

Method Blank (MB)

(MB) R3171910-1 10/19/16 07:25

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

L865895-01 Original Sample (OS) • Duplicate (DUP)

(OS) L865895-01 10/19/16 15:04 • (DUP) R3171910-6 10/19/16 15:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	117	112	10	4		15
Fluoride	0.175	0.119	10	38	J P1	15
Sulfate	493	496	10	1		15

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

(LCS) R3171910-2 10/19/16 07:39 • (LCSD) R3171910-3 10/19/16 07:54

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	38.4	38.5	96	96	80-120			0	15
Fluoride	8.00	7.78	7.78	97	97	80-120			0	15
Sulfate	40.0	38.8	38.9	97	97	80-120			0	15

L866342-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-08 10/19/16 16:47 • (MS) R3171910-7 10/19/16 17:01 • (MSD) R3171910-8 10/19/16 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
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Chloride	50.0	50.7	97.8	97.8	94	94	1	80-120			0	15
Fluoride	5.00	0.535	5.37	5.34	97	96	1	80-120			0	15
Sulfate	50.0	29.5	76.9	77.0	95	95	1	80-120			0	15

Method Blank (MB)

(MB) R3172300-1 10/20/16 08:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L866033-01 Original Sample (OS) • Duplicate (DUP)

(OS) L866033-01 10/20/16 14:10 • (DUP) R3172300-4 10/20/16 14:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	677	677	10	0		15

L866284-11 Original Sample (OS) • Duplicate (DUP)

(OS) L866284-11 10/20/16 18:23 • (DUP) R3172300-6 10/20/16 18:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	18.5	18.5	1	0		15

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

(LCS) R3172300-2 10/20/16 08:52 • (LCSD) R3172300-3 10/20/16 09:07

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	%	%	%			%	%
Sulfate	40.0	39.1	39.0	98	97	80-120			0	15

L866284-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L866284-08 10/20/16 14:54 • (MS) R3172300-5 10/20/16 15:39

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	13.9	62.2	97	1	80-120	

L866284-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866284-09 10/20/16 18:53 • (MS) R3172300-7 10/20/16 19:08 • (MSD) R3172300-8 10/20/16 19:23

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	%	%		%			%	%
Sulfate	50.0	30.0	77.6	77.8	95	96	1	80-120			0	15

Method Blank (MB)

(MB) R3171449-1 10/18/16 16:50

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

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

(LCS) R3171449-2 10/18/16 16:53 • (LCSD) R3171449-3 10/18/16 16:56

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	%	%	%			%	%
Mercury	0.00300	0.00309	0.00312	103	104	80-120			1	20

L866319-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866319-01 10/18/16 16:58 • (MS) R3171449-4 10/18/16 17:01 • (MSD) R3171449-5 10/18/16 17:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00300	0.00308	100	103	1	75-125			3	20

Method Blank (MB)

(MB) R3171809-1 10/19/16 15:08

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

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

(LCS) R3171809-2 10/19/16 15:11 • (LCSD) R3171809-3 10/19/16 15:13

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	%	%	%			%	%
Mercury	0.00300	0.00289	0.00240	96	80	80-120			19	20

L866450-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866450-01 10/19/16 15:16 • (MS) R3171809-4 10/19/16 15:18 • (MSD) R3171809-5 10/19/16 15:21

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	%	%		%			%	%
Mercury	0.00300	U	0.00189	0.00195	63	65	1	75-125	J6	J6	3	20

Method Blank (MB)

(MB) R3171877-1 10/20/16 03:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3171877-2 10/20/16 03:11 • (LCSD) R3171877-3 10/20/16 03:13

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	%	%	%			%	%
Boron	1.00	1.01	0.994	101	99	80-120			1	20
Lithium	1.00	1.00	0.993	100	99	80-120			1	20
Molybdenum	1.00	1.04	1.02	104	102	80-120			1	20

L866342-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866342-08 10/20/16 03:16 • (MS) R3171877-5 10/20/16 03:22 • (MSD) R3171877-6 10/20/16 03:24

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	%	%		%			%	%
Boron	1.00	1.87	2.82	2.84	95	98	1	75-125			1	20
Lithium	1.00	0.0639	1.03	1.04	97	97	1	75-125			0	20
Molybdenum	1.00	ND	1.01	0.997	101	99	1	75-125			2	20

Method Blank (MB)

(MB) R3172876-8 10/24/16 14:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3172876-2 10/24/16 14:01 • (LCSD) R3172876-3 10/24/16 14:04

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	%	%	%			%	%
Antimony	0.0579	0.0504	0.0505	87	87	80-120			0	20
Arsenic	0.0500	0.0505	0.0511	101	102	80-120			1	20
Barium	0.0500	0.0469	0.0455	94	91	80-120			3	20
Beryllium	0.0500	0.0460	0.0460	92	92	80-120			0	20
Cadmium	0.0500	0.0525	0.0523	105	105	80-120			0	20
Calcium	5.00	4.83	4.79	97	96	80-120			1	20
Cobalt	0.0500	0.0521	0.0523	104	105	80-120			0	20
Lead	0.0500	0.0495	0.0507	99	101	80-120			2	20
Selenium	0.0500	0.0500	0.0513	100	103	80-120			3	20
Thallium	0.0500	0.0499	0.0488	100	98	80-120			2	20

L866366-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866366-09 10/24/16 14:07 • (MS) R3172876-5 10/24/16 14:13 • (MSD) R3172876-6 10/24/16 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
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Antimony	0.0579	ND	0.0512	0.0526	88	91	1	75-125			3	20
Arsenic	0.0500	0.0245	0.0761	0.0759	103	103	1	75-125			0	20
Barium	0.0500	ND	0.0474	0.0471	92	92	1	75-125			1	20
Beryllium	0.0500	ND	0.0458	0.0460	92	92	1	75-125			0	20
Cadmium	0.0500	ND	0.0543	0.0530	109	106	1	75-125			2	20
Calcium	5.00		26.4	26.5	86	88	1	75-125			0	20
Cobalt	0.0500	ND	0.0516	0.0520	102	103	1	75-125			1	20

L866366-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L866366-09 10/24/16 14:07 • (MS) R3172876-5 10/24/16 14:13 • (MSD) R3172876-6 10/24/16 14:17

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 %
Lead	0.0500	ND	0.0507	0.0502	101	100	1	75-125			1	20
Selenium	0.0500	ND	0.0532	0.0510	106	102	1	75-125			4	20
Thallium	0.0500	ND	0.0505	0.0495	101	99	1	75-125			2	20

Method Blank (MB)

(MB) R3173351-1 10/26/16 04:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chromium	U		0.00054	0.00200

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

(LCS) R3173351-2 10/26/16 04:05 • (LCSD) R3173351-3 10/26/16 04:08

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	%	%	%			%	%
Chromium	0.0500	0.0511	0.0514	102	103	80-120			1	20

L867714-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L867714-03 10/26/16 04:11 • (MS) R3173351-5 10/26/16 04:17 • (MSD) R3173351-6 10/26/16 04:20

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	%	%		%			%	%
Chromium	0.0500	ND	0.0482	0.0481	96	96	1	75-125			0	20

Method Blank (MB)

(MB) R3174141-1 10/28/16 09:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chromium	U		0.00054	0.00200

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

(LCS) R3174141-2 10/28/16 09:31 • (LCSD) R3174141-3 10/28/16 09:34

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	%	%	%			%	%
Chromium	0.0500	0.0526	0.0521	105	104	80-120			1	20

L868239-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L868239-01 10/28/16 09:37 • (MS) R3174141-5 10/28/16 09:43 • (MSD) R3174141-6 10/28/16 09:47

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	%	%		%			%	%
Chromium	0.0500	ND	0.0508	0.0510	102	102	1	75-125			0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	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 [1 4]	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		

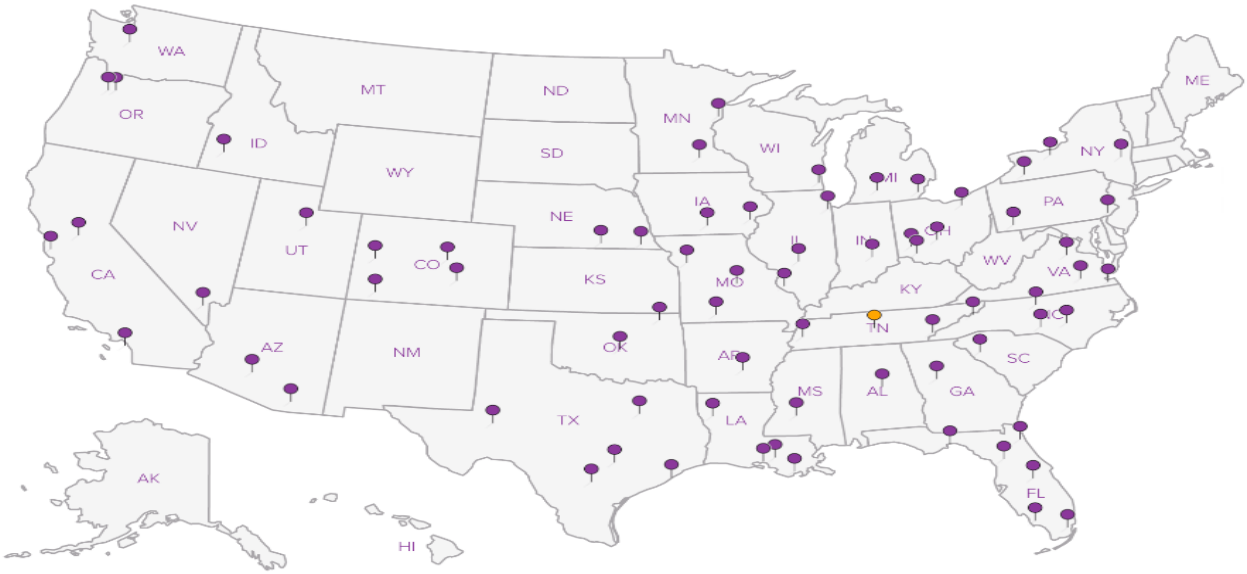
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Terry Andrews

Site/Facility ID #

P.O. # **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-951	Grab	GW		10-13-16	09:40	3	X	X	X		-01
MW-803A	Grab	GW		10-13-16	10:15	3	X	X	X		02
MW-14R	Grab	GW		10-13-16	11:25	3	X	X	X		03
MW-601	Grab	GW		10-13-16	12:20	3	X	X	X		04
MW-903	Grab	GW		10-13-16	15:50	3	X	X	X		05
MW-902	Grab	GW		10-13-16	16:15	3	X	X	X		06
MW-901	Grab	GW		10-14-16	9:50	3	X	X	X		07
MW-905	Grab	GW		10-14-16	10:20	3	X	X	X		08
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page ___ of ___

ESC 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# L866342

D188

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P570773**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Hold #

Condition: (lab use only) OW

COC Seal Intact: ___Y ___N ___NA

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10-14-16	14:02	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.2 °C Bottles Received: 24

Date: 10-15-16 Time: 9:00

pH Checked: NCF:

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	URSKC	SDG#	L866342
Cooler Received/Opened On:	10-15-16	Temperature Upon Receipt:	3.2 °c
Received By:	Timiesha Scott		
Signature:			

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?	✓		
Were custody papers properly filled out?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	✓		
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated. (If yes see attached NCF)			

Jeff Carr

From: Skaskevych, Alla <alla.skaskevych@aecom.com>
Sent: Wednesday, November 09, 2016 10:57 AM
To: Jeff Carr
Subject: RE: ESC Lab Sciences Report for La Cygne Generating Station L866342
Attachments: DOC.pdf

Jeff,

Can you please regenerate the report L866342 along with the EDD? MW-803A should be changed to MW-803. Can you mark the change on COC attached to the report as well? In attached, I updated our copy of COC, but it's just a copy.

Thank you, Alla

-----Original Message-----
From: Jeff Carr [mailto:JCarr@esclabsciences.com]
Sent: Wednesday, November 09, 2016 7:43 AM
To: Skaskevych, Alla
Subject: RE: ESC Lab Sciences Report for La Cygne Generating Station L866342

The EDDs for the following SDGs have been posted to the web:

URSKC L866319
URSKC L865759
URSKC L866342

-----Original Message-----
From: Skaskevych, Alla [mailto:alla.skaskevych@aecom.com]
Sent: Tuesday, November 08, 2016 1:56 PM
To: Jeff Carr
Subject: RE: ESC Lab Sciences Report for La Cygne Generating Station L866342

Jeff,

I need the EDDs for the last October sampling event in the format we agreed to.

Thank you,
Alla

-----Original Message-----
From: jcarr@esclabsciences.com [mailto:jcarr@esclabsciences.com]
Sent: Friday, October 28, 2016 2:13 PM
To: Linnan, Brian; Exceen, Robert; Skaskevych, Alla
Subject: ESC Lab Sciences Report for La Cygne Generating Station L866342
Importance: High

Thank you for choosing ESC Lab Sciences!

Please find enclosed PDF files containing your laboratory analysis and chain of custody.

ESC is pleased to announce that we are accepting samples from 21 states for the new 3511 prep technique for PAHs by 8270 and 8270SIM. This technique allows for a 98% reduction in solvent usage, and requires only 2 to 3 40 mL non-preserved amber vials vs. the traditional 1 or 2 amber liter jars. Please contact your Technical Service Representative for details.

ESC is leading the laboratory industry with our On-line Data Management tools. Please contact your Technical Service Representative to learn how to create historical Excel tables or access data in real time using powerful and intuitive software that is only available at http://www.esclabsciences.com.

How are we doing? ESC would like to hear from you. Please take a moment and complete our customer feedback survey at https://www.surveymonkey.com/s/TCGLB7T.

ESC ... "Your Lab of Choice"

Jeff Carr
Technical Service Representative
615-773-9667
jcarr@esclabsciences.com

ESC Lab Sciences
12065 Lebanon Rd
Mount Juliet, TN 37122
https://linkprotect.cudasvc.com/url?a=https://www.esclabsciences.com&c=E,1,s69LuTVjnsUoTqm39DcF7ANORsTS29_Ql1nMqgWQMwuOx1KK_v4wOy9nvIlGvH7jHvxmHXSQ0SH537QjF83NlpsNWNbUJJXSz2gCr9lCxOF5Viv4S0fQ&typo=1

Recipients configured to receive report file: brian.linnan@aecom.com, robert.exceen@aecom.com, alla.skaskevych@aecom.com

Notice: This communication and any attached files may contain privileged or other confidential information. If you have received this in error, please contact the sender immediately via reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

AECOM - Overland Park, KS 8300 College Blvd., Suite 200 Overland Park, KS 66210	Billing Information & Quote Number: Dana Monroe - 1334927 8300 College Blvd., Suite 200 Overland Park, KS 66210	Chain of Custody Page ___ of ___ ESC LABORATORY SCIENCES 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: Brian Linnan	Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;	
Project Description: La Cygne Generating Station	City/State Collected:	L #
Phone: 913-344-1000 Fax: 913-344-1011	Client Project # Lab Project # URSKC-LACYGNE	Table #
Collected by (print): Jim Muckler + Jerry Andrews	Site/Facility ID # P.O. # URSKC1028155	Acctnum: URSKC Template: T114093 Prelogin: P570773 TSR: 206 - Jeff Carr PB:
Collected by (signature): Jim Muckler 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	Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-951	Grab	GW		10-13-16	09:40	3	X	X	X		
MW-903A AS	Grab	GW		10-13-16	10:15	3	X	X	X		
MW-14R	Grab	GW		10-13-16	11:25	3	X	X	X		
MW-601	Grab	GW		10-13-16	12:20	3	X	X	X		
MW-903	Grab	GW		10-13-16	15:50	3	X	X	X		
MW-902	Grab	GW		10-13-16	16:15	3	X	X	X		
MW-901	Grab	GW		10-14-16	7:50	3	X	X	X		
MW-905	Grab	GW		10-14-16	10:20	3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH ___ Temp ___

Flow ___ Other ___

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___	Condition: (lab use only)
Jim Muckler	10-14-16	14:32			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	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:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # - **URSKC-LACYGNE**

Collected by (print): Jim Mackler + Terry Andrews

Site/Facility ID #

P.O. # **URSKC1028155**

Collected by (signature): Jim Mackler

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-951	Grab	NPW		10-13-16	09:40	2	X
MW-803	Grab	NPW		10-13-16	10:15	2	X
MW-14R	Grab	NPW		10-13-16	11:25	2	X
MW-601	Grab	NPW		10-13-16	12:20	2	X
MW-903	Grab	NPW		10-13-16	15:50	2	X
MW-902	Grab	NPW		10-13-16	16:15	2	X
MW-901	Grab	NPW		10-14-16	9:50	2	X
MW-905	Grab	NPW		10-14-16	10:20	2	X
		NPW				2	X
		NPW				2	X

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Mackler	10-14-16	14:02	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: °C Bottles Received:
Date: Time:

Chain of Custody Page ___ of ___

ESC 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 #
Table #
Acctnum: **URSKC**
Template:**T112863**
Prelogin: **P570767**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Rem./Contaminant	Sample # (lab only)

Hold #
Condition: (lab use only)
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

Case Narrative

Lab No: 20161009

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 10/17/2016 2:46:19 PM. These samples are associated with your La Cygne 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:

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

L866569

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161009-01**								
Client ID : **MW-951**								
Date Sampled : **10/13/2016 9:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.62 +/- 0.694	0.869	pCi/l				
Radium-226	SM 7500 Ra B M*	0.153 +/- 0.184	0.266	pCi/l		11/07/16	11/14/16	AK
Radium-228	EPA 904*/9320*	1.47 +/- 0.510	0.603	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-02**								
Client ID : **MW-803A**								
Date Sampled : **10/13/2016 10:15:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.93 +/- 0.514	0.537	pCi/l				
Radium-226	SM 7500 Ra B M*	0.281 +/- 0.138	0.120	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	1.65 +/- 0.376	0.417	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-03**								
Client ID : **MW-14R**								
Date Sampled : **10/13/2016 11:25:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.30 +/- 0.615	1.00	pCi/l				
Radium-226	SM 7500 Ra B M*	0.081 +/- 0.095	0.140	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	1.22 +/- 0.520	0.864	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-04**								
Client ID : **MW-601**								
Date Sampled : **10/13/2016 12:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.698 +/- 0.573	0.682	pCi/l				
Radium-226	SM 7500 Ra B M*	0.255 +/- 0.130	0.123	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	0.443 +/- 0.443	0.559	pCi/l		10/31/16	11/03/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161009-05**								
Client ID : **MW-903**								
Date Sampled : **10/13/2016 3:50:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.911 +/- 0.574	0.778	pCi/l				
Radium-226	SM 7500 Ra B M*	0.007 +/- 0.033	0.081	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	0.904 +/- 0.541	0.697	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-06**								
Client ID : **MW-902**								
Date Sampled : **10/13/2016 4:15:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.320 +/- 0.593	0.689	pCi/l				
Radium-226	SM 7500 Ra B M*	0.320 +/- 0.146	0.096	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	-0.262 +/- 0.447	0.593	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-07**								
Client ID : **MW-901**								
Date Sampled : **10/14/2016 9:50:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.407 +/- 0.659	0.821	pCi/l				
Radium-226	SM 7500 Ra B M*	0.306 +/- 0.135	0.108	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	0.101 +/- 0.524	0.713	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-08**								
Client ID : **MW-905**								
Date Sampled : **10/14/2016 10:20:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.37 +/- 0.599	0.737	pCi/l				
Radium-226	SM 7500 Ra B M*	0.220 +/- 0.121	0.129	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	1.15 +/- 0.478	0.608	pCi/l		10/31/16	11/03/16	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161009-09**								
Client ID : **MW-602**								
Date Sampled : **10/13/2016 11:50:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.896 +/- 0.527	0.651	pCi/l				
Radium-226	SM 7500 Ra B M*	0.125 +/- 0.115	0.146	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	0.771 +/- 0.412	0.505	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-10**								
Client ID : **MW-13**								
Date Sampled : **10/13/2016 1:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.613 +/- 0.644	0.860	pCi/l				
Radium-226	SM 7500 Ra B M*	0.029 +/- 0.096	0.164	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	0.584 +/- 0.548	0.696	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-11**								
Client ID : **MW-7**								
Date Sampled : **10/13/2016 3:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.82 +/- 0.635	0.692	pCi/l				
Radium-226	SM 7500 Ra B M*	0.820 +/- 0.208	0.151	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	1.00 +/- 0.427	0.541	pCi/l		10/31/16	11/03/16	JR
Lab ID : **20161009-12**								
Client ID : **MW-6**								
Date Sampled : **10/13/2016 5:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.89 +/- 0.717	0.941	pCi/l				
Radium-226	SM 7500 Ra B M*	0.208 +/- 0.143	0.186	pCi/l		11/07/16	11/09/16	AK
Radium-228	EPA 904*/9320*	1.68 +/- 0.574	0.755	pCi/l		10/31/16	11/03/16	JR

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QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.000	108.0			NC	0.454	124.0	104.0	17.6	R1157
Radium-228	-0.354	84.5			NC	0.300	99.7	98.2	1.4	R3874

Lab Approval:

Ron Eidson
Director of Radiochemistry

*NELAC Certified Parameter BDL = Below Detection Limit

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Terry Andrews

Site/Facility ID #

P.O. #: **URSKC1028155**

Collected by (signature): Jim Muckler

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

Chain of Custody Page ___ of ___

ESC LABORATORY 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# 866569

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P570767
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
MW-951	Grab	NPW		10-13-16	09:40	2	X		
MW-803A	Grab	NPW		10-13-16	10:15	2	X		
MW-14R	Grab	NPW		10-13-16	11:25	2	X		
MW-601	Grab	NPW		10-13-16	12:20	2	X		
MW-903	Grab	NPW		10-13-16	15:50	2	X		
MW-902	Grab	NPW		10-13-16	16:15	2	X		
MW-901	Grab	NPW		10-14-16	9:50	2	X		
MW-905	Grab	NPW		10-14-16	10:20	2	X		
		NPW				2	X		
		NPW				2	X		

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

2074009

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	10-14-16	14:02	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: Amb °C Bottles Received: 24

Date: 10/17/16 Time: 1440

Condition: (lab use only)

COC Seal Intact: ___Y ___N X NA

pH Checked: 72 NCF:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #
URSKC-LACYGNE

Collected by (print): Skaskengeh Guyn

Site/Facility ID #

P.O. #
URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-602	Grab	NPW		10/13	1150	2	X
MW-13		NPW			1340	2	X
MW-7		NPW			1515	2	X
MW-6		NPW			1730	2	X

Analysis / Container / Preservative

2024

Chain of Custody Page ___ of ___

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

L# 966529

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P570767
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: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

Sent to Outreach

pH _____ Temp _____

Flow _____ Other _____

20161029

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Tim Miller	10-14-16	14:02	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: Amb °C Bottles Received: 24

Date: 10/17/16 Time: 1440

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: 72 NCF:

SAMPLE LOGIN

Date Received: *10/17/2016 2:46:1* Lab Number: 20161009 Due: 11/14/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161009-01 B	MW-951	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-01 A	MW-951	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-02 A	MW-803A	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-02 B	MW-803A	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-03 A	MW-14R	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-03 B	MW-14R	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-04 A	MW-601	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-04 B	MW-601	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-05 A	MW-903	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-05 B	MW-903	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-06 B	MW-902	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-06 A	MW-902	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-07 B	MW-901	NPW	10/14/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161009-07 A	MW-901	NPW	10/14/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20161009-08 A	MW-905	NPW	10/14/16	Plastic	1 L	HNO3, pH < 2		No	No
20161009-08 B	MW-905	NPW	10/14/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-09 A	MW-602	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
20161009-09 B	MW-602	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-10 A	MW-13	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
20161009-10 B	MW-13	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-11 A	MW-7	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
20161009-11 B	MW-7	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161009-12 B	MW-6	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
20161009-12 A	MW-6	NPW	10/13/16	Plastic	1 L	HNO3, pH < 2		No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 2 Custody Seals Broken Ø Temperature: Amb °C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete N/A

Anomalies

Inspected By: _____ DATE 10/17/16

QA or Designee Review: Raymond Thomas DATE 10/17/16

Sample Custodian Review: _____ DATE 10/17/16

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-4

December 2016 Sampling Event Laboratory Report

ANALYTICAL REPORT

December 16, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L877650
Samples Received:	12/09/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

MW-801 L877650-01 GW

Collected by: JM / DH
Collected date/time: 12/06/16 09:50
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934385	1	12/13/16 13:12	12/13/16 14:07	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 15:47	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:26	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 15:56	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 13:34	12/12/16 13:34	KCF
Wet Chemistry by Method 9056A	WG934126	10	12/12/16 13:49	12/12/16 13:49	KCF

MW-802 L877650-02 GW

Collected by: JM / DH
Collected date/time: 12/06/16 10:20
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934385	1	12/13/16 13:12	12/13/16 14:07	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 15:50	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:29	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:09	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 14:05	12/12/16 14:05	KCF

MW-803 L877650-03 GW

Collected by: JM / DH
Collected date/time: 12/06/16 11:45
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 15:52	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:31	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:13	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 14:36	12/12/16 14:36	KCF

MW-805 L877650-04 GW

Collected by: JM / DH
Collected date/time: 12/06/16 13:30
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 14:17	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 11:48	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 15:35	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 14:51	12/12/16 14:51	KCF
Wet Chemistry by Method 9056A	WG934126	10	12/12/16 15:06	12/12/16 15:06	KCF

TW-1 L877650-05 GW

Collected by: JM / DH
Collected date/time: 12/06/16 13:10
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 15:55	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:34	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:16	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 16:29	12/12/16 16:29	KCF

MW-707B L877650-06 GW

Collected by: JM / DH
Collected date/time: 12/06/16 13:55
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 15:58	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:37	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:20	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934126	1	12/12/16 16:45	12/12/16 16:45	KCF
Wet Chemistry by Method 9056A	WG934126	50	12/12/16 17:00	12/12/16 17:00	KCF

MW-701 L877650-07 GW

Collected by: JM / DH
Collected date/time: 12/06/16 14:45
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:05	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:40	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:23	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934481	1	12/13/16 09:47	12/13/16 09:47	KCF

MW-704 L877650-08 GW

Collected by: JM / DH
Collected date/time: 12/06/16 15:30
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:08	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:42	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:27	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 14:19	12/12/16 14:19	KCF
Wet Chemistry by Method 9056A	WG934127	5	12/13/16 01:44	12/13/16 01:44	KCF

MW-804 L877650-09 GW

Collected by: JM / DH
Collected date/time: 12/07/16 10:40
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:10	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:45	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:30	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 14:33	12/12/16 14:33	KCF

MW-15 L877650-10 GW

Collected by: JM / DH
Collected date/time: 12/07/16 11:20
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:13	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:48	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:34	VSS
Wet Chemistry by Method 9040C	WG934472	1	12/14/16 16:50	12/14/16 16:50	MAJ

MW-15 L877650-10 GW

Collected by: JM / DH
Collected date/time: 12/07/16 11:20
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 15:03	12/12/16 15:03	KCF
Wet Chemistry by Method 9056A	WG934127	5	12/13/16 01:59	12/13/16 01:59	KCF

MW-601 L877650-11 GW

Collected by: JM / DH
Collected date/time: 12/07/16 11:40
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:15	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 13:50	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 16:37	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 16:03	12/12/16 16:03	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/12/16 16:18	12/12/16 16:18	KCF

MW-951 L877650-12 GW

Collected by: JM / DH
Collected date/time: 12/07/16 12:20
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:18	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 14:25	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 17:02	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 17:02	12/12/16 17:02	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/12/16 17:17	12/12/16 17:17	KCF

MW-705 L877650-13 GW

Collected by: JM / DH
Collected date/time: 12/07/16 11:40
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:20	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 14:27	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 17:06	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 17:32	12/12/16 17:32	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/12/16 17:47	12/12/16 17:47	KCF

MW-950 L877650-14 GW

Collected by: JM / DH
Collected date/time: 12/07/16 11:00
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934908	1	12/14/16 17:27	12/14/16 18:36	MMF
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:23	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 14:30	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 17:09	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 18:02	12/12/16 18:02	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/12/16 18:16	12/12/16 18:16	KCF

MW-703 L877650-15 GW

Collected by: JM / DH
Collected date/time: 12/06/16 15:10
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:26	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 14:33	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 17:13	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 18:31	12/12/16 18:31	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/12/16 19:16	12/12/16 19:16	KCF

MW-706 L877650-16 GW

Collected by: JM / DH
Collected date/time: 12/06/16 16:10
Received date/time: 12/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG934551	1	12/13/16 21:06	12/13/16 22:30	JM
Mercury by Method 7470A	WG934034	1	12/10/16 06:24	12/12/16 16:28	NJB
Metals (ICP) by Method 6010B	WG934054	1	12/12/16 10:21	12/13/16 14:36	CCE
Metals (ICPMS) by Method 6020	WG934064	1	12/12/16 10:20	12/12/16 17:16	VSS
Wet Chemistry by Method 9040C	WG934473	1	12/14/16 19:00	12/14/16 19:00	MAJ
Wet Chemistry by Method 9056A	WG934127	1	12/12/16 19:31	12/12/16 19:31	KCF
Wet Chemistry by Method 9056A	WG934127	10	12/13/16 01:29	12/13/16 01:29	KCF

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L877650-01	MW-801	9040C
L877650-02	MW-802	9040C
L877650-03	MW-803	9040C
L877650-04	MW-805	9040C
L877650-05	TW-1	9040C
L877650-06	MW-707B	9040C
L877650-07	MW-701	9040C
L877650-08	MW-704	9040C
L877650-09	MW-804	9040C
L877650-10	MW-15	9040C
L877650-11	MW-601	9040C
L877650-12	MW-951	9040C
L877650-13	MW-705	9040C
L877650-14	MW-950	9040C
L877650-15	MW-703	9040C
L877650-16	MW-706	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	880		10.0	1	12/13/2016 14:07	WG934385

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.66		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-01 WG934472: 7.66 at 15.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	116		10.0	10	12/12/2016 13:49	WG934126
Fluoride	1.19		0.100	1	12/12/2016 13:34	WG934126
Sulfate	ND		5.00	1	12/12/2016 13:34	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 15:47	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.33		0.200	1	12/13/2016 13:26	WG934054
Lithium	0.0994		0.0150	1	12/13/2016 13:26	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:26	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 15:56	WG934064
Arsenic	ND		0.00200	1	12/12/2016 15:56	WG934064
Barium	0.589		0.00500	1	12/12/2016 15:56	WG934064
Beryllium	ND		0.00200	1	12/12/2016 15:56	WG934064
Cadmium	ND		0.00100	1	12/12/2016 15:56	WG934064
Calcium	33.6		1.00	1	12/12/2016 15:56	WG934064
Chromium	ND		0.00200	1	12/12/2016 15:56	WG934064
Cobalt	ND		0.00200	1	12/12/2016 15:56	WG934064
Lead	ND		0.00200	1	12/12/2016 15:56	WG934064
Selenium	ND		0.00200	1	12/12/2016 15:56	WG934064
Thallium	ND		0.00200	1	12/12/2016 15:56	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	659		10.0	1	12/13/2016 14:07	WG934385

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.55		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-02 WG934472: 7.55 at 15.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.4		1.00	1	12/12/2016 14:05	WG934126
Fluoride	1.04		0.100	1	12/12/2016 14:05	WG934126
Sulfate	ND		5.00	1	12/12/2016 14:05	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 15:50	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.57		0.200	1	12/13/2016 13:29	WG934054
Lithium	0.0925		0.0150	1	12/13/2016 13:29	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:29	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:09	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:09	WG934064
Barium	0.889		0.00500	1	12/12/2016 16:09	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:09	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:09	WG934064
Calcium	37.2		1.00	1	12/12/2016 16:09	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:09	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:09	WG934064
Lead	ND		0.00200	1	12/12/2016 16:09	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:09	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:09	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	603		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.86		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-03 WG934472: 7.86 at 16.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.9		1.00	1	12/12/2016 14:36	WG934126
Fluoride	0.696		0.100	1	12/12/2016 14:36	WG934126
Sulfate	21.9		5.00	1	12/12/2016 14:36	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 15:52	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.13		0.200	1	12/13/2016 13:31	WG934054
Lithium	0.0915		0.0150	1	12/13/2016 13:31	WG934054
Molybdenum	0.00593		0.00500	1	12/13/2016 13:31	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:13	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:13	WG934064
Barium	0.242		0.00500	1	12/12/2016 16:13	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:13	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:13	WG934064
Calcium	48.3		1.00	1	12/12/2016 16:13	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:13	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:13	WG934064
Lead	ND		0.00200	1	12/12/2016 16:13	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:13	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:13	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2420		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.44		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-04 WG934472: 6.44 at 16.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	464		10.0	10	12/12/2016 15:06	WG934126
Fluoride	0.181		0.100	1	12/12/2016 14:51	WG934126
Sulfate	742		50.0	10	12/12/2016 15:06	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND	J6 O1	0.000200	1	12/12/2016 14:17	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.507		0.200	1	12/13/2016 11:48	WG934054
Lithium	0.0277		0.0150	1	12/13/2016 11:48	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 11:48	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 15:35	WG934064
Arsenic	ND		0.00200	1	12/12/2016 15:35	WG934064
Barium	0.0356	O1	0.00500	1	12/12/2016 15:35	WG934064
Beryllium	ND		0.00200	1	12/12/2016 15:35	WG934064
Cadmium	ND		0.00100	1	12/12/2016 15:35	WG934064
Calcium	422	V	1.00	1	12/12/2016 15:35	WG934064
Chromium	ND		0.00200	1	12/12/2016 15:35	WG934064
Cobalt	0.00431		0.00200	1	12/12/2016 15:35	WG934064
Lead	ND		0.00200	1	12/12/2016 15:35	WG934064
Selenium	ND		0.00200	1	12/12/2016 15:35	WG934064
Thallium	ND		0.00200	1	12/12/2016 15:35	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1080		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.00		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-05 WG934472: 7.00 at 16.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	45.1		1.00	1	12/12/2016 16:29	WG934126
Fluoride	0.459		0.100	1	12/12/2016 16:29	WG934126
Sulfate	59.3		5.00	1	12/12/2016 16:29	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 15:55	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.67		0.200	1	12/13/2016 13:34	WG934054
Lithium	0.140		0.0150	1	12/13/2016 13:34	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:34	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:16	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:16	WG934064
Barium	0.0823		0.00500	1	12/12/2016 16:16	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:16	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:16	WG934064
Calcium	35.9		1.00	1	12/12/2016 16:16	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:16	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:16	WG934064
Lead	ND		0.00200	1	12/12/2016 16:16	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:16	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:16	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	5370		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.99		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-06 WG934472: 6.99 at 16.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	220		50.0	50	12/12/2016 17:00	WG934126
Fluoride	0.353		0.100	1	12/12/2016 16:45	WG934126
Sulfate	4920		250	50	12/12/2016 17:00	WG934126

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 15:58	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.98		0.200	1	12/13/2016 13:37	WG934054
Lithium	0.737		0.0150	1	12/13/2016 13:37	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:37	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:20	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:20	WG934064
Barium	0.0215		0.00500	1	12/12/2016 16:20	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:20	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:20	WG934064
Calcium	410		1.00	1	12/12/2016 16:20	WG934064
Chromium	0.00254		0.00200	1	12/12/2016 16:20	WG934064
Cobalt	0.00543		0.00200	1	12/12/2016 16:20	WG934064
Lead	ND		0.00200	1	12/12/2016 16:20	WG934064
Selenium	0.00233		0.00200	1	12/12/2016 16:20	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:20	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	658		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.87		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-07 WG934472: 7.87 at 16.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.2		1.00	1	12/13/2016 09:47	WG934481
Fluoride	0.816		0.100	1	12/13/2016 09:47	WG934481
Sulfate	80.9		5.00	1	12/13/2016 09:47	WG934481

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:05	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.07		0.200	1	12/13/2016 13:40	WG934054
Lithium	0.0409		0.0150	1	12/13/2016 13:40	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:40	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:23	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:23	WG934064
Barium	0.168		0.00500	1	12/12/2016 16:23	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:23	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:23	WG934064
Calcium	37.2		1.00	1	12/12/2016 16:23	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:23	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:23	WG934064
Lead	ND		0.00200	1	12/12/2016 16:23	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:23	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:23	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1210		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-08 WG934472: 7.77 at 16.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	82.9		1.00	1	12/12/2016 14:19	WG934127
Fluoride	0.939		0.100	1	12/12/2016 14:19	WG934127
Sulfate	185		25.0	5	12/13/2016 01:44	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:08	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.09		0.200	1	12/13/2016 13:42	WG934054
Lithium	0.0974		0.0150	1	12/13/2016 13:42	WG934054
Molybdenum	0.0124		0.00500	1	12/13/2016 13:42	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00867		0.00200	1	12/12/2016 16:27	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:27	WG934064
Barium	0.0844		0.00500	1	12/12/2016 16:27	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:27	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:27	WG934064
Calcium	32.0		1.00	1	12/12/2016 16:27	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:27	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:27	WG934064
Lead	ND		0.00200	1	12/12/2016 16:27	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:27	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:27	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	518		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.32		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-09 WG934472: 7.32 at 16.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.5		1.00	1	12/12/2016 14:33	WG934127
Fluoride	0.441		0.100	1	12/12/2016 14:33	WG934127
Sulfate	21.0		5.00	1	12/12/2016 14:33	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:10	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.62		0.200	1	12/13/2016 13:45	WG934054
Lithium	0.0421		0.0150	1	12/13/2016 13:45	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:45	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:30	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:30	WG934064
Barium	0.151		0.00500	1	12/12/2016 16:30	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:30	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:30	WG934064
Calcium	65.7		1.00	1	12/12/2016 16:30	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:30	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:30	WG934064
Lead	ND		0.00200	1	12/12/2016 16:30	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:30	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:30	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	767		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.20		1	12/14/2016 16:50	WG934472

Sample Narrative:

9040C L877650-10 WG934472: 7.20 at 16.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.5		1.00	1	12/12/2016 15:03	WG934127
Fluoride	0.262		0.100	1	12/12/2016 15:03	WG934127
Sulfate	224		25.0	5	12/13/2016 01:59	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:13	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.237		0.200	1	12/13/2016 13:48	WG934054
Lithium	0.0242		0.0150	1	12/13/2016 13:48	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:48	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:34	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:34	WG934064
Barium	0.0556		0.00500	1	12/12/2016 16:34	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:34	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:34	WG934064
Calcium	105		1.00	1	12/12/2016 16:34	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:34	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:34	WG934064
Lead	ND		0.00200	1	12/12/2016 16:34	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:34	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:34	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	908		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-11 WG934473: 7.64 at 13.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	169		10.0	10	12/12/2016 16:18	WG934127
Fluoride	1.81		0.100	1	12/12/2016 16:03	WG934127
Sulfate	ND		5.00	1	12/12/2016 16:03	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:15	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.92		0.200	1	12/13/2016 13:50	WG934054
Lithium	0.0747		0.0150	1	12/13/2016 13:50	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 13:50	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 16:37	WG934064
Arsenic	ND		0.00200	1	12/12/2016 16:37	WG934064
Barium	0.130		0.00500	1	12/12/2016 16:37	WG934064
Beryllium	ND		0.00200	1	12/12/2016 16:37	WG934064
Cadmium	ND		0.00100	1	12/12/2016 16:37	WG934064
Calcium	22.5		1.00	1	12/12/2016 16:37	WG934064
Chromium	ND		0.00200	1	12/12/2016 16:37	WG934064
Cobalt	ND		0.00200	1	12/12/2016 16:37	WG934064
Lead	ND		0.00200	1	12/12/2016 16:37	WG934064
Selenium	ND		0.00200	1	12/12/2016 16:37	WG934064
Thallium	ND		0.00200	1	12/12/2016 16:37	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-12 WG934473: 7.64 at 13.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	165		10.0	10	12/12/2016 17:17	WG934127
Fluoride	1.82		0.100	1	12/12/2016 17:02	WG934127
Sulfate	ND		5.00	1	12/12/2016 17:02	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:18	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.95		0.200	1	12/13/2016 14:25	WG934054
Lithium	0.0788		0.0150	1	12/13/2016 14:25	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 14:25	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 17:02	WG934064
Arsenic	ND		0.00200	1	12/12/2016 17:02	WG934064
Barium	0.131		0.00500	1	12/12/2016 17:02	WG934064
Beryllium	ND		0.00200	1	12/12/2016 17:02	WG934064
Cadmium	ND		0.00100	1	12/12/2016 17:02	WG934064
Calcium	22.5		1.00	1	12/12/2016 17:02	WG934064
Chromium	ND		0.00200	1	12/12/2016 17:02	WG934064
Cobalt	ND		0.00200	1	12/12/2016 17:02	WG934064
Lead	ND		0.00200	1	12/12/2016 17:02	WG934064
Selenium	ND		0.00200	1	12/12/2016 17:02	WG934064
Thallium	ND		0.00200	1	12/12/2016 17:02	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	958		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.54		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-13 WG934473: 7.54 at 13.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	134		10.0	10	12/12/2016 17:47	WG934127
Fluoride	1.07		0.100	1	12/12/2016 17:32	WG934127
Sulfate	41.7		5.00	1	12/12/2016 17:32	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:20	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.30		0.200	1	12/13/2016 14:27	WG934054
Lithium	0.125		0.0150	1	12/13/2016 14:27	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 14:27	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 17:06	WG934064
Arsenic	ND		0.00200	1	12/12/2016 17:06	WG934064
Barium	0.0930		0.00500	1	12/12/2016 17:06	WG934064
Beryllium	ND		0.00200	1	12/12/2016 17:06	WG934064
Cadmium	ND		0.00100	1	12/12/2016 17:06	WG934064
Calcium	39.5		1.00	1	12/12/2016 17:06	WG934064
Chromium	ND		0.00200	1	12/12/2016 17:06	WG934064
Cobalt	ND		0.00200	1	12/12/2016 17:06	WG934064
Lead	ND		0.00200	1	12/12/2016 17:06	WG934064
Selenium	ND		0.00200	1	12/12/2016 17:06	WG934064
Thallium	ND		0.00200	1	12/12/2016 17:06	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	942		10.0	1	12/14/2016 18:36	WG934908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.49		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-14 WG934473: 7.49 at 14.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		10.0	10	12/12/2016 18:16	WG934127
Fluoride	1.07		0.100	1	12/12/2016 18:02	WG934127
Sulfate	41.6		5.00	1	12/12/2016 18:02	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:23	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.28		0.200	1	12/13/2016 14:30	WG934054
Lithium	0.123		0.0150	1	12/13/2016 14:30	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 14:30	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 17:09	WG934064
Arsenic	ND		0.00200	1	12/12/2016 17:09	WG934064
Barium	0.0916		0.00500	1	12/12/2016 17:09	WG934064
Beryllium	ND		0.00200	1	12/12/2016 17:09	WG934064
Cadmium	ND		0.00100	1	12/12/2016 17:09	WG934064
Calcium	40.1		1.00	1	12/12/2016 17:09	WG934064
Chromium	ND		0.00200	1	12/12/2016 17:09	WG934064
Cobalt	ND		0.00200	1	12/12/2016 17:09	WG934064
Lead	ND		0.00200	1	12/12/2016 17:09	WG934064
Selenium	ND		0.00200	1	12/12/2016 17:09	WG934064
Thallium	ND		0.00200	1	12/12/2016 17:09	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	982		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.95		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-15 WG934473: 7.95 at 14.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	107		10.0	10	12/12/2016 19:16	WG934127
Fluoride	1.55		0.100	1	12/12/2016 18:31	WG934127
Sulfate	ND		5.00	1	12/12/2016 18:31	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:26	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.93		0.200	1	12/13/2016 14:33	WG934054
Lithium	0.0671		0.0150	1	12/13/2016 14:33	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 14:33	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 17:13	WG934064
Arsenic	ND		0.00200	1	12/12/2016 17:13	WG934064
Barium	0.270		0.00500	1	12/12/2016 17:13	WG934064
Beryllium	ND		0.00200	1	12/12/2016 17:13	WG934064
Cadmium	ND		0.00100	1	12/12/2016 17:13	WG934064
Calcium	19.8		1.00	1	12/12/2016 17:13	WG934064
Chromium	ND		0.00200	1	12/12/2016 17:13	WG934064
Cobalt	ND		0.00200	1	12/12/2016 17:13	WG934064
Lead	ND		0.00200	1	12/12/2016 17:13	WG934064
Selenium	ND		0.00200	1	12/12/2016 17:13	WG934064
Thallium	ND		0.00200	1	12/12/2016 17:13	WG934064

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1300		10.0	1	12/13/2016 22:30	WG934551

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60		1	12/14/2016 19:00	WG934473

Sample Narrative:

9040C L877650-16 WG934473: 7.60 at 13.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	272		10.0	10	12/13/2016 01:29	WG934127
Fluoride	1.25		0.100	1	12/12/2016 19:31	WG934127
Sulfate	ND		5.00	1	12/12/2016 19:31	WG934127

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/12/2016 16:28	WG934034

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.25		0.200	1	12/13/2016 14:36	WG934054
Lithium	0.141		0.0150	1	12/13/2016 14:36	WG934054
Molybdenum	ND		0.00500	1	12/13/2016 14:36	WG934054

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/12/2016 17:16	WG934064
Arsenic	ND		0.00200	1	12/12/2016 17:16	WG934064
Barium	0.281		0.00500	1	12/12/2016 17:16	WG934064
Beryllium	ND		0.00200	1	12/12/2016 17:16	WG934064
Cadmium	ND		0.00100	1	12/12/2016 17:16	WG934064
Calcium	32.9		1.00	1	12/12/2016 17:16	WG934064
Chromium	ND		0.00200	1	12/12/2016 17:16	WG934064
Cobalt	ND		0.00200	1	12/12/2016 17:16	WG934064
Lead	ND		0.00200	1	12/12/2016 17:16	WG934064
Selenium	ND		0.00200	1	12/12/2016 17:16	WG934064
Thallium	ND		0.00200	1	12/12/2016 17:16	WG934064

Method Blank (MB)

(MB) R3184989-1 12/13/16 14:07

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

L877770-01 Original Sample (OS) • Duplicate (DUP)

(OS) L877770-01 12/13/16 14:07 • (DUP) R3184989-4 12/13/16 14:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	424	407	1	4.09		5

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

(LCS) R3184989-2 12/13/16 14:07 • (LCSD) R3184989-3 12/13/16 14:07

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	%	%	%			%	%
Dissolved Solids	8800	8460	8490	96.1	96.5	85.0-115			0.354	5

Method Blank (MB)

(MB) R3184746-1 12/13/16 22:30

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

L877650-16 Original Sample (OS) • Duplicate (DUP)

(OS) L877650-16 12/13/16 22:30 • (DUP) R3184746-4 12/13/16 22:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1300	1330	1	1.90		5

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

(LCS) R3184746-2 12/13/16 22:30 • (LCSD) R3184746-3 12/13/16 22:30

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	%	%	%			%	%
Dissolved Solids	8800	8250	8420	93.8	95.7	85.0-115			2.04	5

Method Blank (MB)

(MB) R3185039-1 12/14/16 18:36

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

L877937-03 Original Sample (OS) • Duplicate (DUP)

(OS) L877937-03 12/14/16 18:36 • (DUP) R3185039-4 12/14/16 18:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	976	980	1	0.409		5

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

(LCS) R3185039-2 12/14/16 18:36 • (LCSD) R3185039-3 12/14/16 18:36

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	%	%	%			%	%
Dissolved Solids	8800	8380	8290	95.2	94.2	85.0-115			1.08	5

L877400-01 Original Sample (OS) • Duplicate (DUP)

(OS) L877400-01 12/14/16 16:50 • (DUP) WG934472-1 12/14/16 16:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	6.97	6.99	1	0.287		1

L877911-02 Original Sample (OS) • Duplicate (DUP)

(OS) L877911-02 12/14/16 16:50 • (DUP) WG934472-2 12/14/16 16:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.97	7.97	1	0.000		1

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

(LCS) WG934472-3 12/14/16 16:50 • (LCSD) WG934472-4 12/14/16 16:50

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.07	6.10	6.09	100	100	98.4-102			0.164	1

L877650-11 Original Sample (OS) • Duplicate (DUP)

(OS) L877650-11 12/14/16 19:00 • (DUP) WG934473-1 12/14/16 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.64	7.65	1	0.131		1

L877706-14 Original Sample (OS) • Duplicate (DUP)

(OS) L877706-14 12/14/16 19:00 • (DUP) WG934473-4 12/14/16 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.02	7.99	1	0.375		1

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

(LCS) WG934473-2 12/14/16 19:00 • (LCSD) WG934473-3 12/14/16 19:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.07	6.08	100	100	98.4-102			0.165	1

Method Blank (MB)

(MB) R3183944-1 12/12/16 06:49

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

L877650-02 Original Sample (OS) • Duplicate (DUP)

(OS) L877650-02 12/12/16 14:05 • (DUP) R3183944-6 12/12/16 14:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	37.4	37.4	1	0		15
Fluoride	1.04	1.04	1	0		15
Sulfate	ND	0.000	1	0		15

L877584-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L877584-04 12/12/16 11:15 • (MS) R3183944-5 12/12/16 11:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	U	50.8	102	1	80-120	
Fluoride	5.00	U	5.20	104	1	80-120	
Sulfate	50.0	U	52.4	105	1	80-120	

L877650-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877650-04 12/12/16 14:51 • (MS) R3183944-7 12/12/16 15:22 • (MSD) R3183944-8 12/12/16 15:37

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 %
Fluoride	5.00	0.181	4.93	5.20	95	100	1	80-120			5	15

Method Blank (MB)

(MB) R3184214-1 12/12/16 09:27

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

L877650-09 Original Sample (OS) • Duplicate (DUP)

(OS) L877650-09 12/12/16 14:33 • (DUP) R3184214-4 12/12/16 14:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	25.5	25.6	1	0		15
Fluoride	0.441	0.479	1	8		15
Sulfate	21.0	20.9	1	0		15

L877656-02 Original Sample (OS) • Duplicate (DUP)

(OS) L877656-02 12/12/16 20:01 • (DUP) R3184214-6 12/12/16 20:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	3.45	3.45	1	0		15
Fluoride	0.0373	0.0376	1	1	J	15
Sulfate	3.31	3.32	1	0	J	15

L877719-02 Original Sample (OS) • Duplicate (DUP)

(OS) L877719-02 12/13/16 00:59 • (DUP) R3184214-9 12/13/16 01:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	35.8	35.8	1	0		15
Fluoride	ND	0.0169	1	0		15
Sulfate	40.5	40.6	1	0		15

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

(LCS) R3184214-2 12/12/16 09:42 • (LCSD) R3184214-3 12/12/16 09:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.6	39.6	99	99	80-120			0	15
Fluoride	8.00	8.00	8.00	100	100	80-120			0	15

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

(LCS) R3184214-2 12/12/16 09:42 • (LCSD) R3184214-3 12/12/16 09:57

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	%	%	%			%	%
Sulfate	40.0	39.9	39.9	100	100	80-120			0	15

L877650-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L877650-10 12/12/16 15:03 • (MS) R3184214-5 12/12/16 15:18

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	16.5	67.1	101	1	80-120	
Fluoride	5.00	0.262	5.39	103	1	80-120	

L877712-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877712-01 12/12/16 21:16 • (MS) R3184214-7 12/12/16 22:15 • (MSD) R3184214-8 12/12/16 22:30

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	%	%		%			%	%
Fluoride	5.00	0.942	6.03	6.03	102	102	1	80-120			0	15
Sulfate	50.0	74.3	122	122	95	95	1	80-120	E	E	0	15

Method Blank (MB)

(MB) R3184531-1 12/13/16 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

L876929-01 Original Sample (OS) • Duplicate (DUP)

(OS) L876929-01 12/13/16 09:02 • (DUP) R3184531-4 12/13/16 09:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	14.5	14.5	1	0		15
Fluoride	0.366	0.365	1	0		15
Sulfate	13.8	13.8	1	0		15

L877814-06 Original Sample (OS) • Duplicate (DUP)

(OS) L877814-06 12/13/16 15:00 • (DUP) R3184531-6 12/13/16 15:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	19.6	19.6	1	0		15
Fluoride	0.422	0.416	1	1		15
Sulfate	16.2	16.2	1	0		15

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

(LCS) R3184531-2 12/13/16 07:14 • (LCSD) R3184531-3 12/13/16 07:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.7	39.6	99	99	80-120			0	15
Fluoride	8.00	8.01	8.01	100	100	80-120			0	15
Sulfate	40.0	40.0	40.0	100	100	80-120			0	15

L877814-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L877814-07 12/13/16 11:01 • (MS) R3184531-5 12/13/16 11:16

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	18.2	68.2	100	1	80-120	
Fluoride	5.00	0.379	5.46	102	1	80-120	

L877814-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L877814-07 12/13/16 11:01 • (MS) R3184531-5 12/13/16 11:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	15.2	65.3	100	1	80-120	

L877814-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877814-08 12/13/16 15:33 • (MS) R3184531-7 12/13/16 16:18 • (MSD) R3184531-8 12/13/16 16:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	53.5	102	102	98	98	1	80-120	E	E	0	15
Fluoride	5.00	0.332	5.43	5.45	102	102	1	80-120			0	15
Sulfate	50.0	8.31	59.2	59.1	102	102	1	80-120			0	15

Method Blank (MB)

(MB) R3184190-1 12/12/16 14:04

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

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

(LCS) R3184190-2 12/12/16 14:07 • (LCSD) R3184190-3 12/12/16 14:14

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	%	%	%			%	%
Mercury	0.00300	0.00292	0.00287	97	96	80-120			2	20

L877650-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877650-04 12/12/16 14:17 • (MS) R3184190-4 12/12/16 14:21 • (MSD) R3184190-5 12/12/16 14:23

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	%	%		%			%	%
Mercury	0.00300	ND	0.000870	0.000957	29	32	1	75-125	J6	J6	10	20

Method Blank (MB)

(MB) R3184288-1 12/13/16 11:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3184288-2 12/13/16 11:43 • (LCSD) R3184288-3 12/13/16 11:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.07	1.07	107	107	80-120			0	20
Lithium	1.00	1.03	1.04	103	104	80-120			1	20
Molybdenum	1.00	1.06	1.08	106	108	80-120			2	20

L877650-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877650-04 12/13/16 11:48 • (MS) R3184288-5 12/13/16 11:53 • (MSD) R3184288-6 12/13/16 11:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.507	1.59	1.60	109	110	1	75-125			1	20
Lithium	1.00	0.0277	1.10	1.10	108	107	1	75-125			0	20
Molybdenum	1.00	ND	1.10	1.11	110	111	1	75-125			1	20

Method Blank (MB)

(MB) R3184111-1 12/12/16 15:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	0.000781	J	0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	0.000289	J	0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3184111-2 12/12/16 15:28 • (LCSD) R3184111-3 12/12/16 15:32

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	0.0579	0.0517	0.0509	89	88	80-120			2	20
Arsenic	0.0500	0.0472	0.0467	94	93	80-120			1	20
Barium	0.0500	0.0480	0.0468	96	94	80-120			3	20
Beryllium	0.0500	0.0454	0.0453	91	91	80-120			0	20
Cadmium	0.0500	0.0513	0.0513	103	103	80-120			0	20
Calcium	5.00	5.04	4.84	101	97	80-120			4	20
Chromium	0.0500	0.0495	0.0489	99	98	80-120			1	20
Cobalt	0.0500	0.0504	0.0502	101	100	80-120			0	20
Lead	0.0500	0.0518	0.0492	104	98	80-120			5	20
Selenium	0.0500	0.0503	0.0495	101	99	80-120			2	20
Thallium	0.0500	0.0499	0.0484	100	97	80-120			3	20

L877650-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877650-04 12/12/16 15:35 • (MS) R3184111-5 12/12/16 15:42 • (MSD) R3184111-6 12/12/16 15:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	ND	0.0523	0.0520	90	90	1	75-125			1	20
Arsenic	0.0500	ND	0.0501	0.0487	96	93	1	75-125			3	20
Barium	0.0500	0.0356	0.0833	0.0848	96	99	1	75-125			2	20
Beryllium	0.0500	ND	0.0444	0.0434	89	87	1	75-125			2	20
Cadmium	0.0500	ND	0.0520	0.0507	104	101	1	75-125			3	20

L877650-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L877650-04 12/12/16 15:35 • (MS) R3184111-5 12/12/16 15:42 • (MSD) R3184111-6 12/12/16 15:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	5.00	422	412	411	0	0	1	75-125	V	V	0	20
Chromium	0.0500	ND	0.0496	0.0479	99	96	1	75-125			4	20
Cobalt	0.0500	0.00431	0.0528	0.0511	97	94	1	75-125			3	20
Lead	0.0500	ND	0.0502	0.0497	100	99	1	75-125			1	20
Selenium	0.0500	ND	0.0528	0.0514	106	103	1	75-125			3	20
Thallium	0.0500	ND	0.0495	0.0487	99	97	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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
Conneticut	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 [1 4]	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		

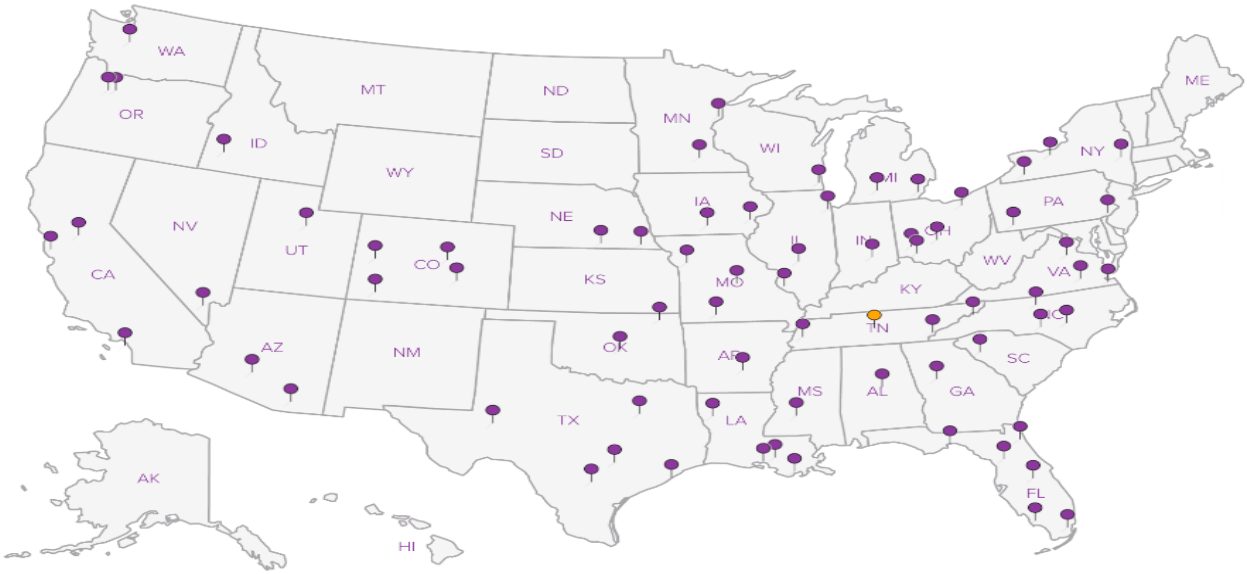
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-801	Grab	GW		12-6-16	9:50	3	X	X	X		-01
MW-802	Grab	GW		12-6-16	10:20	3	X	X	X		02
MW-803	Grab	GW		12-6-16	11:45	3	X	X	X		03
MW-805	Grab	GW		12-6-16	13:30	3	X	X	X	MS/MSD	04
MW-805 MS	Grab	GW		12-6-16	13:30	3	X	X	X		04
MW-805 MSD	Grab	GW		12-6-16	13:30	3	X	X	X		04
tw-1	Grab	GW		12-6-16	13:10	3	X	X	X		05
MW-707B	Grab	GW		12-6-16	13:55	3	X	X	X		06
MW-701	Grab	GW		12-6-16	14:45	3	X	X	X		07
MW-704	Grab	GW		12-6-16	15:30	3	X	X	X		08

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

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

Please indicate sample ID for the MS/MSD. = MW-805

pH ___ Temp ___

Flow ___ Other ___

706168233279

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12-7-16	13:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/8/16	730	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 3.1 °C Bottles Received: 54

Date: 12-7-16 Time: 9w

Condition: (lab use only) Cr

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page 2 of 2

ESC 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# L877650

F088

Acctnum: URSKC
Template: T114093
Prelogin: P578103
TSR: 206 - Jeff Carr
PB:
Shipped Via:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project #
URSKC-LACYGNE

Collected by (print): Jim Muckler & Daryle Harrison

Site/Facility ID #

P.O. #
URSKC1028155

Collected by (signature): Jim Muckler

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

Chain of Custody Page 2 of 2

ESC 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# L877650

Table #

Acctnum: URSKC
Template: T114093
Prelogin: P578103
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-804	Grab	GW		12-7-16	10:40	3	X	X	X		09
MW-15	Grab	GW		12-7-16	11:20	3	X	X	X		10
MW-601	Grab	GW		12-7-16	11:40	3	X	X	X		11
MW-951	Grab	GW		12-7-16	12:20	3	X	X	X		12
MW-705	Grab	GW		12-7-16	11:40	3	X	X	X		13
MW-950	Grab	GW		12-7-16	11:00	3	X	X	X		14
MW-703	Grab	GW		12-7-16	15:10	3	X	X	X		15
MW-706	Grab	GW		12-6-16	16:10	3	X	X	X		16
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH ____ Temp ____
Flow ____ Other ____

Hold #

	Date:	Time:	
Relinquished by: (Signature) Jim Muckler	12-7-16	13:30	Received by: (Signature)
Relinquished by: (Signature)	12/8/16	1700	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Neil Johns

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____
Temp: 3.1 °C Bottles Received:
Date: 12-9-16 Time: 9:10

Condition: (lab use only) ok
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	URSLC	SDG#	L877650
Cooler Received/Opened On: 12 / 09 / 16		Temperature Upon Receipt:	3.1 °c
Received By: Nadiar Yakob			
Signature:			

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	✓		
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated. (If yes see attached NCF)			

Case Narrative

Lab No: 20161197

This report contains the analytical results for the 18 sample(s) received under chain of custody by ESC Lab Sciences on 12/9/2016 9:55:15 AM. These samples are associated with your La Cygne 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

L877971

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161197-01**								
Client ID : **MW-801**								
Date Sampled : **12/6/2016 9:50:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.88 +/- 0.684	0.424	pCi/l				
Radium-226	SM 7500 Ra B M*	0.351 +/- 0.145	0.087	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	1.53 +/- 0.539	0.337	pCi/l		12/20/16	01/04/17	JR
Lab ID : **20161197-02**								
Client ID : **MW-802**								
Date Sampled : **12/6/2016 10:20:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.16 +/- 0.804	0.630	pCi/l				
Radium-226	SM 7500 Ra B M*	0.337 +/- 0.180	0.220	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	0.826 +/- 0.624	0.410	pCi/l		12/20/16	01/04/17	JR
Lab ID : **20161197-03**								
Client ID : **MW-803**								
Date Sampled : **12/6/2016 11:45:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.55 +/- 0.715	0.535	pCi/l				
Radium-226	SM 7500 Ra B M*	0.385 +/- 0.144	0.125	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	1.16 +/- 0.571	0.410	pCi/l		12/20/16	01/04/17	JR
Lab ID : **20161197-04**								
Client ID : **MW-805**								
Date Sampled : **12/6/2016 1:30:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.764 +/- 0.595	0.485	pCi/l				
Radium-226	SM 7500 Ra B M*	0.228 +/- 0.129	0.157	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	0.536 +/- 0.466	0.328	pCi/l		12/20/16	01/04/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161197-05**								
Client ID : **MW-805 MS**								
Date Sampled : **12/6/2016 1:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	84.9		% Rec		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	85.1		% Rec		12/20/16	01/04/17	JR
Lab ID : **20161197-06**								
Client ID : **MW-805 MSD**								
Date Sampled : **12/6/2016 1:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	3.8		RPD		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	10.5		RPD		12/20/16	01/04/17	JR
Lab ID : **20161197-07**								
Client ID : **TW-1**								
Date Sampled : **12/6/2016 1:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.60 +/- 0.888	0.721	pCi/l				
Radium-226	SM 7500 Ra B M*	0.066 +/- 0.181	0.292	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	1.53 +/- 0.707	0.429	pCi/l		12/20/16	01/04/17	JR
Lab ID : **20161197-08**								
Client ID : **MW-707B**								
Date Sampled : **12/6/2016 1:55:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.25 +/- 0.643	0.493	pCi/l				
Radium-226	SM 7500 Ra B M*	0.332 +/- 0.151	0.176	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	0.921 +/- 0.492	0.317	pCi/l		12/20/16	01/04/17	JR
Lab ID : **20161197-09**								
Client ID : **MW-701**								
Date Sampled : **12/6/2016 2:45:00 PM**								
Matrix : **NPW**								

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		0.734 +/- 0.822	0.626	pCi/l				
Radium-226	SM 7500 Ra B M*	0.248 +/- 0.117	0.092	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	0.486 +/- 0.705	0.534	pCi/l		12/20/16	01/04/17	JR

Lab ID : **20161197-10**
Client ID : **MW-704**
Date Sampled : **12/6/2016 3:30:00 PM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.957 +/- 0.660	0.496	pCi/l				
Radium-226	SM 7500 Ra B M*	0.314 +/- 0.136	0.114	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	0.643 +/- 0.524	0.382	pCi/l		12/20/16	01/04/17	JR

Lab ID : **20161197-11**
Client ID : **MW-804**
Date Sampled : **12/7/2016 10:40:00 AM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		1.81 +/- 0.675	0.500	pCi/l				
Radium-226	SM 7500 Ra B M*	0.313 +/- 0.158	0.168	pCi/l		12/12/16	12/13/16	AK
Radium-228	EPA 904*/9320*	1.50 +/- 0.517	0.332	pCi/l		12/20/16	01/04/17	JR

Lab ID : **20161197-12**
Client ID : **MW-15**
Date Sampled : **12/7/2016 11:20:00 AM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		1.76 +/- 0.730	1.11	pCi/l				
Radium-226	SM 7500 Ra B M*	0.112 +/- 0.082	0.098	pCi/l		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	1.65 +/- 0.648	1.01	pCi/l		12/20/16	01/08/17	JR

Lab ID : **20161197-13**
Client ID : **MW-601**
Date Sampled : **12/7/2016 11:40:00 AM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.160 +/- 0.641	0.825	pCi/l				

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.160 +/- 0.124	0.141	pCi/l		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	-0.116 +/- 0.517	0.684	pCi/l		12/20/16	01/08/17	JR

Lab ID : 20161197-14
Client ID : MW-951
Date Sampled : 12/7/2016 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.245 +/- 0.651	0.822	pCi/l				
Radium-226	SM 7500 Ra B M*	0.200 +/- 0.111	0.123	pCi/l		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	0.045 +/- 0.540	0.699	pCi/l		12/20/16	01/08/17	JR

Lab ID : 20161197-15
Client ID : MW-705
Date Sampled : 12/7/2016 11:40:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.608 +/- 0.796	0.958	pCi/l				
Radium-226	SM 7500 Ra B M*	0.281 +/- 0.128	0.084	% Rec		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	0.327 +/- 0.668	0.874	pCi/l		12/20/16	01/08/17	JR

Lab ID : 20161197-16
Client ID : MW-950
Date Sampled : 12/7/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.09 +/- 0.848	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.150 +/- 0.122	0.170	RPD		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	1.94 +/- 0.726	0.923	pCi/l		12/20/16	01/08/17	JR

Lab ID : 20161197-17
Client ID : MW-703
Date Sampled : 12/7/2016 3:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		4.48 +/- 0.864	0.875	pCi/l				
Radium-226	SM 7500 Ra B M*	1.16 +/- 0.253	0.134	pCi/l		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	3.32 +/- 0.611	0.741	pCi/l		12/20/16	01/08/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161197-18**								
Client ID : **MW-706**								
Date Sampled : **12/6/2016 4:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		4.74 +/- 0.693	0.766	pCi/l				
Radium-226	SM 7500 Ra B M*	0.325 +/- 0.146	0.144	pCi/l		12/12/16	12/14/16	AK
Radium-228	EPA 904*/9320*	4.41 +/- 0.547	0.622	pCi/l		12/20/16	01/08/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.007	113.0			NC	1.240	84.9	81.8	3.8	R1170
Radium-228	-0.274	96.3			15.6	0.300	85.1	95.4	10.5	R3899

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. # URSKC1028155

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

Chain of Custody Page 1 of 2

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

L# 87971

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P578228
TSR: 206 - Jeff Carr
PB:

Shipped Via:

	Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	©RL-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
1	MW-801	Grab	NPW		12-6-16	9:50	2	X		
2	MW-802	Grab	NPW		12-6-16	10:20	2	X		
3	MW-803	Grab	NPW		12-6-16	11:45	2	X		
4	MW-805	Grab	NPW		12-6-16	13:30	2	X		
5	MW-805 MS	Grab	NPW		12-6-16	13:30	2	X	MS/MSD	
6	MW-805 MSD	Grab	NPW		12-6-16	13:30	2	X		
7	TW-1	Grab	NPW		12-6-16	13:10	2	X		
8	MW-707B	Grab	NPW		12-6-16	13:55	2	X		
9	MW-701	Grab	NPW		12-6-16	14:45	2	X		
10	MW-704	Grab	NPW		12-6-16	15:30	2	X		

COPY

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD. = (MW-805)

pH _____ Temp _____

Flow _____ Other _____

20166997

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12-7-16	13:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/8/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: Amb °C Bottles Received: 36

Date: 12/9/16 Time: 955

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project #: URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. #: URSKC1028155

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

Chain of Custody Page 1 of 2

ESC LABORATORY 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#

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P578228
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3								Rem./Contaminant	Sample # (lab only)
MW-804	Grab	NPW		12-7-16	10:40	2	X									
MW-15	Grab	NPW		12-7-16	11:20	2	X									
MW-601	Grab	NPW		12-7-16	11:40	2	X									
MW-951	Grab	NPW		12-7-16	12:20	2	X									
MW-705	Grab	NPW		12-7-16	11:40	2	X									
MW-950	Grab	NPW		12-7-16	11:00	2	X									
MW-703	Grab	NPW		12-7-16	15:10	2	X									
MW-706	Grab	NPW		12-6-16	16:10	2	X									
		NPW				2	X									
		NPW				2	X									

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

2016nov7

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	12-7-16	13:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/8/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: Amb °C Bottles Received: 36

Date: 12/9/16 Time: 955

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

SAMPLE LOGIN

Date Received: *12/9/2016 9:55:15*

Lab Number: 20161197

Due: 1/10/~~2016~~ 2017 12/9/16

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161197-01 B	MW-801	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-01 A	MW-801	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-02 A	MW-802	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-02 B	MW-802	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-03 A	MW-803	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-03 B	MW-803	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-04 A	MW-805	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-04 B	MW-805	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-05 A	MW-805 MS	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-05 B	MW-805 MS	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-06 B	MW-805 MSD	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-06 A	MW-805 MSD	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-07 A	Tw-1	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-07 B	Tw-1	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20161197-08 A	MW-707B	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-08 B	MW-707B	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-09 A	MW-701	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-09 B	MW-701	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-10 B	MW-704	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-10 A	MW-704	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-11 A	MW-804	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-11 B	MW-804	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-12 A	MW-15	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-12 B	MW-15	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-13 A	MW-601	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-13 B	MW-601	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-14 A	MW-951	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-14 B	MW-951	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-15 B	MW-705	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-15 A	MW-705	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-16 A	MW-950	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-16 B	MW-950	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-17 A	MW-703	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-17 B	MW-703	NPW	12/07/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161197-18 B	MW-706	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161197-18 A	MW-706	NPW	12/06/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø ☑ **Temperature:** Amb **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 12/9/16

QA or Designee Review: _____ **DATE** 12/9/16

Sample Custodian Review: _____ **DATE** 12/9/16

Project Notes:

ANALYTICAL REPORT

December 21, 2016

AECOM - Overland Park, KS

Sample Delivery Group:	L878474
Samples Received:	12/14/2016
Project Number:	
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

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.

MW-903 L878474-01 GW

Collected by: JM / DH
Collected date/time: 12/09/16 14:50
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:12	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:03	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:05	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 19:26	12/15/16 19:26	KCF
Wet Chemistry by Method 9056A	WG935290	50	12/15/16 19:36	12/15/16 19:36	KCF

MW-14R L878474-02 GW

Collected by: JM / DH
Collected date/time: 12/09/16 15:55
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:15	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:11	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:09	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 19:46	12/15/16 19:46	KCF

MW-905 L878474-03 GW

Collected by: JM / DH
Collected date/time: 12/09/16 15:10
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:17	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:14	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:12	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 19:56	12/15/16 19:56	KCF

MW-902 L878474-04 GW

Collected by: JM / DH
Collected date/time: 12/12/16 10:30
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935741	1	12/16/16 17:45	12/16/16 18:30	MMF
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:20	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:17	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:26	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 20:27	12/15/16 20:27	KCF

MW-901 L878474-05 GW

Collected by: JM / DH
Collected date/time: 12/12/16 10:50
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935741	1	12/16/16 17:45	12/16/16 18:30	MMF
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:22	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:19	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:30	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 20:37	12/15/16 20:37	KCF

MW-13 L878474-06 GW

Collected by: JM / DH
Collected date/time: 12/13/16 12:00
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG936116	1	12/19/16 15:27	12/19/16 16:00	MMF
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:25	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:22	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:33	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 20:47	12/15/16 20:47	KCF
Wet Chemistry by Method 9056A	WG935290	50	12/15/16 20:57	12/15/16 20:57	KCF

MW-6 L878474-07 GW

Collected by: JM / DH
Collected date/time: 12/12/16 16:10
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935741	1	12/16/16 17:45	12/16/16 18:30	MMF
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:27	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:25	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:37	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 21:08	12/15/16 21:08	KCF
Wet Chemistry by Method 9056A	WG935290	10	12/15/16 21:18	12/15/16 21:18	KCF

MW-7 L878474-08 GW

Collected by: JM / DH
Collected date/time: 12/12/16 15:05
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935741	1	12/16/16 17:45	12/16/16 18:30	MMF
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:38	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:28	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:40	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 21:28	12/15/16 21:28	KCF

MW-702 L878474-09 GW

Collected by: JM / DH
Collected date/time: 12/08/16 09:15
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935407	1	12/15/16 21:41	12/15/16 23:30	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:40	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:30	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:44	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 21:48	12/15/16 21:48	KCF

MW-708 L878474-10 GW

Collected by: JM / DH
Collected date/time: 12/09/16 09:40
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:43	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:33	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:47	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 22:29	12/15/16 22:29	KCF

MW-10 L878474-11 GW

Collected by: JM / DH
Collected date/time: 12/09/16 11:30
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 19:44	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 12:48	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 11:51	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 22:39	12/15/16 22:39	KCF

MW-11 L878474-12 GW

Collected by: JM / DH
Collected date/time: 12/09/16 13:30
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:45	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:36	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:51	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 23:09	12/15/16 23:09	KCF
Wet Chemistry by Method 9056A	WG935290	10	12/15/16 23:20	12/15/16 23:20	KCF

MW-602 L878474-13 GW

Collected by: JM / DH
Collected date/time: 12/09/16 14:25
Received date/time: 12/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG935408	1	12/15/16 21:49	12/16/16 01:12	JM
Mercury by Method 7470A	WG935534	1	12/15/16 12:27	12/15/16 20:48	NJB
Metals (ICP) by Method 6010B	WG935359	1	12/15/16 08:45	12/15/16 13:44	CCE
Metals (ICPMS) by Method 6020	WG935499	1	12/15/16 08:47	12/15/16 12:54	JPD
Wet Chemistry by Method 9040C	WG935592	1	12/21/16 11:13	12/21/16 11:13	MHM
Wet Chemistry by Method 9056A	WG935290	1	12/15/16 23:30	12/15/16 23:30	KCF

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L878474-01	MW-903	9040C
L878474-02	MW-14R	9040C
L878474-03	MW-905	9040C
L878474-04	MW-902	9040C
L878474-05	MW-901	9040C
L878474-06	MW-13	9040C
L878474-07	MW-6	9040C
L878474-08	MW-7	9040C
L878474-09	MW-702	9040C
L878474-10	MW-708	9040C
L878474-11	MW-10	9040C
L878474-12	MW-11	9040C
L878474-13	MW-602	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2110		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.09		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-01 WG935592: 7.09 at 16.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	24.3		1.00	1	12/15/2016 19:26	WG935290
Fluoride	0.104		0.100	1	12/15/2016 19:26	WG935290
Sulfate	899		250	50	12/15/2016 19:36	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:12	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.386		0.200	1	12/15/2016 13:03	WG935359
Lithium	0.0462		0.0150	1	12/15/2016 13:03	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:03	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:05	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:05	WG935499
Barium	0.0160		0.00500	1	12/15/2016 12:05	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:05	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:05	WG935499
Calcium	331		1.00	1	12/15/2016 12:05	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:05	WG935499
Cobalt	0.00294		0.00200	1	12/15/2016 12:05	WG935499
Lead	ND		0.00200	1	12/15/2016 12:05	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:05	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:05	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	533		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.95		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-02 WG935592: 7.95 at 14.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	3.86		1.00	1	12/15/2016 19:46	WG935290
Fluoride	0.178		0.100	1	12/15/2016 19:46	WG935290
Sulfate	34.9		5.00	1	12/15/2016 19:46	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:15	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.427		0.200	1	12/15/2016 13:11	WG935359
Lithium	0.0326		0.0150	1	12/15/2016 13:11	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:11	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:09	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:09	WG935499
Barium	0.0374		0.00500	1	12/15/2016 12:09	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:09	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:09	WG935499
Calcium	56.4		1.00	1	12/15/2016 12:09	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:09	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:09	WG935499
Lead	ND		0.00200	1	12/15/2016 12:09	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:09	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:09	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	584		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.59		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-03 WG935592: 7.59 at 13.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.6		1.00	1	12/15/2016 19:56	WG935290
Fluoride	0.444		0.100	1	12/15/2016 19:56	WG935290
Sulfate	28.5		5.00	1	12/15/2016 19:56	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:17	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.84		0.200	1	12/15/2016 13:14	WG935359
Lithium	0.0591		0.0150	1	12/15/2016 13:14	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:14	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:12	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:12	WG935499
Barium	0.105		0.00500	1	12/15/2016 12:12	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:12	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:12	WG935499
Calcium	49.7		1.00	1	12/15/2016 12:12	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:12	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:12	WG935499
Lead	ND		0.00200	1	12/15/2016 12:12	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:12	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:12	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	517		10.0	1	12/16/2016 18:30	WG935741

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.79		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-04 WG935592: 7.79 at 12.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	31.0		1.00	1	12/15/2016 20:27	WG935290
Fluoride	0.404		0.100	1	12/15/2016 20:27	WG935290
Sulfate	27.4		5.00	1	12/15/2016 20:27	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:20	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.22		0.200	1	12/15/2016 13:17	WG935359
Lithium	0.0326		0.0150	1	12/15/2016 13:17	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:17	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:26	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:26	WG935499
Barium	0.111		0.00500	1	12/15/2016 12:26	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:26	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:26	WG935499
Calcium	66.3		1.00	1	12/15/2016 12:26	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:26	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:26	WG935499
Lead	ND		0.00200	1	12/15/2016 12:26	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:26	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:26	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	524		10.0	1	12/16/2016 18:30	WG935741

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.58		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-05 WG935592: 7.58 at 13.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	20.9		1.00	1	12/15/2016 20:37	WG935290
Fluoride	0.413		0.100	1	12/15/2016 20:37	WG935290
Sulfate	14.5		5.00	1	12/15/2016 20:37	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:22	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.17		0.200	1	12/15/2016 13:19	WG935359
Lithium	0.0443		0.0150	1	12/15/2016 13:19	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:19	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:30	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:30	WG935499
Barium	0.195		0.00500	1	12/15/2016 12:30	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:30	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:30	WG935499
Calcium	56.9		1.00	1	12/15/2016 12:30	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:30	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:30	WG935499
Lead	ND		0.00200	1	12/15/2016 12:30	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:30	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:30	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2590		10.0	1	12/19/2016 16:00	WG936116

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.32		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-06 WG935592: 7.32 at 18.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.4		1.00	1	12/15/2016 20:47	WG935290
Fluoride	0.142		0.100	1	12/15/2016 20:47	WG935290
Sulfate	1270		250	50	12/15/2016 20:57	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:25	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.403		0.200	1	12/15/2016 13:22	WG935359
Lithium	0.0507		0.0150	1	12/15/2016 13:22	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:22	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:33	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:33	WG935499
Barium	0.0181		0.00500	1	12/15/2016 12:33	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:33	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:33	WG935499
Calcium	336		1.00	1	12/15/2016 12:33	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:33	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:33	WG935499
Lead	ND		0.00200	1	12/15/2016 12:33	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:33	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:33	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1220		10.0	1	12/16/2016 18:30	WG935741

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.47		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-07 WG935592: 7.47 at 17.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	189		10.0	10	12/15/2016 21:18	WG935290
Fluoride	0.401		0.100	1	12/15/2016 21:08	WG935290
Sulfate	160		50.0	10	12/15/2016 21:18	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:27	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	12/15/2016 13:25	WG935359
Lithium	0.0456		0.0150	1	12/15/2016 13:25	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:25	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:37	WG935499
Arsenic	0.00515		0.00200	1	12/15/2016 12:37	WG935499
Barium	0.168		0.00500	1	12/15/2016 12:37	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:37	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:37	WG935499
Calcium	103		1.00	1	12/15/2016 12:37	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:37	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:37	WG935499
Lead	ND		0.00200	1	12/15/2016 12:37	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:37	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:37	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	902		10.0	1	12/16/2016 18:30	WG935741

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.21		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-08 WG935592: 8.21 at 15.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	98.0		1.00	1	12/15/2016 21:28	WG935290
Fluoride	1.13		0.100	1	12/15/2016 21:28	WG935290
Sulfate	ND		5.00	1	12/15/2016 21:28	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:38	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.60		0.200	1	12/15/2016 13:28	WG935359
Lithium	0.0713		0.0150	1	12/15/2016 13:28	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:28	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:40	WG935499
Arsenic	0.00278		0.00200	1	12/15/2016 12:40	WG935499
Barium	0.552		0.00500	1	12/15/2016 12:40	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:40	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:40	WG935499
Calcium	23.2		1.00	1	12/15/2016 12:40	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:40	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:40	WG935499
Lead	ND		0.00200	1	12/15/2016 12:40	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:40	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:40	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	783		10.0	1	12/15/2016 23:30	WG935407

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.13		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-09 WG935592: 8.13 at 14.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.7		1.00	1	12/15/2016 21:48	WG935290
Fluoride	1.39		0.100	1	12/15/2016 21:48	WG935290
Sulfate	ND		5.00	1	12/15/2016 21:48	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:40	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.81		0.200	1	12/15/2016 13:30	WG935359
Lithium	0.0671		0.0150	1	12/15/2016 13:30	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:30	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:44	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:44	WG935499
Barium	0.376		0.00500	1	12/15/2016 12:44	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:44	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:44	WG935499
Calcium	19.4		1.00	1	12/15/2016 12:44	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:44	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:44	WG935499
Lead	ND		0.00200	1	12/15/2016 12:44	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:44	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:44	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	639		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.05		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-10 WG935592: 8.05 at 15.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.4		1.00	1	12/15/2016 22:29	WG935290
Fluoride	0.548		0.100	1	12/15/2016 22:29	WG935290
Sulfate	8.72		5.00	1	12/15/2016 22:29	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:43	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.44		0.200	1	12/15/2016 13:33	WG935359
Lithium	0.0687		0.0150	1	12/15/2016 13:33	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:33	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:47	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:47	WG935499
Barium	0.257		0.00500	1	12/15/2016 12:47	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:47	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:47	WG935499
Calcium	30.7		1.00	1	12/15/2016 12:47	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:47	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:47	WG935499
Lead	ND		0.00200	1	12/15/2016 12:47	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:47	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:47	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	612		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-11 WG935592: 7.60 at 15.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	66.6		1.00	1	12/15/2016 22:39	WG935290
Fluoride	0.299		0.100	1	12/15/2016 22:39	WG935290
Sulfate	26.8		5.00	1	12/15/2016 22:39	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 19:44	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.940		0.200	1	12/15/2016 12:48	WG935359
Lithium	0.0382		0.0150	1	12/15/2016 12:48	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 12:48	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 11:51	WG935499
Arsenic	0.00326		0.00200	1	12/15/2016 11:51	WG935499
Barium	0.312		0.00500	1	12/15/2016 11:51	WG935499
Beryllium	ND		0.00200	1	12/15/2016 11:51	WG935499
Cadmium	ND		0.00100	1	12/15/2016 11:51	WG935499
Calcium	59.0	O1	1.00	1	12/15/2016 11:51	WG935499
Chromium	ND		0.00200	1	12/15/2016 11:51	WG935499
Cobalt	ND		0.00200	1	12/15/2016 11:51	WG935499
Lead	ND		0.00200	1	12/15/2016 11:51	WG935499
Selenium	ND		0.00200	1	12/15/2016 11:51	WG935499
Thallium	ND		0.00200	1	12/15/2016 11:51	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1100		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.93		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-12 WG935592: 7.93 at 14.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	107		10.0	10	12/15/2016 23:20	WG935290
Fluoride	0.425		0.100	1	12/15/2016 23:09	WG935290
Sulfate	215		50.0	10	12/15/2016 23:20	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:45	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.786		0.200	1	12/15/2016 13:36	WG935359
Lithium	0.0577		0.0150	1	12/15/2016 13:36	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:36	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:51	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:51	WG935499
Barium	0.0332		0.00500	1	12/15/2016 12:51	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:51	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:51	WG935499
Calcium	67.1		1.00	1	12/15/2016 12:51	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:51	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:51	WG935499
Lead	ND		0.00200	1	12/15/2016 12:51	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:51	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:51	WG935499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	614		10.0	1	12/16/2016 01:12	WG935408

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.02		1	12/21/2016 11:13	WG935592

Sample Narrative:

9040C L878474-13 WG935592: 8.02 at 15.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.4		1.00	1	12/15/2016 23:30	WG935290
Fluoride	1.16		0.100	1	12/15/2016 23:30	WG935290
Sulfate	24.2		5.00	1	12/15/2016 23:30	WG935290

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	12/15/2016 20:48	WG935534

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	12/15/2016 13:44	WG935359
Lithium	0.0533		0.0150	1	12/15/2016 13:44	WG935359
Molybdenum	ND		0.00500	1	12/15/2016 13:44	WG935359

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	12/15/2016 12:54	WG935499
Arsenic	ND		0.00200	1	12/15/2016 12:54	WG935499
Barium	0.0913		0.00500	1	12/15/2016 12:54	WG935499
Beryllium	ND		0.00200	1	12/15/2016 12:54	WG935499
Cadmium	ND		0.00100	1	12/15/2016 12:54	WG935499
Calcium	25.3		1.00	1	12/15/2016 12:54	WG935499
Chromium	ND		0.00200	1	12/15/2016 12:54	WG935499
Cobalt	ND		0.00200	1	12/15/2016 12:54	WG935499
Lead	ND		0.00200	1	12/15/2016 12:54	WG935499
Selenium	ND		0.00200	1	12/15/2016 12:54	WG935499
Thallium	ND		0.00200	1	12/15/2016 12:54	WG935499

Method Blank (MB)

(MB) R3185364-1 12/15/16 23:30

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

L877474-01 Original Sample (OS) • Duplicate (DUP)

(OS) L877474-01 12/15/16 23:30 • (DUP) R3185364-4 12/15/16 23:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	168	163	1	3.02		5

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

(LCS) R3185364-2 12/15/16 23:30 • (LCSD) R3185364-3 12/15/16 23:30

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	8420	8810	95.7	100	85.0-115			4.53	5

Method Blank (MB)

(MB) R3185366-1 12/16/16 01:12

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

L877998-01 Original Sample (OS) • Duplicate (DUP)

(OS) L877998-01 12/16/16 01:12 • (DUP) R3185366-4 12/16/16 01:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	298	289	1	3.07		5

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

(LCS) R3185366-2 12/16/16 01:12 • (LCSD) R3185366-3 12/16/16 01:12

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	%	%	%			%	%
Dissolved Solids	8800	8270	8630	94.0	98.1	85.0-115			4.26	5

Method Blank (MB)

(MB) R3185660-1 12/16/16 18:30

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

L878645-01 Original Sample (OS) • Duplicate (DUP)

(OS) L878645-01 12/16/16 18:30 • (DUP) R3185660-4 12/16/16 18:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1150	1190	1	3.20		5

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

(LCS) R3185660-2 12/16/16 18:30 • (LCSD) R3185660-3 12/16/16 18:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8490	8480	96.5	96.4	85.0-115			0.118	5

Method Blank (MB)

(MB) R3186047-1 12/19/16 16:00

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

L878474-06 Original Sample (OS) • Duplicate (DUP)

(OS) L878474-06 12/19/16 16:00 • (DUP) R3186047-4 12/19/16 16:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2590	2570	1	0.777		5

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

(LCS) R3186047-2 12/19/16 16:00 • (LCSD) R3186047-3 12/19/16 16:00

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	8220	8460	93.4	96.1	85.0-115			2.88	5

L878411-01 Original Sample (OS) • Duplicate (DUP)

(OS) L878411-01 12/21/16 11:13 • (DUP) WG935592-3 12/21/16 11:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.76	7.75	1	0.129		1

L878513-01 Original Sample (OS) • Duplicate (DUP)

(OS) L878513-01 12/21/16 11:13 • (DUP) WG935592-4 12/21/16 11:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	11.9	11.9	1	0.000		1

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

(LCS) WG935592-1 12/21/16 11:13 • (LCSD) WG935592-2 12/21/16 11:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.08	6.07	100	100	98.4-102			0.165	1

Method Blank (MB)

(MB) R3185179-1 12/15/16 14:52

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

L878376-01 Original Sample (OS) • Duplicate (DUP)

(OS) L878376-01 12/15/16 17:24 • (DUP) R3185179-4 12/15/16 17:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.11	6.09	1	0		15
Fluoride	1.25	1.24	1	1		15

L878474-09 Original Sample (OS) • Duplicate (DUP)

(OS) L878474-09 12/15/16 21:48 • (DUP) R3185179-7 12/15/16 22:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46.7	46.8	1	0		15
Fluoride	1.39	1.39	1	0		15
Sulfate	ND	2.48	1	0	J	15

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

(LCS) R3185179-2 12/15/16 15:02 • (LCSD) R3185179-3 12/15/16 15:12

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 %
Chloride	40.0	38.5	38.6	96	97	80-120			0	15
Fluoride	8.00	8.05	8.07	101	101	80-120			0	15
Sulfate	40.0	37.8	37.9	94	95	80-120			0	15

L878426-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878426-02 12/15/16 18:05 • (MS) R3185179-5 12/15/16 18:35 • (MSD) R3185179-6 12/15/16 18:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	77.4	127	125	98	94	1	80-120	E	E	2	15
Fluoride	5.00	0.155	5.20	5.04	101	98	1	80-120			3	15
Sulfate	50.0	74.4	120	120	91	91	1	80-120	E	E	0	15

L878474-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878474-11 12/15/16 22:39 • (MS) R3185179-8 12/15/16 22:49 • (MSD) R3185179-9 12/15/16 22:59

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 %
Chloride	50.0	66.6	115	113	96	93	1	80-120	E	E	1	15
Fluoride	5.00	0.299	5.27	5.19	99	98	1	80-120			2	15
Sulfate	50.0	26.8	74.5	74.5	95	95	1	80-120			0	15

Method Blank (MB)

(MB) R3185030-1 12/15/16 19:36

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

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

(LCS) R3185030-2 12/15/16 19:39 • (LCSD) R3185030-3 12/15/16 19:42

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	0.00281	0.00306	94	102	80-120			8	20

L878474-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878474-11 12/15/16 19:44 • (MS) R3185030-4 12/15/16 19:47 • (MSD) R3185030-5 12/15/16 19:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00310	0.00309	103	103	1	75-125			0	20

Method Blank (MB)

(MB) R3184945-1 12/15/16 12:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3184945-2 12/15/16 12:43 • (LCSD) R3184945-3 12/15/16 12:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.976	0.982	98	98	80-120			1	20
Lithium	1.00	0.973	0.984	97	98	80-120			1	20
Molybdenum	1.00	1.03	1.04	103	104	80-120			1	20

L878474-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878474-11 12/15/16 12:48 • (MS) R3184945-5 12/15/16 12:53 • (MSD) R3184945-6 12/15/16 12:55

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 %
Boron	1.00	0.940	1.86	1.91	92	97	1	75-125			2	20
Lithium	1.00	0.0382	0.992	1.00	95	97	1	75-125			1	20
Molybdenum	1.00	ND	1.03	1.04	103	104	1	75-125			1	20

Method Blank (MB)

(MB) R3184906-1 12/15/16 11:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	0.000313	J	0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3184906-2 12/15/16 11:45 • (LCSD) R3184906-3 12/15/16 11:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	0.0500	0.0503	86	87	80-120			1	20
Arsenic	0.0500	0.0468	0.0470	94	94	80-120			0	20
Barium	0.0500	0.0469	0.0472	94	94	80-120			1	20
Beryllium	0.0500	0.0456	0.0449	91	90	80-120			2	20
Cadmium	0.0500	0.0505	0.0487	101	97	80-120			4	20
Calcium	5.00	4.88	4.71	98	94	80-120			3	20
Chromium	0.0500	0.0486	0.0487	97	97	80-120			0	20
Cobalt	0.0500	0.0492	0.0496	98	99	80-120			1	20
Lead	0.0500	0.0481	0.0483	96	97	80-120			0	20
Selenium	0.0500	0.0476	0.0474	95	95	80-120			1	20
Thallium	0.0500	0.0483	0.0483	97	97	80-120			0	20

L878474-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878474-11 12/15/16 11:51 • (MS) R3184906-5 12/15/16 11:58 • (MSD) R3184906-6 12/15/16 12:02

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	0.0579	ND	0.0516	0.0514	89	89	1	75-125			0	20
Arsenic	0.0500	0.00326	0.0503	0.0486	94	91	1	75-125			3	20
Barium	0.0500	0.312	0.355	0.358	87	92	1	75-125			1	20
Beryllium	0.0500	ND	0.0443	0.0447	89	89	1	75-125			1	20
Cadmium	0.0500	ND	0.0489	0.0489	98	98	1	75-125			0	20

L878474-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L878474-11 12/15/16 11:51 • (MS) R3184906-5 12/15/16 11:58 • (MSD) R3184906-6 12/15/16 12:02

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	5.00	59.0	62.8	62.9	77	78	1	75-125			0	20
Chromium	0.0500	ND	0.0478	0.0461	96	92	1	75-125			4	20
Cobalt	0.0500	ND	0.0476	0.0464	95	93	1	75-125			2	20
Lead	0.0500	ND	0.0485	0.0482	97	96	1	75-125			1	20
Selenium	0.0500	ND	0.0490	0.0466	98	93	1	75-125			5	20
Thallium	0.0500	ND	0.0488	0.0485	98	97	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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

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
Conneticut	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 [1 4]	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		

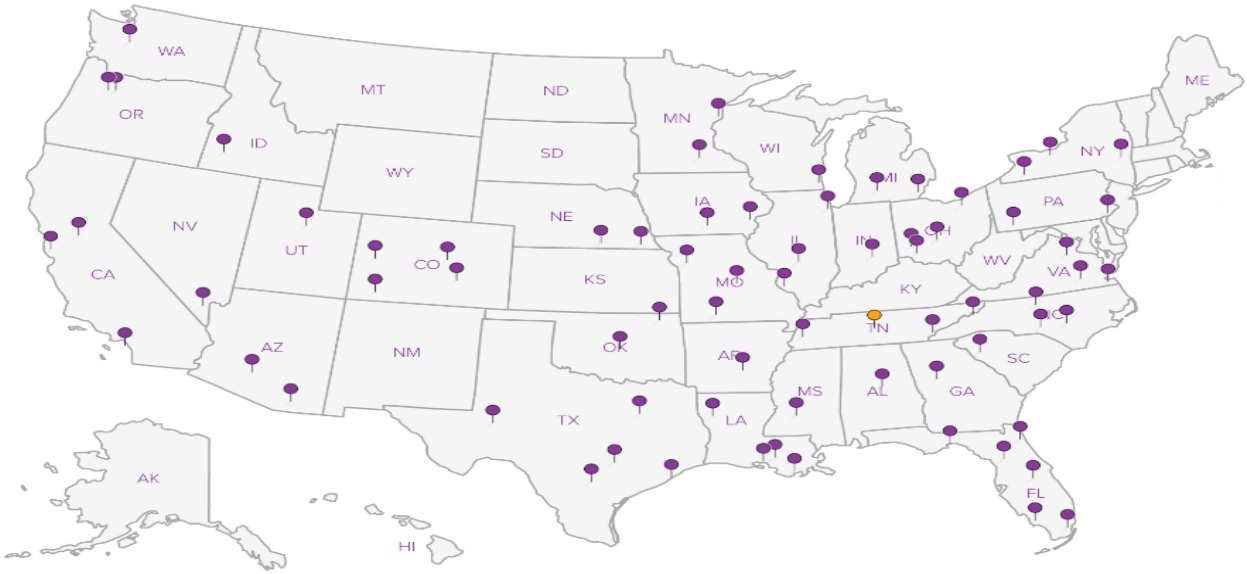
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8310 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. # URSKC1028155

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

Chain of Custody Page 1 of 4

ESC LAB SCIENCES

MOUNT JULIET, TN

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

L# 878474

J199

Acctnum: URSKC
Template: T114093
Prelogin: P578103
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-903	Grab	GW		12-9-16	14:50	3	X	X	X		01
MW-14R	Grab	GW		12-9-16	15:55	3	X	X	X		02
MW-905	Grab	GW		12-9-16	15:10	3	X	X	X		03
MW-902	Grab	GW		12-12-16	10:30	3	X	X	X		04
MW-901	Grab	GW		12-12-16	10:50	3	X	X	X		05
MW-13	Grab	GW		12-13-16	12:00	3	X	X	X		06
MW-6	Grab	GW		12-12-16	16:10	3	X	X	X		07
MW-7	Grab	GW		12-12-16	15:05	3	X	X	X		08
~~MW-4~~	~~Grab~~	~~GW~~		~~12-12-16~~		~~3~~	~~X~~	~~X~~	~~X~~		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH ___ Temp ___

Flow ___ Other ___

Hold #

Condition: (lab use only) NCF

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 3.7 °C Bottles Received: 45

COC Seal Intact: ___ Y ___ N / NA

pH Checked: NCF:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12-13-16	15:30	
Relinquished by : (Signature)	Date: 12/13/16	Time: 1700	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Date: 12-14-16 Time: 0900

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Chain of Custody Page 3 of 4

ESC 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

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # **URSKC-LACYGNE**

L# 878474

Table #

Collected by (print): Gwyn skarberych

Site/Facility ID #

P.O. # **URSKC1028155**

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P578103**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

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

Email? ___No X Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3							Rem./Contaminant	Sample # (lab only)
MW-702	Grab	GW		12/8	0915	3	X	X	X								09
MW-708	↓	GW		12/9	0940	3	X	X	X								10
MW-10	↓	GW		↓	1130	3	X	X	X								11
MW-10-MS	↓	GW		↓	1130	3	X	X	X								11
MW-10-MSD	↓	GW		↓	1130	3	X	X	X								11
MW-11	↓	GW		↓	1330	3	X	X	X								12
MW-602	↓	GW		↓	1425	3	X	X	X								13
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								

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

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

pH ______ Temp ______

Flow ______ Other ______

Hold #

Please indicate sample ID for the MS/MSD. MW-10 is for MS/MSD

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	12/9	1544	[signature]	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____
Relinquished by : (Signature) [signature]	Date: 12/13	Time:	Received by: (Signature)	Temp: 3.1 °C Bottles Received: 45
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 12-14-16 Time: 0900

Condition: (lab use only) MK

COC Seal Intact: ___Y ___N ✓ NA

pH Checked: NCF:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project #: **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. #: **URSKC1028155**

Collected by (signature): Jim Muckler

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3											Rem./Contaminant	Sample # (lab only)
MW-903	Grab	NPW		12-9-16	14:50	2	X												14
MW-14R	Grab	NPW		12-9-16	15:55	2	X												15
MW-905	Grab	NPW		12-9-16	15:10	2	X												16
MW-902	Grab	NPW		12-12-16	10:30	2	X												17
MW-901	Grab	NPW		12-12-16	10:50	2	X												18
MW-13	Grab	NPW		12-13-16	12:00	2	X												19
MW-6	Grab	NPW		12-12-16	16:10	2	X												20
MW-7	Grab	NPW		12-12-16	15:05	2	X												21
		NPW				2	X												
		NPW				2	X												

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

Sent to outreach

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	12-13-16	15:30	
Relinquished by : (Signature)	Date: 12/13/16	Time: 1700	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

pH ___ Temp ___

Flow ___ Other ___

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 3.1 °C Bottles Received: 45

Date: 12-14-16 Time: 0900

Hold #

Condition: (lab use only)

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: NCF:

Chain of Custody Page 2 of 4

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

L # 373477

Table #

Acctnum: **URSKC**

Template: **T112863**

Prelogin: **P578228**

TSR: **206 - Jeff Carr**

PB:

Shipped Via:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Gwyn Skaskeyoh

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-702	Grab	NPW		12/8	0915	2	X
MW-708		NPW		12/9	0940	2	X
MW-10		NPW			1130	2	X
MW-10-MS		NPW			1130	2	X
MW-10-MSD		NPW			1130	2	X
MW-11		NPW			1330	2	X
MW-602		NPW			1425	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

sent to outreach MW-10 for MS/MSD.

pH ____ Temp ____

Flow ____ Other ____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/9	1544	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/13/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____

Temp: 3.1 °C Bottles Received: 45

Date: 12-14-16 Time: 0900

Hold #

Condition: (lab use only) M

COC Seal Intact: ___ Y ___ N ✓ NA

pH Checked: NCF:

Chain of Custody Page 4 of 4

ESC 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 #

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P578228
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant	Sample # (lab only)

ESC
LAB SCIENCES
YOUR LAB OF CHOICE

Cooler Receipt Form

Client:	UPSLC	SDG#	878474
Cooler Received/Opened On: 12/14 /16		Temperature Upon Receipt:	3.1 °c
Received By: Richard Hughes			
Signature:			

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			-
Were custody papers properly filled out?	-		
Did all bottles arrive in good condition?	-		
Were correct bottles used for the analyses requested?	-		
Was sufficient amount of sample sent in each bottle?	-		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)	-		
If applicable, was an observable VOA headspace present?			-
Non Conformance Generated. (If yes see attached NCF)			

Case Narrative

Lab No: 20161219

This report contains the analytical results for the 15 sample(s) received under chain of custody by ESC Lab Sciences on 12/14/2016 11:41:20 AM. These samples are associated with your La Cygne 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:

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

L878717

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161219-01**								
Client ID : **MW-702**								
Date Sampled : **12/8/2016 9:15:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.522 +/- 0.773	0.859	pCi/l				
Radium-226	SM 7500 Ra B M*	0.522 +/- 0.255	0.262	pCi/l		12/27/16	01/03/17	AK
Radium-228	EPA 904*/9320*	-0.369 +/- 0.518	0.597	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-02**								
Client ID : **MW-708**								
Date Sampled : **12/9/2016 9:40:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.29 +/- 0.680	0.769	pCi/l				
Radium-226	SM 7500 Ra B M*	0.365 +/- 0.174	0.193	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	0.922 +/- 0.506	0.576	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-03**								
Client ID : **MW-10**								
Date Sampled : **12/9/2016 11:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.80 +/- 0.738	0.827	pCi/l				
Radium-226	SM 7500 Ra B M*	0.507 +/- 0.206	0.220	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	1.29 +/- 0.532	0.607	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-04**								
Client ID : **MW-10-MS**								
Date Sampled : **12/9/2016 11:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	118		% Rec		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	97.1		% Rec		01/09/17	01/14/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161219-05**								
Client ID : **MW-10-MSD**								
Date Sampled : **12/9/2016 11:30:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	6.7		RPD		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	4.5		RPD		01/09/17	01/14/17	JR
Lab ID : **20161219-06**								
Client ID : **MW-11**								
Date Sampled : **12/9/2016 1:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.15 +/- 0.651	0.845	pCi/l				
Radium-226	SM 7500 Ra B M*	0.113 +/- 0.172	0.267	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	1.04 +/- 0.479	0.578	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-07**								
Client ID : **MW-602**								
Date Sampled : **12/9/2016 2:25:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.650 +/- 0.600	0.809	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.169 +/- 0.176	0.354	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	0.650 +/- 0.424	0.455	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-08**								
Client ID : **MW-903**								
Date Sampled : **12/9/2016 2:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.24 +/- 0.720	0.848	pCi/l				
Radium-226	SM 7500 Ra B M*	0.063 +/- 0.127	0.202	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	1.18 +/- 0.593	0.646	pCi/l		01/09/17	01/14/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161219-09**								
Client ID : **MW-14R**								
Date Sampled : **12/9/2016 3:55:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.634 +/- 0.575	0.613	pCi/l				
Radium-226	SM 7500 Ra B M*	0.286 +/- 0.148	0.126	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	0.348 +/- 0.427	0.487	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-10**								
Client ID : **MW-905**								
Date Sampled : **12/9/2016 3:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.529 +/- 0.726	0.807	pCi/l				
Radium-226	SM 7500 Ra B M*	0.334 +/- 0.160	0.145	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	0.195 +/- 0.566	0.662	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-11**								
Client ID : **MW-902**								
Date Sampled : **12/12/2016 10:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.168 +/- 0.628	0.810	pCi/l				
Radium-226	SM 7500 Ra B M*	0.168 +/- 0.178	0.258	pCi/l		12/27/16	12/30/16	AK
Radium-228	EPA 904*/9320*	-0.453 +/- 0.450	0.552	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-12**								
Client ID : **MW-901**								
Date Sampled : **12/12/2016 10:50:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.932 +/- 0.698	0.900	pCi/l				
Radium-226	SM 7500 Ra B M*	0.222 +/- 0.239	0.352	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	0.710 +/- 0.459	0.548	pCi/l		01/09/17	01/14/17	JR

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20161219-13**								
Client ID : **MW-13**								
Date Sampled : **12/13/2016 12:00:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.000 +/- 0.548	0.777	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.006 +/- 0.122	0.216	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	-0.155 +/- 0.426	0.561	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-14**								
Client ID : **MW-6**								
Date Sampled : **12/12/2016 4:10:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.37 +/- 0.618	0.661	pCi/l				
Radium-226	SM 7500 Ra B M*	0.373 +/- 0.187	0.154	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	1.00 +/- 0.431	0.507	pCi/l		01/09/17	01/14/17	JR
Lab ID : **20161219-15**								
Client ID : **MW-7**								
Date Sampled : **12/12/2016 3:05:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.55 +/- 0.684	0.613	pCi/l				
Radium-226	SM 7500 Ra B M*	0.747 +/- 0.233	0.151	pCi/l		12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	0.804 +/- 0.451	0.462	pCi/l		01/09/17	01/14/17	JR

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.000	120.0			NC	0.321	118.0	110.0	6.7	R1175
Radium-228	0.018	98.4			140.0	1.680	97.1	92.1	4.5	R3904

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:

Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Gwyn Skaskeyoth

Site/Facility ID #

P.O. # URSKC1028155

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226,RA-228 1L-HDPE-Add HNO3										
1 MW-702	Grab	NPW		12/8	0915	2	X										
2 MW-708		NPW		12/9	0940	2	X										
3 MW-10		NPW			1130	2	X										
4 MW-10-MS		NPW			1130	2	X										
5 MW-10-MSD		NPW			1130	2	X										
6 MW-11		NPW			1330	2	X										
7 MW-602		NPW			1425	2	X										
		NPW				2	X										
		NPW				2	X										
		NPW				2	X										

Analysis / Container / Preservative

Chain of Custody Page 4 of 4

ESC 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 # 878717

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P578228
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:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.
MW-10 for MS/MSD

pH _____ Temp _____

Flow _____ Other _____

2016219

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/9	1544	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/13/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: Amb °C Bottles Received: 30

Date: 12/14/16 Time: 1141

Condition: (lab use only)

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: NCF:

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information & Quote Number:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project #: URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. #: URSKC1028155

Collected by (signature): Jim Muckler

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

Chain of Custody Page 2 of 2

ESC LABS 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-#

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P578228
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
8 MW-903	Grab	NPW		12-9-16	14:50	2	X		
9 MW-14R	Grab	NPW		12-9-16	15:55	2	X		
10 MW-905	Grab	NPW		12-9-16	15:10	2	X		
11 MW-902	Grab	NPW		12-12-16	10:30	2	X		
12 MW-901	Grab	NPW		12-12-16	10:50	2	X		
13 MW-13	Grab	NPW		12-13-16	12:00	2	X		
14 MW-6	Grab	NPW		12-12-16	16:10	2	X		
15 MW-7	Grab	NPW		12-12-16	15:05	2	X		
		NPW				2	X		
		NPW				2	X		

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	12-13-16	15:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/13/16	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: Amb °C Bottles Received: 30

Date: 12/14/16 Time: 1141

Condition: (lab use only)

COC Seal Intact: ____Y ____N ____NA

pH Checked: <2 NCF:

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 : 1/12/17
ESC Purchase Order # : S24858
Send Reports To : Janice Cozby jcozby@esclabsciences.com

WORKGROUP	WG934489
Date Created :	12/12/2016

SAMPLENO / Container #	MATRIX	Date / Time Collected	PARAMETER	Code	METHOD	Comments
L877538-01	DW	12/7/2016 15:35	Gross Alpha	ORL-GA	900	
S21732145						
S21732146						
S21732148						
S21732147						
L877538-01	DW	12/7/2016 15:35	Radium 226	ORL-RA-226	SM 7500 Ra B	
S21732147						
S21732148						
S21732145						
S21732146						
L877538-01	DW	12/7/2016 15:35	Radium 228	ORL-RA-228	904	
S21732146						
S21732148						
S21732145						
S21732147						

Relinquished by _____ Date: 12/15/16
Received by : _____ Date: 12/14/16 1306 ~~2016129~~ 20161219
Relinquished by _____ Date: _____
Received by : _____ Date: _____

SAMPLE LOGIN

Date Received: *12/14/2016 11:41:*

Lab Number: 20161219

Due: 1/13/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161219-01 B	MW-702	NPW	12/08/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-01 A	MW-702	NPW	12/08/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-02 A	MW-708	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-02 B	MW-708	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-03 A	MW-10	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-03 B	MW-10	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-04 A	MW-10-MS	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-04 B	MW-10-MS	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-05 A	MW-10-MSD	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-05 B	MW-10-MSD	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-06 A	MW-11	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-06 B	MW-11	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-07 B	MW-602	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-07 A	MW-602	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20161219-08 B	MW-903	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-08 A	MW-903	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-09 A	MW-14R	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-09 B	MW-14R	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-10 A	MW-905	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-10 B	MW-905	NPW	12/09/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-11 A	MW-902	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☐	No	No
20161219-11 B	MW-902	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-12 A	MW-901	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-12 B	MW-901	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-13 A	MW-13	NPW	12/13/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-13 B	MW-13	NPW	12/13/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-14 A	MW-6	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-14 B	MW-6	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161219-15 B	MW-7	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
20161219-15 A	MW-7	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø **Temperature:** Amb **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 12/14/16

QA or Designee Review: Raymond Thomas **DATE** 12/14/16

Sample Custodian Review: _____ **DATE** _____

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-5

February 2017 Sampling Event Laboratory Report

ANALYTICAL REPORT

February 17, 2017

AECOM - Overland Park, KS

Sample Delivery Group:	L889323
Samples Received:	02/10/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-805 L889323-01 GW

Collected by: JM / DH
Collected date/time: 02/06/17 16:40
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 16:23	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 07:54	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 13:09	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 13:18	02/13/17 13:18	SAM
Wet Chemistry by Method 9056A	WG951570	10	02/13/17 17:13	02/13/17 17:13	SAM

MW-15 L889323-02 GW

Collected by: JM / DH
Collected date/time: 02/07/17 10:30
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 16:48	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:05	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:22	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 13:33	02/13/17 13:33	SAM
Wet Chemistry by Method 9056A	WG951570	5	02/13/17 21:32	02/13/17 21:32	SAM

MW-801 L889323-03 GW

Collected by: JM / DH
Collected date/time: 02/07/17 15:10
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 16:51	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:07	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:26	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 13:47	02/13/17 13:47	SAM
Wet Chemistry by Method 9056A	WG951570	2	02/13/17 21:46	02/13/17 21:46	SAM

MW-802 L889323-04 GW

Collected by: JM / DH
Collected date/time: 02/07/17 15:35
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 16:54	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:10	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:29	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 14:02	02/13/17 14:02	SAM

MW-804 L889323-05 GW

Collected by: JM / DH
Collected date/time: 02/07/17 16:10
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 16:56	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:18	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:33	LAT

MW-804 L889323-05 GW

Collected by: JM / DH
Collected date/time: 02/07/17 16:10
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 14:16	02/13/17 14:16	SAM

MW-951 L889323-06 GW

Collected by: JM / DH
Collected date/time: 02/08/17 09:30
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952273	1	02/15/17 12:47	02/15/17 13:25	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:11	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:21	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:36	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 14:30	02/13/17 14:30	SAM
Wet Chemistry by Method 9056A	WG951570	2	02/13/17 22:01	02/13/17 22:01	SAM

MW-601 L889323-07 GW

Collected by: JM / DH
Collected date/time: 02/08/17 10:30
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952273	1	02/15/17 12:47	02/15/17 13:25	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:13	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:24	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:40	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951570	1	02/13/17 14:45	02/13/17 14:45	SAM
Wet Chemistry by Method 9056A	WG951570	2	02/13/17 22:15	02/13/17 22:15	SAM

MW-602 L889323-08 GW

Collected by: JM / DH
Collected date/time: 02/08/17 11:30
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952273	1	02/15/17 12:47	02/15/17 13:25	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:16	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:27	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:43	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 13:19	02/13/17 13:19	KCF

MW-703 L889323-09 GW

Collected by: JM / DH
Collected date/time: 02/07/17 11:10
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 17:18	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:30	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 14:47	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 13:34	02/13/17 13:34	KCF
Wet Chemistry by Method 9056A	WG951571	2	02/13/17 18:17	02/13/17 18:17	KCF

TW-1 L889323-10 GW

Collected by: JM / DH
Collected date/time: 02/07/17 12:10
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 17:21	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:33	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:03	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 13:48	02/13/17 13:48	KCF

MW-706 L889323-11 GW

Collected by: JM / DH
Collected date/time: 02/07/17 12:40
Received date/time: 02/10/17 14:00

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	WG951800	1	02/13/17 08:31	02/13/17 17:23	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:36	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:07	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 14:02	02/13/17 14:02	KCF
Wet Chemistry by Method 9056A	WG951571	5	02/13/17 18:32	02/13/17 18:32	KCF

MW-707B L889323-12 GW

Collected by: JM / DH
Collected date/time: 02/07/17 13:30
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952012	1	02/14/17 20:50	02/14/17 21:45	JM
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:25	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:39	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:10	LAT
Wet Chemistry by Method 9040C	WG951798	1	02/13/17 10:15	02/13/17 10:15	MCG
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 14:17	02/13/17 14:17	KCF
Wet Chemistry by Method 9056A	WG951571	100	02/13/17 19:47	02/13/17 19:47	KCF

MW-701 L889323-13 GW

Collected by: JM / DH
Collected date/time: 02/07/17 15:05
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952012	1	02/14/17 20:50	02/14/17 21:45	JM
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 16:39	NJB
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:42	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 13:23	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 16:22	02/13/17 16:22	KCF

MW-704 L889323-14 GW

Collected by: JM / DH
Collected date/time: 02/07/17 16:50
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952012	1	02/14/17 20:50	02/14/17 21:45	JM
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:28	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:55	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:14	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM

MW-704 L889323-14 GW

Collected by: JM / DH
Collected date/time: 02/07/17 16:50
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 17:05	02/13/17 17:05	KCF
Wet Chemistry by Method 9056A	WG951571	5	02/13/17 21:28	02/13/17 21:28	KCF

MW-10 L889323-15 GW

Collected by: JM / DH
Collected date/time: 02/08/17 10:20
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:30	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 08:58	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:17	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 17:20	02/13/17 17:20	KCF

MW-702 L889323-16 GW

Collected by: JM / DH
Collected date/time: 02/08/17 11:20
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:32	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 09:01	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:21	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 17:34	02/13/17 17:34	KCF

MW-7 L889323-17 GW

Collected by: JM / DH
Collected date/time: 02/08/17 12:50
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:41	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 09:03	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:24	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 17:49	02/13/17 17:49	KCF

MW-803 L889323-18 GW

Collected by: JM / DH
Collected date/time: 02/08/17 12:10
Received date/time: 02/10/17 14:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952275	1	02/15/17 13:27	02/15/17 13:59	MCG
Mercury by Method 7470A	WG951800	1	02/13/17 08:31	02/13/17 17:43	RDS
Metals (ICP) by Method 6010B	WG951561	1	02/11/17 13:37	02/13/17 09:06	LTB
Metals (ICPMS) by Method 6020	WG951841	1	02/13/17 18:28	02/14/17 15:28	JDG
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG951571	1	02/13/17 18:03	02/13/17 18:03	KCF

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L889323-01	MW-805	9040C
L889323-02	MW-15	9040C
L889323-03	MW-801	9040C
L889323-04	MW-802	9040C
L889323-05	MW-804	9040C
L889323-06	MW-951	9040C
L889323-07	MW-601	9040C
L889323-08	MW-602	9040C
L889323-09	MW-703	9040C
L889323-10	TW-1	9040C
L889323-11	MW-706	9040C
L889323-12	MW-707B	9040C
L889323-13	MW-701	9040C
L889323-14	MW-704	9040C
L889323-15	MW-10	9040C
L889323-16	MW-702	9040C
L889323-17	MW-7	9040C
L889323-18	MW-803	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2140		10.0	1	02/13/2017 16:05	WG951810

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.45		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-01 WG951798: 6.45 at 10.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	467		10.0	10	02/13/2017 17:13	WG951570
Fluoride	0.145		0.100	1	02/13/2017 13:18	WG951570
Sulfate	846	V	50.0	10	02/13/2017 17:13	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/13/2017 16:23	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.456		0.200	1	02/13/2017 07:54	WG951561
Lithium	ND		0.0150	1	02/13/2017 07:54	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 07:54	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 13:09	WG951841
Arsenic	ND		0.00200	1	02/14/2017 13:09	WG951841
Barium	0.0340		0.00500	1	02/14/2017 13:09	WG951841
Beryllium	ND		0.00200	1	02/14/2017 13:09	WG951841
Cadmium	ND		0.00100	1	02/14/2017 13:09	WG951841
Calcium	435	V	1.00	1	02/14/2017 13:09	WG951841
Chromium	ND		0.00200	1	02/14/2017 13:09	WG951841
Cobalt	0.00218		0.00200	1	02/14/2017 13:09	WG951841
Lead	ND		0.00200	1	02/14/2017 13:09	WG951841
Selenium	ND		0.00200	1	02/14/2017 13:09	WG951841
Thallium	ND		0.00200	1	02/14/2017 13:09	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2310		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.16		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-02 WG951798: 7.16 at 18.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	20.2		1.00	1	02/13/2017 13:33	WG951570
Fluoride	0.258		0.100	1	02/13/2017 13:33	WG951570
Sulfate	270		25.0	5	02/13/2017 21:32	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/13/2017 16:48	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.285		0.200	1	02/13/2017 08:05	WG951561
Lithium	0.0269		0.0150	1	02/13/2017 08:05	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:05	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:22	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:22	WG951841
Barium	0.0527		0.00500	1	02/14/2017 14:22	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:22	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:22	WG951841
Calcium	109		1.00	1	02/14/2017 14:22	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:22	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:22	WG951841
Lead	ND		0.00200	1	02/14/2017 14:22	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:22	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:22	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	900		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.51		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-03 WG951798: 7.51 at 11.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	113		2.00	2	02/13/2017 21:46	WG951570
Fluoride	1.14		0.100	1	02/13/2017 13:47	WG951570
Sulfate	ND		5.00	1	02/13/2017 13:47	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000247		0.000200	1	02/13/2017 16:51	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	02/13/2017 08:07	WG951561
Lithium	0.104		0.0150	1	02/13/2017 08:07	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:07	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:26	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:26	WG951841
Barium	0.604		0.00500	1	02/14/2017 14:26	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:26	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:26	WG951841
Calcium	30.9		1.00	1	02/14/2017 14:26	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:26	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:26	WG951841
Lead	ND		0.00200	1	02/14/2017 14:26	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:26	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:26	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	683		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-04 WG951798: 7.52 at 10.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.1		1.00	1	02/13/2017 14:02	WG951570
Fluoride	1.01		0.100	1	02/13/2017 14:02	WG951570
Sulfate	ND		5.00	1	02/13/2017 14:02	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000213		0.000200	1	02/13/2017 16:54	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.51		0.200	1	02/13/2017 08:10	WG951561
Lithium	0.0931		0.0150	1	02/13/2017 08:10	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:10	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:29	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:29	WG951841
Barium	0.908		0.00500	1	02/14/2017 14:29	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:29	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:29	WG951841
Calcium	33.7		1.00	1	02/14/2017 14:29	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:29	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:29	WG951841
Lead	ND		0.00200	1	02/14/2017 14:29	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:29	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:29	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	559		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.26		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-05 WG951798: 7.26 at 10.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.3		1.00	1	02/13/2017 14:16	WG951570
Fluoride	0.453		0.100	1	02/13/2017 14:16	WG951570
Sulfate	23.2		5.00	1	02/13/2017 14:16	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/13/2017 16:56	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.59		0.200	1	02/13/2017 08:18	WG951561
Lithium	0.0421		0.0150	1	02/13/2017 08:18	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:18	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:33	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:33	WG951841
Barium	0.153		0.00500	1	02/14/2017 14:33	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:33	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:33	WG951841
Calcium	63.5		1.00	1	02/14/2017 14:33	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:33	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:33	WG951841
Lead	ND		0.00200	1	02/14/2017 14:33	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:33	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:33	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	982		10.0	1	02/15/2017 13:25	WG952273

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.80		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-06 WG951798: 7.80 at 11.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	169		2.00	2	02/13/2017 22:01	WG951570
Fluoride	1.73		0.100	1	02/13/2017 14:30	WG951570
Sulfate	ND		5.00	1	02/13/2017 14:30	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000243		0.000200	1	02/13/2017 17:11	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.88		0.200	1	02/13/2017 08:21	WG951561
Lithium	0.0763		0.0150	1	02/13/2017 08:21	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:21	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:36	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:36	WG951841
Barium	0.133		0.00500	1	02/14/2017 14:36	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:36	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:36	WG951841
Calcium	20.3		1.00	1	02/14/2017 14:36	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:36	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:36	WG951841
Lead	ND		0.00200	1	02/14/2017 14:36	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:36	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:36	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	974		10.0	1	02/15/2017 13:25	WG952273

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.78		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-07 WG951798: 7.78 at 11.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	168		2.00	2	02/13/2017 22:15	WG951570
Fluoride	1.75		0.100	1	02/13/2017 14:45	WG951570
Sulfate	ND		5.00	1	02/13/2017 14:45	WG951570

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000236		0.000200	1	02/13/2017 17:13	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.88		0.200	1	02/13/2017 08:24	WG951561
Lithium	0.0782		0.0150	1	02/13/2017 08:24	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:24	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:40	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:40	WG951841
Barium	0.135		0.00500	1	02/14/2017 14:40	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:40	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:40	WG951841
Calcium	20.1		1.00	1	02/14/2017 14:40	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:40	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:40	WG951841
Lead	ND		0.00200	1	02/14/2017 14:40	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:40	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:40	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	606		10.0	1	02/15/2017 13:25	WG952273

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-08 WG951798: 7.67 at 12.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.6		1.00	1	02/13/2017 13:19	WG951571
Fluoride	1.24		0.100	1	02/13/2017 13:19	WG951571
Sulfate	27.5		5.00	1	02/13/2017 13:19	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000205		0.000200	1	02/13/2017 17:16	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.41		0.200	1	02/13/2017 08:27	WG951561
Lithium	0.0630		0.0150	1	02/13/2017 08:27	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:27	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:43	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:43	WG951841
Barium	0.0956		0.00500	1	02/14/2017 14:43	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:43	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:43	WG951841
Calcium	24.0		1.00	1	02/14/2017 14:43	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:43	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:43	WG951841
Lead	ND		0.00200	1	02/14/2017 14:43	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:43	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:43	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	918		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.80		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-09 WG951798: 7.80 at 12.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	109		2.00	2	02/13/2017 18:17	WG951571
Fluoride	1.44		0.100	1	02/13/2017 13:34	WG951571
Sulfate	ND		5.00	1	02/13/2017 13:34	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/13/2017 17:18	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.91		0.200	1	02/13/2017 08:30	WG951561
Lithium	0.0721		0.0150	1	02/13/2017 08:30	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:30	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 14:47	WG951841
Arsenic	ND		0.00200	1	02/14/2017 14:47	WG951841
Barium	0.271		0.00500	1	02/14/2017 14:47	WG951841
Beryllium	ND		0.00200	1	02/14/2017 14:47	WG951841
Cadmium	ND		0.00100	1	02/14/2017 14:47	WG951841
Calcium	17.7		1.00	1	02/14/2017 14:47	WG951841
Chromium	ND		0.00200	1	02/14/2017 14:47	WG951841
Cobalt	ND		0.00200	1	02/14/2017 14:47	WG951841
Lead	ND		0.00200	1	02/14/2017 14:47	WG951841
Selenium	ND		0.00200	1	02/14/2017 14:47	WG951841
Thallium	ND		0.00200	1	02/14/2017 14:47	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1120		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-10 WG951798: 7.65 at 12.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.5		1.00	1	02/13/2017 13:48	WG951571
Fluoride	0.399		0.100	1	02/13/2017 13:48	WG951571
Sulfate	66.7		5.00	1	02/13/2017 13:48	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000258		0.000200	1	02/13/2017 17:21	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.64		0.200	1	02/13/2017 08:33	WG951561
Lithium	0.145		0.0150	1	02/13/2017 08:33	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:33	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:03	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:03	WG951841
Barium	0.0733		0.00500	1	02/14/2017 15:03	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:03	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:03	WG951841
Calcium	31.7		1.00	1	02/14/2017 15:03	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:03	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:03	WG951841
Lead	ND		0.00200	1	02/14/2017 15:03	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:03	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:03	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1270		10.0	1	02/14/2017 21:33	WG952010

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-11 WG951798: 7.60 at 12.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	309		5.00	5	02/13/2017 18:32	WG951571
Fluoride	1.12		0.100	1	02/13/2017 14:02	WG951571
Sulfate	ND		5.00	1	02/13/2017 14:02	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000250		0.000200	1	02/13/2017 17:23	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.18		0.200	1	02/13/2017 08:36	WG951561
Lithium	0.140		0.0150	1	02/13/2017 08:36	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:36	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:07	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:07	WG951841
Barium	0.290		0.00500	1	02/14/2017 15:07	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:07	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:07	WG951841
Calcium	29.2		1.00	1	02/14/2017 15:07	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:07	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:07	WG951841
Lead	ND		0.00200	1	02/14/2017 15:07	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:07	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:07	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6070		10.0	1	02/14/2017 21:45	WG952012

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.93		1	02/13/2017 10:15	WG951798

Sample Narrative:

9040C L889323-12 WG951798: 6.93 at 11.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	207		100	100	02/13/2017 19:47	WG951571
Fluoride	0.293		0.100	1	02/13/2017 14:17	WG951571
Sulfate	5280		500	100	02/13/2017 19:47	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000244		0.000200	1	02/13/2017 17:25	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.97		0.200	1	02/13/2017 08:39	WG951561
Lithium	0.780		0.0150	1	02/13/2017 08:39	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:39	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:10	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:10	WG951841
Barium	0.0198		0.00500	1	02/14/2017 15:10	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:10	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:10	WG951841
Calcium	398		1.00	1	02/14/2017 15:10	WG951841
Chromium	0.00252		0.00200	1	02/14/2017 15:10	WG951841
Cobalt	0.00288		0.00200	1	02/14/2017 15:10	WG951841
Lead	0.00267		0.00200	1	02/14/2017 15:10	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:10	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:10	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	631		10.0	1	02/14/2017 21:45	WG952012

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.89		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-13 WG952264: 7.89 at 19.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.2		1.00	1	02/13/2017 16:22	WG951571
Fluoride	0.679		0.100	1	02/13/2017 16:22	WG951571
Sulfate	89.8		5.00	1	02/13/2017 16:22	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/13/2017 16:39	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.05		0.200	1	02/13/2017 08:42	WG951561
Lithium	0.0397		0.0150	1	02/13/2017 08:42	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:42	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 13:23	WG951841
Arsenic	ND		0.00200	1	02/14/2017 13:23	WG951841
Barium	0.181		0.00500	1	02/14/2017 13:23	WG951841
Beryllium	ND		0.00200	1	02/14/2017 13:23	WG951841
Cadmium	ND		0.00100	1	02/14/2017 13:23	WG951841
Calcium	37.4		1.00	1	02/14/2017 13:23	WG951841
Chromium	ND		0.00200	1	02/14/2017 13:23	WG951841
Cobalt	ND		0.00200	1	02/14/2017 13:23	WG951841
Lead	ND		0.00200	1	02/14/2017 13:23	WG951841
Selenium	ND		0.00200	1	02/14/2017 13:23	WG951841
Thallium	ND		0.00200	1	02/14/2017 13:23	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1210		10.0	1	02/14/2017 21:45	WG952012

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.04		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-14 WG952264: 8.04 at 19.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	82.0		1.00	1	02/13/2017 17:05	WG951571
Fluoride	0.825		0.100	1	02/13/2017 17:05	WG951571
Sulfate	196		25.0	5	02/13/2017 21:28	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000246		0.000200	1	02/13/2017 17:28	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.09		0.200	1	02/13/2017 08:55	WG951561
Lithium	0.101		0.0150	1	02/13/2017 08:55	WG951561
Molybdenum	0.0112		0.00500	1	02/13/2017 08:55	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00769		0.00200	1	02/14/2017 15:14	WG951841
Arsenic	0.00205		0.00200	1	02/14/2017 15:14	WG951841
Barium	0.0847		0.00500	1	02/14/2017 15:14	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:14	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:14	WG951841
Calcium	29.0		1.00	1	02/14/2017 15:14	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:14	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:14	WG951841
Lead	ND		0.00200	1	02/14/2017 15:14	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:14	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:14	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	587		10.0	1	02/15/2017 13:59	WG952275

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.48		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-15 WG952264: 7.48 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	67.0		1.00	1	02/13/2017 17:20	WG951571
Fluoride	0.362		0.100	1	02/13/2017 17:20	WG951571
Sulfate	30.7		5.00	1	02/13/2017 17:20	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000200		0.000200	1	02/13/2017 17:30	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.966		0.200	1	02/13/2017 08:58	WG951561
Lithium	0.0422		0.0150	1	02/13/2017 08:58	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 08:58	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:17	WG951841
Arsenic	0.00618		0.00200	1	02/14/2017 15:17	WG951841
Barium	0.338		0.00500	1	02/14/2017 15:17	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:17	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:17	WG951841
Calcium	58.8		1.00	1	02/14/2017 15:17	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:17	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:17	WG951841
Lead	ND		0.00200	1	02/14/2017 15:17	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:17	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:17	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	657		10.0	1	02/15/2017 13:59	WG952275

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.14		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-16 WG952264: 8.14 at 18.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.4		1.00	1	02/13/2017 17:34	WG951571
Fluoride	1.46		0.100	1	02/13/2017 17:34	WG951571
Sulfate	ND		5.00	1	02/13/2017 17:34	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000209		0.000200	1	02/13/2017 17:32	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.87		0.200	1	02/13/2017 09:01	WG951561
Lithium	0.0655		0.0150	1	02/13/2017 09:01	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 09:01	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:21	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:21	WG951841
Barium	0.396		0.00500	1	02/14/2017 15:21	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:21	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:21	WG951841
Calcium	18.1		1.00	1	02/14/2017 15:21	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:21	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:21	WG951841
Lead	ND		0.00200	1	02/14/2017 15:21	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:21	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:21	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		10.0	1	02/15/2017 13:59	WG952275

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.07		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-17 WG952264: 8.07 at 18.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	100		1.00	1	02/13/2017 17:49	WG951571
Fluoride	1.20		0.100	1	02/13/2017 17:49	WG951571
Sulfate	ND		5.00	1	02/13/2017 17:49	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000235		0.000200	1	02/13/2017 17:41	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.65		0.200	1	02/13/2017 09:03	WG951561
Lithium	0.0773		0.0150	1	02/13/2017 09:03	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 09:03	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:24	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:24	WG951841
Barium	0.509		0.00500	1	02/14/2017 15:24	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:24	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:24	WG951841
Calcium	26.6		1.00	1	02/14/2017 15:24	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:24	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:24	WG951841
Lead	ND		0.00200	1	02/14/2017 15:24	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:24	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:24	WG951841

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	599		10.0	1	02/15/2017 13:59	WG952275

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.71		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889323-18 WG952264: 7.71 at 18.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.3		1.00	1	02/13/2017 18:03	WG951571
Fluoride	0.607		0.100	1	02/13/2017 18:03	WG951571
Sulfate	22.4		5.00	1	02/13/2017 18:03	WG951571

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	0.000207		0.000200	1	02/13/2017 17:43	WG951800

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.14		0.200	1	02/13/2017 09:06	WG951561
Lithium	0.0779		0.0150	1	02/13/2017 09:06	WG951561
Molybdenum	ND		0.00500	1	02/13/2017 09:06	WG951561

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/14/2017 15:28	WG951841
Arsenic	ND		0.00200	1	02/14/2017 15:28	WG951841
Barium	0.239		0.00500	1	02/14/2017 15:28	WG951841
Beryllium	ND		0.00200	1	02/14/2017 15:28	WG951841
Cadmium	ND		0.00100	1	02/14/2017 15:28	WG951841
Calcium	44.8		1.00	1	02/14/2017 15:28	WG951841
Chromium	ND		0.00200	1	02/14/2017 15:28	WG951841
Cobalt	ND		0.00200	1	02/14/2017 15:28	WG951841
Lead	ND		0.00200	1	02/14/2017 15:28	WG951841
Selenium	ND		0.00200	1	02/14/2017 15:28	WG951841
Thallium	ND		0.00200	1	02/14/2017 15:28	WG951841

Method Blank (MB)

(MB) R3196961-1 02/13/17 16:05

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

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
	mg/l	mg/l		%		%
Dissolved Solids	1890	1830	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
	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8490	8670	96.5	98.5	85.0-115			2.10	5

Method Blank (MB)

(MB) R3197046-1 02/14/17 21:33

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

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
	mg/l	mg/l		%		%
Dissolved Solids	1780	1790	1	0.448		5

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
	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8180	8580	93.0	97.5	85.0-115			4.77	5

Method Blank (MB)

(MB) R3197045-1 02/14/17 21:45

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

L889323-14 Original Sample (OS) • Duplicate (DUP)

(OS) L889323-14 02/14/17 21:45 • (DUP) R3197045-4 02/14/17 21:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1210	1200	1	1.16		5

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

(LCS) R3197045-2 02/14/17 21:45 • (LCSD) R3197045-3 02/14/17 21:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8090	8270	91.9	94.0	85.0-115			2.20	5

Method Blank (MB)

(MB) R3197302-1 02/15/17 13:25

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

L888800-01 Original Sample (OS) • Duplicate (DUP)

(OS) L888800-01 02/15/17 13:25 • (DUP) R3197302-4 02/15/17 13:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	5800	5840	1	0.687		5

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

(LCS) R3197302-2 02/15/17 13:25 • (LCSD) R3197302-3 02/15/17 13:25

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 %
Dissolved Solids	8800	8430	8470	95.8	96.3	85.0-115			0.473	5

Method Blank (MB)

(MB) R3197322-1 02/15/17 13:59

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

L889323-15 Original Sample (OS) • Duplicate (DUP)

(OS) L889323-15 02/15/17 13:59 • (DUP) R3197322-4 02/15/17 13:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	587	600	1	2.25		5

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

(LCS) R3197322-2 02/15/17 13:59 • (LCSD) R3197322-3 02/15/17 13:59

Analyte	Spike Amount 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	8520	8510	96.8	96.7	85.0-115			0.117	5

L889172-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889172-01 02/13/17 10:15 • (DUP) WG951798-3 02/13/17 10:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	6.82	6.82	1	0.000		1

L889514-04 Original Sample (OS) • Duplicate (DUP)

(OS) L889514-04 02/13/17 10:15 • (DUP) WG951798-4 02/13/17 10:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	>13	>13	1	0.000		1

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

(LCS) WG951798-1 02/13/17 10:15 • (LCSD) WG951798-2 02/13/17 10:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	6.07	6.08	6.08	100	100	98.4-102			0.000	1

L889811-02 Original Sample (OS) • Duplicate (DUP)

(OS) L889811-02 02/17/17 10:23 • (DUP) WG952264-4 02/17/17 10:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.38	7.38	1	0.000		1

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

(LCS) WG952264-1 02/17/17 10:23 • (LCSD) WG952264-2 02/17/17 10:23

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.12	6.11	101	101	98.4-102			0.164	1

Method Blank (MB)

(MB) R3196580-1 02/13/17 12:06

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

L889055-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889055-01 02/13/17 15:57 • (DUP) R3196580-5 02/13/17 16:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8.17	8.16	1	0		15
Fluoride	ND	0.000	1	0		15
Sulfate	68.5	67.5	1	1		15

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

(LCS) R3196580-2 02/13/17 12:21 • (LCSD) R3196580-3 02/13/17 12:35

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 %
Chloride	40.0	39.6	39.6	99	99	80-120			0	15
Fluoride	8.00	7.92	7.93	99	99	80-120			0	15
Sulfate	40.0	41.2	40.5	103	101	80-120			2	15

L889050-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L889050-10 02/13/17 15:28 • (MS) R3196580-4 02/13/17 15:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	2.23	53.5	103	1	80-120	
Fluoride	5.00	ND	5.41	108	1	80-120	
Sulfate	50.0	ND	56.8	106	1	80-120	

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/13/17 13:18 • (MS) R3196580-6 02/13/17 16:29 • (MSD) R3196580-7 02/13/17 16:44

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 %
Fluoride	5.00	0.145	4.90	5.26	95	102	1	80-120			7	15

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/13/17 17:13 • (MS) R3196580-8 02/13/17 17:27 • (MSD) R3196580-9 02/13/17 17:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	467	516	516	97	98	10	80-120			0	15
Sulfate	50.0	846	868	861	43	31	10	80-120	V	V	1	15

Method Blank (MB)

(MB) R3196570-2 02/13/17 12:07

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

L889323-08 Original Sample (OS) • Duplicate (DUP)

(OS) L889323-08 02/13/17 13:19 • (DUP) R3196570-5 02/13/17 14:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	17.6	16.9	1	4		15
Fluoride	1.24	1.20	1	3		15
Sulfate	27.5	25.6	1	7		15

L889342-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889342-01 02/13/17 22:26 • (DUP) R3196570-9 02/13/17 22:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.0	12.0	1	0		15
Fluoride	0.157	0.151	1	4		15
Sulfate	16.4	16.4	1	0		15

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

(LCS) R3196570-3 02/13/17 12:22 • (LCSD) R3196570-4 02/13/17 12:36

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 %
Chloride	40.0	39.4	39.5	99	99	80-120			0	15
Fluoride	8.00	7.96	7.97	99	100	80-120			0	15
Sulfate	40.0	40.0	39.7	100	99	80-120			1	15

L889323-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-13 02/13/17 16:22 • (MS) R3196570-6 02/13/17 16:36 • (MSD) R3196570-7 02/13/17 16:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	49.2	97.4	98.6	96	99	1	80-120			1	15
Fluoride	5.00	0.679	5.44	5.78	95	102	1	80-120			6	15

L889323-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-13 02/13/17 16:22 • (MS) R3196570-6 02/13/17 16:36 • (MSD) R3196570-7 02/13/17 16:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	89.8	131	132	82	85	1	80-120	E	E	1	15

L889323-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L889323-10 02/13/17 13:48 • (MS) R3196570-8 02/13/17 21:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	44.5	92.5	96	1	80-120	
Fluoride	5.00	0.399	5.22	96	1	80-120	
Sulfate	50.0	66.7	109	84	1	80-120	E

Method Blank (MB)

(MB) R3196464-1 02/13/17 16:16

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

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

(LCS) R3196464-2 02/13/17 16:19 • (LCSD) R3196464-3 02/13/17 16:21

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	%	%	%			%	%
Mercury	0.00300	0.00284	0.00251	95	84	80-120			12	20

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/13/17 16:23 • (MS) R3196464-4 02/13/17 16:34 • (MSD) R3196464-5 02/13/17 16:36

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	%	%		%			%	%
Mercury	0.00300	ND	0.00291	0.00290	93	93	1	75-125			0	20

L889323-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-13 02/13/17 16:39 • (MS) R3196464-6 02/13/17 16:41 • (MSD) R3196464-7 02/13/17 16:44

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	%	%		%			%	%
Mercury	0.00300	ND	0.00293	0.00286	93	91	1	75-125			2	20

Method Blank (MB)

(MB) R3196305-1 02/13/17 07:46

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3196305-2 02/13/17 07:48 • (LCSD) R3196305-3 02/13/17 07:51

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	%	%	%			%	%
Boron	1.00	1.02	1.01	102	101	80-120			1	20
Lithium	1.00	1.01	0.999	101	100	80-120			1	20
Molybdenum	1.00	1.01	1.01	101	101	80-120			0	20

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/13/17 07:54 • (MS) R3196305-5 02/13/17 07:59 • (MSD) R3196305-6 02/13/17 08:02

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	%	%		%			%	%
Boron	1.00	0.456	1.50	1.49	104	104	1	75-125			0	20
Lithium	1.00	ND	1.06	1.07	105	105	1	75-125			0	20
Molybdenum	1.00	ND	1.04	1.04	104	104	1	75-125			0	20

L889323-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-13 02/13/17 08:42 • (MS) R3196305-7 02/13/17 08:44 • (MSD) R3196305-8 02/13/17 08:52

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	%	%		%			%	%
Boron	1.00	1.05	2.06	2.05	101	99	1	75-125			1	20
Lithium	1.00	0.0397	1.05	1.04	101	100	1	75-125			1	20
Molybdenum	1.00	ND	1.04	1.03	104	103	1	75-125			1	20

Method Blank (MB)

(MB) R3196672-1 02/14/17 12:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3196672-2 02/14/17 13:02 • (LCSD) R3196672-3 02/14/17 13:06

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	0.0579	0.0501	0.0508	86	88	80-120			1	20
Arsenic	0.0500	0.0471	0.0471	94	94	80-120			0	20
Barium	0.0500	0.0499	0.0507	100	101	80-120			1	20
Beryllium	0.0500	0.0468	0.0451	94	90	80-120			4	20
Cadmium	0.0500	0.0512	0.0509	102	102	80-120			1	20
Calcium	5.00	4.91	5.04	98	101	80-120			3	20
Chromium	0.0500	0.0473	0.0472	95	94	80-120			0	20
Cobalt	0.0500	0.0492	0.0498	98	100	80-120			1	20
Lead	0.0500	0.0474	0.0472	95	94	80-120			0	20
Selenium	0.0500	0.0466	0.0462	93	92	80-120			1	20
Thallium	0.0500	0.0486	0.0494	97	99	80-120			2	20

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/14/17 13:09 • (MS) R3196672-5 02/14/17 13:16 • (MSD) R3196672-6 02/14/17 13:20

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	0.0579	ND	0.0517	0.0512	89	88	1	75-125			1	20
Arsenic	0.0500	ND	0.0484	0.0482	95	94	1	75-125			0	20
Barium	0.0500	0.0340	0.0842	0.0850	101	102	1	75-125			1	20
Beryllium	0.0500	ND	0.0444	0.0444	89	89	1	75-125			0	20
Cadmium	0.0500	ND	0.0497	0.0510	99	102	1	75-125			2	20

L889323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-01 02/14/17 13:09 • (MS) R3196672-5 02/14/17 13:16 • (MSD) R3196672-6 02/14/17 13:20

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	5.00	435	435	433	16	0	1	75-125	V	V	1	20
Chromium	0.0500	ND	0.0473	0.0471	95	94	1	75-125			0	20
Cobalt	0.0500	0.00218	0.0495	0.0495	95	95	1	75-125			0	20
Lead	0.0500	ND	0.0472	0.0476	94	95	1	75-125			1	20
Selenium	0.0500	ND	0.0474	0.0481	95	96	1	75-125			2	20
Thallium	0.0500	ND	0.0499	0.0502	99	100	1	75-125			1	20

L889323-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889323-13 02/14/17 13:23 • (MS) R3196672-7 02/14/17 13:27 • (MSD) R3196672-8 02/14/17 13:30

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	0.0579	ND	0.0542	0.0558	94	96	1	75-125			3	20
Arsenic	0.0500	ND	0.0497	0.0499	96	97	1	75-125			1	20
Barium	0.0500	0.181	0.234	0.243	107	125	1	75-125			4	20
Beryllium	0.0500	ND	0.0485	0.0484	97	97	1	75-125			0	20
Cadmium	0.0500	ND	0.0511	0.0527	102	105	1	75-125			3	20
Calcium	5.00	37.4	42.4	43.1	100	114	1	75-125			2	20
Chromium	0.0500	ND	0.0477	0.0483	95	97	1	75-125			1	20
Cobalt	0.0500	ND	0.0493	0.0500	99	100	1	75-125			1	20
Lead	0.0500	ND	0.0477	0.0471	94	92	1	75-125			1	20
Selenium	0.0500	ND	0.0473	0.0465	95	93	1	75-125			2	20
Thallium	0.0500	ND	0.0495	0.0487	99	97	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

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

ACCREDITATIONS & LOCATIONS

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
Conneticut	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 [1 4]	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		

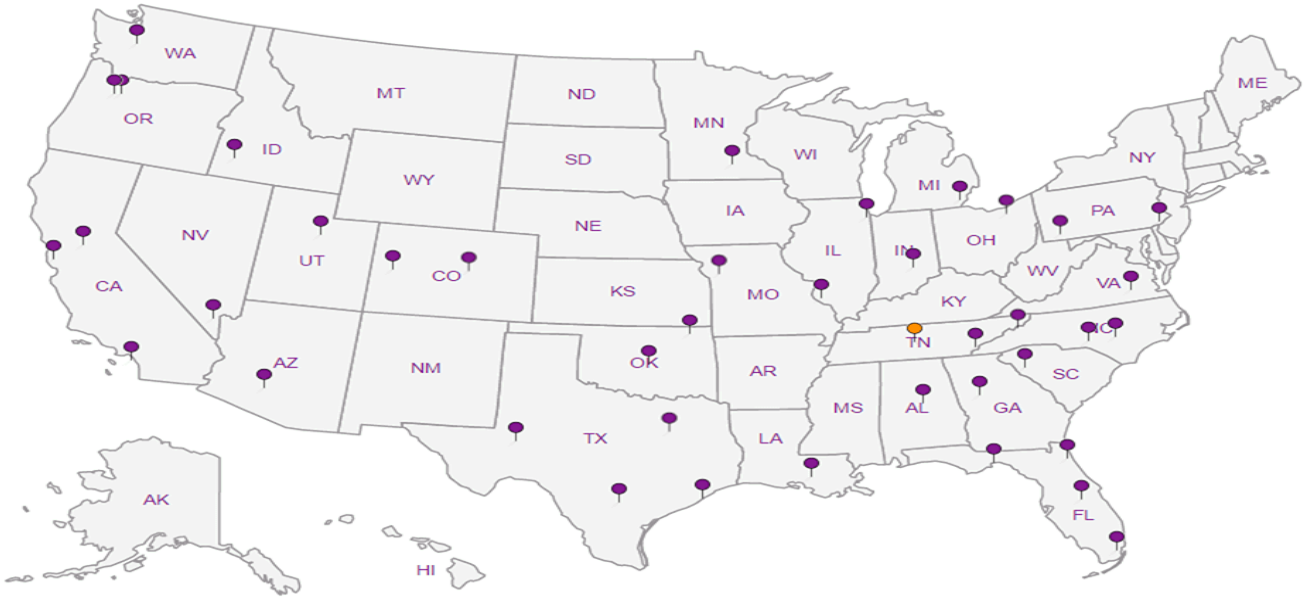
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60482842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. # **URSKC1028155**

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%

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# L889323

C182

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P587138**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-805	Grab	GW		2-6-17	16:40	3	X	X	X		-01
MW-805 MS	Grab	GW		2-6-17	16:40	3	X	X	X		01
MW-805 MSD	Grab	GW		2-6-17	16:40	3	X	X	X		01
MW-15	Grab	GW		2-7-17	10:30	3	X	X	X		02
MW-801	Grab	GW		2-7-17	15:10	3	X	X	X		03
MW-802	Grab	GW		2-7-17	15:35	3	X	X	X		04
MW-804	Grab	GW		2-7-17	16:10	3	X	X	X		05
MW-951	Grab	GW		2-8-17	9:30	3	X	X	X		06
MW-601	Grab	GW		2-8-17	10:30	3	X	X	X		07
MW-602	Grab	GW		2-8-17	11:30	3	X	X	X		08

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier SWA

Tracking # 526 7758 0370

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

Temp: 24 DW °C 50 Bottles Received: 66

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2/8	1655	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2-9-17	1430	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Date: 2/10/17 Time: 1400

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

Chain of Custody Page ___ of ___

ESC LAB SCIENCES — YOUR LAB OF CHOICE
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
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AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Report to: Brian Linnan

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skoskuych/Guyn

Site/Facility ID #

P.O. # URSKC1028155

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

L# L889323
Table #
Acctnum: URSKC
Template: T114093
Prelogin: P587138
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-703		GW		2/7/17	1110	3	X	X	X		09
TW-1		GW		↓	1210	3	X	X	X		10
MW-706		GW		↓	1240	3	X	X	X		11
MW-707B		GW		↓	1330	3	X	X	X		12
MW-701		GW		↓	1505	3	X	X	X		13
MW-701-MS		GW		↓	1505	3	X	X	X		13
MW-701-MSD		GW		↓	1505	3	X	X	X		13
MW-704		GW		↓	1650	3	X	X	X		14
MW-10		GW		2/8	1020	3	X	X	X		15
MW-702		GW		2/8	1120	3	X	X	X		16

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

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

Please indicate sample ID for the MS/MSD.

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

Samples returned via: __UPS __FedEx __Courier / SWA

Tracking # same

Relinquished by : (Signature) [signature] Date: 2/8 Time: 1655 Received by: (Signature) [signature]

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Relinquished by : (Signature) [signature] Date: 2-9-17 Time: 1430 Received by: (Signature)

Temp: 2.4 °C Bottles Received: 66

If preservation required by Login: Date/Time

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

Date: 2/10/17 Time: 1400

Hold:

Condition: NCF / OK

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project #

Lab Project # **URSKC-LACYGNE**

Site/Facility ID #

P.O. # **URSKC1028155**

Quote #

Collected by (print): Skaskevych/Guyn

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

City/State Collected:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
MW-7		GW		2/8	1250	3	X	X	X		17
MW-803		GW		2/8	1210	3	X	X	X		18
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

Chain of Custody Page ___ of ___

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

L# L889323

Table #

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P587138**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier FWA

Tracking # same

Trip Blank Received: Yes / NO
HCL / MeoH
TBR

Temp: 2.4 °C Bottles Received: 66

If preservation required by Login: Date/Time

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

	Date:	Time:	
Relinquished by: (Signature)	2/8	1655	Received by: (Signature)
Relinquished by: (Signature)	2.9	1430	Received by: (Signature)
Relinquished by: (Signature)			Received for lab by: (Signature)

Date: 2/10/17 Time: 1400

ANALYTICAL REPORT

February 21, 2017

AECOM - Overland Park, KS

Sample Delivery Group:	L889664
Samples Received:	02/11/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-905 L889664-01 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/08/17 15:45
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952277	1	02/15/17 14:04	02/15/17 15:09	MCG
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:24	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:19	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 14:42	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 10:55	LAT
Wet Chemistry by Method 9040C	WG952264	1	02/17/17 10:23	02/17/17 10:23	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 09:27	02/16/17 09:27	KCF

MW-901 L889664-02 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/09/17 13:10
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:47	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:21	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 14:46	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 10:59	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 09:41	02/16/17 09:41	KCF

MW-14R L889664-03 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/09/17 14:05
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:49	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:24	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 14:50	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:02	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 09:56	02/16/17 09:56	KCF

MW-13 L889664-04 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/10/17 12:15
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952840	1	02/17/17 01:36	02/17/17 04:16	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:52	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:27	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 14:53	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:06	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 10:10	02/16/17 10:10	KCF
Wet Chemistry by Method 9056A	WG952287	100	02/16/17 10:24	02/16/17 10:24	KCF

MW-902 L889664-05 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/10/17 13:25
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952840	1	02/17/17 01:36	02/17/17 04:16	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:54	NJB

MW-902 L889664-05 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/10/17 13:25
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:30	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 14:57	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:09	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 10:39	02/16/17 10:39	KCF

MW-903 L889664-06 GW

Collected by: JM/TA/DH/DM
Collected date/time: 02/10/17 13:00
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952840	1	02/17/17 01:36	02/17/17 04:16	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:56	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:33	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:07	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:13	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 17:03	02/16/17 17:03	KCF
Wet Chemistry by Method 9056A	WG953425	20	02/20/17 10:17	02/20/17 10:17	KCF

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L889664-01	MW-905	9040C
L889664-02	MW-901	9040C
L889664-03	MW-14R	9040C
L889664-04	MW-13	9040C
L889664-05	MW-902	9040C
L889664-06	MW-903	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	580		10.0	1	02/15/2017 15:09	WG952277

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.00		1	02/17/2017 10:23	WG952264

Sample Narrative:

9040C L889664-01 WG952264: 8.00 at 17.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.5		1.00	1	02/16/2017 09:27	WG952287
Fluoride	0.562		0.100	1	02/16/2017 09:27	WG952287
Sulfate	31.2		5.00	1	02/16/2017 09:27	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:24	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.92		0.200	1	02/17/2017 16:19	WG952071
Lithium	0.0705		0.0150	1	02/17/2017 16:19	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:19	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 14:42	WG952077
Arsenic	ND		0.00200	1	02/16/2017 14:42	WG952077
Barium	0.104		0.00500	1	02/16/2017 14:42	WG952077
Beryllium	ND		0.00200	1	02/16/2017 14:42	WG952077
Cadmium	ND		0.00100	1	02/16/2017 14:42	WG952077
Calcium	49.8		1.00	1	02/16/2017 14:42	WG952077
Chromium	ND		0.00200	1	02/16/2017 14:42	WG952077
Cobalt	ND		0.00200	1	02/16/2017 14:42	WG952077
Lead	ND		0.00200	1	02/17/2017 10:55	WG952077
Selenium	ND		0.00200	1	02/16/2017 14:42	WG952077
Thallium	ND		0.00200	1	02/17/2017 10:55	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	552		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.63		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889664-02 WG953431: 7.63 at 18.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.6		1.00	1	02/16/2017 09:41	WG952287
Fluoride	0.520		0.100	1	02/16/2017 09:41	WG952287
Sulfate	17.1		5.00	1	02/16/2017 09:41	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:47	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.23		0.200	1	02/17/2017 16:21	WG952071
Lithium	0.0548		0.0150	1	02/17/2017 16:21	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:21	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 14:46	WG952077
Arsenic	ND		0.00200	1	02/16/2017 14:46	WG952077
Barium	0.186		0.00500	1	02/16/2017 14:46	WG952077
Beryllium	ND		0.00200	1	02/16/2017 14:46	WG952077
Cadmium	ND		0.00100	1	02/16/2017 14:46	WG952077
Calcium	55.7		1.00	1	02/16/2017 14:46	WG952077
Chromium	ND		0.00200	1	02/16/2017 14:46	WG952077
Cobalt	ND		0.00200	1	02/16/2017 14:46	WG952077
Lead	ND		0.00200	1	02/17/2017 10:59	WG952077
Selenium	ND		0.00200	1	02/16/2017 14:46	WG952077
Thallium	ND		0.00200	1	02/17/2017 10:59	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	536		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.75		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889664-03 WG953431: 7.75 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	3.98		1.00	1	02/16/2017 09:56	WG952287
Fluoride	0.211		0.100	1	02/16/2017 09:56	WG952287
Sulfate	50.4		5.00	1	02/16/2017 09:56	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:49	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.566		0.200	1	02/17/2017 16:24	WG952071
Lithium	0.0421		0.0150	1	02/17/2017 16:24	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:24	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 14:50	WG952077
Arsenic	ND		0.00200	1	02/16/2017 14:50	WG952077
Barium	0.0411		0.00500	1	02/16/2017 14:50	WG952077
Beryllium	ND		0.00200	1	02/16/2017 14:50	WG952077
Cadmium	ND		0.00100	1	02/16/2017 14:50	WG952077
Calcium	57.3		1.00	1	02/16/2017 14:50	WG952077
Chromium	ND		0.00200	1	02/16/2017 14:50	WG952077
Cobalt	ND		0.00200	1	02/16/2017 14:50	WG952077
Lead	ND		0.00200	1	02/17/2017 11:02	WG952077
Selenium	ND		0.00200	1	02/16/2017 14:50	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:02	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2220		10.0	1	02/17/2017 04:16	WG952840

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889664-04 WG953431: 7.37 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	15.6		1.00	1	02/16/2017 10:10	WG952287
Fluoride	0.167		0.100	1	02/16/2017 10:10	WG952287
Sulfate	1950		500	100	02/16/2017 10:24	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:52	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.483		0.200	1	02/17/2017 16:27	WG952071
Lithium	0.0644		0.0150	1	02/17/2017 16:27	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:27	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 14:53	WG952077
Arsenic	ND		0.00200	1	02/16/2017 14:53	WG952077
Barium	0.0161		0.00500	1	02/16/2017 14:53	WG952077
Beryllium	ND		0.00200	1	02/16/2017 14:53	WG952077
Cadmium	ND		0.00100	1	02/16/2017 14:53	WG952077
Calcium	297		1.00	1	02/16/2017 14:53	WG952077
Chromium	ND		0.00200	1	02/16/2017 14:53	WG952077
Cobalt	ND		0.00200	1	02/16/2017 14:53	WG952077
Lead	ND		0.00200	1	02/17/2017 11:06	WG952077
Selenium	ND		0.00200	1	02/16/2017 14:53	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:06	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	552		10.0	1	02/17/2017 04:16	WG952840

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889664-05 WG953431: 7.67 at 18.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.4		1.00	1	02/16/2017 10:39	WG952287
Fluoride	0.510		0.100	1	02/16/2017 10:39	WG952287
Sulfate	34.5		5.00	1	02/16/2017 10:39	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:54	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.31		0.200	1	02/17/2017 16:30	WG952071
Lithium	0.0436		0.0150	1	02/17/2017 16:30	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:30	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 14:57	WG952077
Arsenic	ND		0.00200	1	02/16/2017 14:57	WG952077
Barium	0.112		0.00500	1	02/16/2017 14:57	WG952077
Beryllium	ND		0.00200	1	02/16/2017 14:57	WG952077
Cadmium	ND		0.00100	1	02/16/2017 14:57	WG952077
Calcium	66.2		1.00	1	02/16/2017 14:57	WG952077
Chromium	ND		0.00200	1	02/16/2017 14:57	WG952077
Cobalt	ND		0.00200	1	02/16/2017 14:57	WG952077
Lead	ND		0.00200	1	02/17/2017 11:09	WG952077
Selenium	ND		0.00200	1	02/16/2017 14:57	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:09	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1880		10.0	1	02/17/2017 04:16	WG952840

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.86		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889664-06 WG953431: 6.86 at 7.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.0		1.00	1	02/16/2017 17:03	WG952287
Fluoride	ND		0.100	1	02/16/2017 17:03	WG952287
Sulfate	1000		100	20	02/20/2017 10:17	WG953425

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:56	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.432		0.200	1	02/17/2017 16:33	WG952071
Lithium	0.0505		0.0150	1	02/17/2017 16:33	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:33	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:07	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:07	WG952077
Barium	0.0146		0.00500	1	02/16/2017 15:07	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:07	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:07	WG952077
Calcium	321		1.00	1	02/16/2017 15:07	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:07	WG952077
Cobalt	0.00272		0.00200	1	02/16/2017 15:07	WG952077
Lead	ND		0.00200	1	02/17/2017 11:13	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:07	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:13	WG952077

Method Blank (MB)

(MB) R3197313-1 02/15/17 15:09

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

L889664-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889664-01 02/15/17 15:09 • (DUP) R3197313-4 02/15/17 15:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	580	596	1	2.72		5

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

(LCS) R3197313-2 02/15/17 15:09 • (LCSD) R3197313-3 02/15/17 15:09

Analyte	Spike Amount 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	8500	8560	96.6	97.3	85.0-115			0.703	5

Method Blank (MB)

(MB) R3197388-1 02/16/17 05:21

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

L889665-05 Original Sample (OS) • Duplicate (DUP)

(OS) L889665-05 02/16/17 05:21 • (DUP) R3197388-4 02/16/17 05:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1180	1160	1	1.53		5

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

(LCS) R3197388-2 02/16/17 05:21 • (LCSD) R3197388-3 02/16/17 05:21

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	%	%	%			%	%
Dissolved Solids	8800	8200	8390	93.2	95.3	85.0-115			2.29	5

Method Blank (MB)

(MB) R3197784-1 02/17/17 04:16

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

L889536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889536-01 02/17/17 04:16 • (DUP) R3197784-4 02/17/17 04:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	964	968	1	0.414		5

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

(LCS) R3197784-2 02/17/17 04:16 • (LCSD) R3197784-3 02/17/17 04:16

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	%	%	%			%	%
Dissolved Solids	8800	8480	8720	96.4	99.1	85.0-115			2.79	5

L889116-14 Original Sample (OS) • Duplicate (DUP)

(OS) L889116-14 02/17/17 10:23 • (DUP) WG952264-3 02/17/17 10:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.81	6.79	1	0.294		1

L889811-02 Original Sample (OS) • Duplicate (DUP)

(OS) L889811-02 02/17/17 10:23 • (DUP) WG952264-4 02/17/17 10:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.38	7.38	1	0.000		1

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

(LCS) WG952264-1 02/17/17 10:23 • (LCSD) WG952264-2 02/17/17 10:23

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.12	6.11	101	101	98.4-102			0.164	1

L889226-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889226-01 02/18/17 11:04 • (DUP) WG953431-3 02/18/17 11:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.23	8.23	1	0.000		1

L889958-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889958-01 02/18/17 11:04 • (DUP) WG953431-4 02/18/17 11:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.30	9.26	1	0.431		1

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

(LCS) WG953431-1 02/18/17 11:04 • (LCSD) WG953431-2 02/18/17 11:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.02	6.03	99.2	99.3	98.4-102			0.166	1

Method Blank (MB)

(MB) R3197418-1 02/16/17 06:06

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

L889633-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889633-01 02/16/17 07:46 • (DUP) R3197418-4 02/16/17 08:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.276	0.261	1	6		15
Sulfate	ND	0.000	1	0		15

L889664-05 Original Sample (OS) • Duplicate (DUP)

(OS) L889664-05 02/16/17 10:39 • (DUP) R3197418-6 02/16/17 10:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	34.4	34.4	1	0		15
Fluoride	0.510	0.505	1	1		15
Sulfate	34.5	34.3	1	1		15

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

(LCS) R3197418-2 02/16/17 06:21 • (LCSD) R3197418-3 02/16/17 06:35

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 %
Chloride	40.0	39.4	39.5	98	99	80-120			0	15
Fluoride	8.00	7.95	7.95	99	99	80-120			0	15
Sulfate	40.0	41.0	41.8	102	104	80-120			2	15

L889633-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L889633-03 02/16/17 08:29 • (MS) R3197418-5 02/16/17 09:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.268	5.26	100	1	80-120	
Sulfate	50.0	ND	50.3	101	1	80-120	

L889671-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889671-03 02/16/17 14:29 • (MS) R3197418-7 02/16/17 14:44 • (MSD) R3197418-8 02/16/17 16:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	254	292	294	77	80	20	80-120	V		1	15
Fluoride	5.00	U	5.67	5.69	113	114	20	80-120			0	15
Sulfate	50.0	1220	1210	1200	0	0	20	80-120	V	V	0	15

Method Blank (MB)

(MB) R3197920-1 02/20/17 08:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L890105-01 Original Sample (OS) • Duplicate (DUP)

(OS) L890105-01 02/20/17 12:18 • (DUP) R3197920-6 02/20/17 12:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	406	410	10	1		15

L890789-04 Original Sample (OS) • Duplicate (DUP)

(OS) L890789-04 02/20/17 16:07 • (DUP) R3197920-8 02/20/17 16:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	168	166	5	1		15

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

(LCS) R3197920-2 02/20/17 09:10 • (LCSD) R3197920-3 02/20/17 09:23

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	%	%	%			%	%
Sulfate	40.0	38.1	38.1	95	95	80-120			0	15

L889859-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889859-07 02/20/17 10:30 • (MS) R3197920-4 02/20/17 10:44 • (MSD) R3197920-5 02/20/17 10:57

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	%	%		%			%	%
Sulfate	50.0	U	42.8	42.9	86	86	1	80-120			0	15

L890828-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L890828-01 02/20/17 15:12 • (MS) R3197920-7 02/20/17 15:26

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	28.2	75.9	95	1	80-120	

Method Blank (MB)

(MB) R3197183-6 02/16/17 09:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	0.0000685	J	0.000049	0.000200

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

(LCS) R3197183-7 02/16/17 09:20 • (LCSD) R3197183-8 02/16/17 09:22

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	0.00345	0.00352	115	117	80-120			2	20

L889664-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889664-01 02/16/17 09:24 • (MS) R3197183-9 02/16/17 09:27 • (MSD) R3197183-10 02/16/17 09:29

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	0.00342	0.00330	114	110	1	75-125			4	20

Method Blank (MB)

(MB) R3197778-1 02/17/17 15:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	0.0134	J	0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3197778-2 02/17/17 15:55 • (LCSD) R3197778-3 02/17/17 15:58

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 %
Boron	1.00	1.01	1.03	101	103	80-120			1	20
Lithium	1.00	0.992	0.999	99	100	80-120			1	20
Molybdenum	1.00	1.00	1.01	100	101	80-120			1	20

L889671-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889671-02 02/17/17 16:07 • (MS) R3197778-5 02/17/17 16:13 • (MSD) R3197778-6 02/17/17 16:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.484	1.47	1.49	99	100	1	75-125			1	20
Lithium	1.00	0.0706	1.15	1.15	108	108	1	75-125			0	20
Molybdenum	1.00	U	1.00	1.01	100	101	1	75-125			1	20

Method Blank (MB)

(MB) R3197270-1 02/16/17 13:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3197270-2 02/16/17 13:42 • (LCSD) R3197270-3 02/16/17 13:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	0.0495	0.0484	86	84	80-120			2	20
Arsenic	0.0500	0.0489	0.0482	98	96	80-120			2	20
Barium	0.0500	0.0470	0.0474	94	95	80-120			1	20
Beryllium	0.0500	0.0486	0.0485	97	97	80-120			0	20
Cadmium	0.0500	0.0510	0.0506	102	101	80-120			1	20
Calcium	5.00	4.72	4.86	94	97	80-120			3	20
Chromium	0.0500	0.0505	0.0499	101	100	80-120			1	20
Cobalt	0.0500	0.0523	0.0517	105	103	80-120			1	20
Lead	0.0500	0.0488	0.0492	98	98	80-120			1	20
Selenium	0.0500	0.0499	0.0488	100	98	80-120			2	20
Thallium	0.0500	0.0490	0.0491	98	98	80-120			0	20

L889456-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889456-04 02/16/17 13:49 • (MS) R3197270-5 02/16/17 13:56 • (MSD) R3197270-6 02/16/17 13:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	0.00209	0.0517	0.0517	86	86	1	75-125			0	20
Arsenic	0.0500	0.0169	0.0652	0.0654	97	97	1	75-125			0	20
Barium	0.0500	0.0333	0.0807	0.0798	95	93	1	75-125			1	20
Beryllium	0.0500	ND	0.0476	0.0483	95	97	1	75-125			2	20
Cadmium	0.0500	ND	0.0514	0.0525	101	104	1	75-125			2	20

L889456-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889456-04 02/16/17 13:49 • (MS) R3197270-5 02/16/17 13:56 • (MSD) R3197270-6 02/16/17 13:59

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	5.00	89.4	93.3	93.4	79	79	1	75-125			0	20
Chromium	0.0500	ND	0.0499	0.0505	98	99	1	75-125			1	20
Cobalt	0.0500	ND	0.0505	0.0515	101	103	1	75-125			2	20
Lead	0.0500	ND	0.0491	0.0501	98	100	1	75-125			2	20
Selenium	0.0500	0.0243	0.0748	0.0746	101	101	1	75-125			0	20
Thallium	0.0500	ND	0.0490	0.0501	98	100	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
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.

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
Conneticut	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 [1 4]	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		

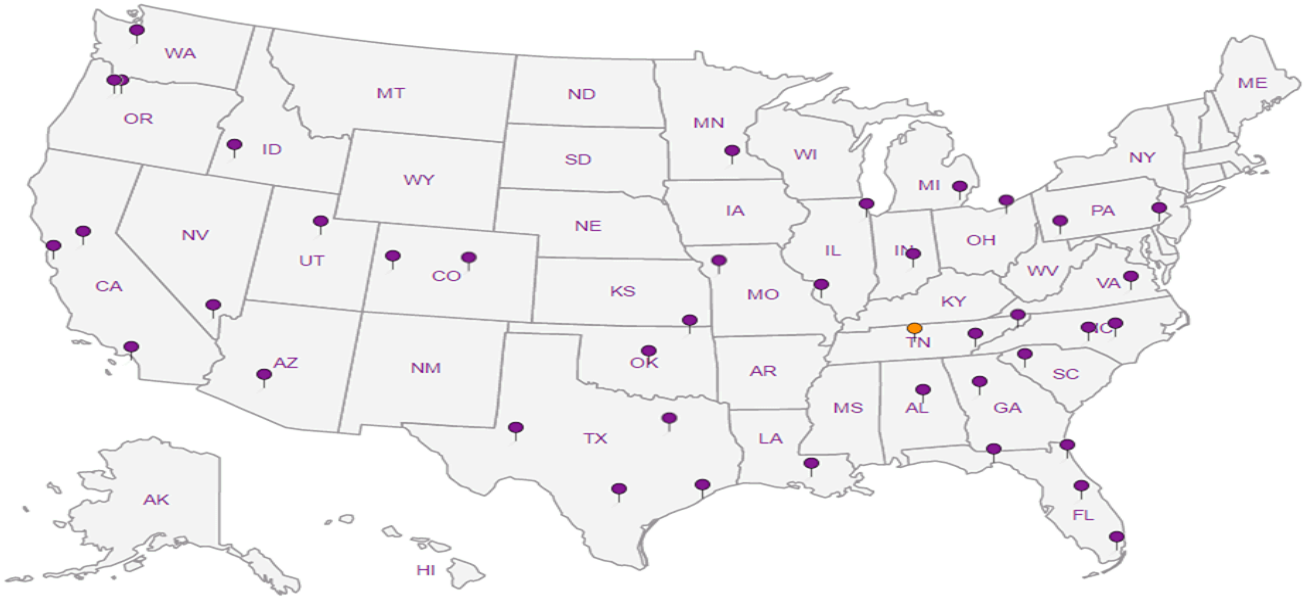
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60482842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler, Terry Andrus + Daryle Harrison + Dillon Moran

Site/Facility ID #

P.O. # **URSKC1028155**

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3 C2	TDS, pH 500mlHDPE-NoPres	Rem./Contaminant	Sample # (lab only)
MW-905	Grab	GW		2-8-17	15:45	3	X	X	X		01
MW-901	Grab	GW		2-9-17	13:10	3	X	X	X		02
MW-14R	Grab	GW		2-9-17	14:05	3	X	X	X		03
MW-13	Grab	GW		2-10-17	12:15	3	X	X	X		07
MW-902	Grab	GW		2-10-17	13:25	3	X	X	X		05
MW-903	Grab	GW		2-10-17	13:00	3	X	X	X		04
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

Remarks:Metals: (6020) AS,BA,BE,BP,CA,CD,CO,CR,PB,SB,SE,TL (6010B) B,MO,LI (7470) HG.

pH ____ Temp ____
Flow ____ Other ____

Hold #

Condition: (lab use only) OK

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____

Temp: 2.9 °C Bottles Received: 18

COC Seal Intact: ___Y ___N ✓NA

pH Checked: NCF:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2-10-17	16:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2-10-17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Date: 2-11-17 Time: 9:00

Chain of Custody Page ___ of ___

ESC LABORATORY 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 # 889664
C201

Acctnum: **URSKC**
Template: **T112860**
Prelogin: **P556948**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

ESC LAB SCIENCES
Cooler Receipt Form

Client: URSKC	SDG#	88964	
Cooler Received/Opened On: 2/ 11 /17	Temperature:	2.9	
Received By: Rickey Mosley			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	X		
COC Signed / Accurate?		X	
Bottles arrive intact?		X	
Correct bottles used?		X	
Sufficient volume sent?		X	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		X	

ANALYTICAL REPORT

February 20, 2017

AECOM - Overland Park, KS

Sample Delivery Group:	L889665
Samples Received:	02/11/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Brian Linnan
8300 College Blvd., Suite 200
Overland Park, KS 66210

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-705 L889665-01 GW

Collected by: SK
Collected date/time: 02/09/17 10:20
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 09:58	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:42	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:11	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:16	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 11:08	02/16/17 11:08	KCF
Wet Chemistry by Method 9056A	WG952287	5	02/16/17 11:51	02/16/17 11:51	KCF

MW-950 L889665-02 GW

Collected by: SK
Collected date/time: 02/09/17 09:30
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 10:01	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:44	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:15	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:20	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 12:05	02/16/17 12:05	KCF
Wet Chemistry by Method 9056A	WG952287	5	02/16/17 12:20	02/16/17 12:20	KCF

MW-708 L889665-03 GW

Collected by: SK
Collected date/time: 02/09/17 12:45
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 10:03	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:47	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:19	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:50	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 12:34	02/16/17 12:34	KCF

MW-11 L889665-04 GW

Collected by: SK
Collected date/time: 02/09/17 14:20
Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 10:05	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:50	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:23	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:54	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 12:49	02/16/17 12:49	KCF
Wet Chemistry by Method 9056A	WG952287	5	02/16/17 13:03	02/16/17 13:03	KCF

MW-6 L889665-05 GW

Collected by: SK

Collected date/time: 02/09/17 16:00

Received date/time: 02/11/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG952720	1	02/16/17 00:58	02/16/17 05:21	JM
Mercury by Method 7470A	WG952307	1	02/14/17 19:12	02/16/17 10:12	NJB
Metals (ICP) by Method 6010B	WG952071	1	02/17/17 08:25	02/17/17 16:53	LTB
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/16/17 15:26	LAT
Metals (ICPMS) by Method 6020	WG952077	1	02/15/17 14:18	02/17/17 11:57	LAT
Wet Chemistry by Method 9040C	WG953431	1	02/18/17 11:04	02/18/17 11:04	MHM
Wet Chemistry by Method 9056A	WG952287	1	02/16/17 13:17	02/16/17 13:17	KCF
Wet Chemistry by Method 9056A	WG952287	5	02/16/17 13:32	02/16/17 13:32	KCF

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

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L889665-01	MW-705	9040C
L889665-02	MW-950	9040C
L889665-03	MW-708	9040C
L889665-04	MW-11	9040C
L889665-05	MW-6	9040C

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	968		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.88		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889665-01 WG953431: 7.88 at 18.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	135		5.00	5	02/16/2017 11:51	WG952287
Fluoride	1.04		0.100	1	02/16/2017 11:08	WG952287
Sulfate	45.5		5.00	1	02/16/2017 11:08	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 09:58	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.25		0.200	1	02/17/2017 16:42	WG952071
Lithium	0.130		0.0150	1	02/17/2017 16:42	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:42	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:11	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:11	WG952077
Barium	0.0890		0.00500	1	02/16/2017 15:11	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:11	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:11	WG952077
Calcium	38.8		1.00	1	02/16/2017 15:11	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:11	WG952077
Cobalt	ND		0.00200	1	02/16/2017 15:11	WG952077
Lead	ND		0.00200	1	02/17/2017 11:16	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:11	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:16	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1010		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.00		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889665-02 WG953431: 8.00 at 18.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	138		5.00	5	02/16/2017 12:20	WG952287
Fluoride	1.02		0.100	1	02/16/2017 12:05	WG952287
Sulfate	46.1		5.00	1	02/16/2017 12:05	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 10:01	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.26		0.200	1	02/17/2017 16:44	WG952071
Lithium	0.134		0.0150	1	02/17/2017 16:44	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:44	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:15	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:15	WG952077
Barium	0.0796		0.00500	1	02/16/2017 15:15	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:15	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:15	WG952077
Calcium	35.4		1.00	1	02/16/2017 15:15	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:15	WG952077
Cobalt	ND		0.00200	1	02/16/2017 15:15	WG952077
Lead	ND		0.00200	1	02/17/2017 11:20	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:15	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:20	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	679		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.11		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889665-03 WG953431: 8.11 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.0		1.00	1	02/16/2017 12:34	WG952287
Fluoride	0.695		0.100	1	02/16/2017 12:34	WG952287
Sulfate	9.59		5.00	1	02/16/2017 12:34	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 10:03	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.51		0.200	1	02/17/2017 16:47	WG952071
Lithium	0.0843		0.0150	1	02/17/2017 16:47	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:47	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:19	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:19	WG952077
Barium	0.255		0.00500	1	02/16/2017 15:19	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:19	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:19	WG952077
Calcium	32.0		1.00	1	02/16/2017 15:19	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:19	WG952077
Cobalt	ND		0.00200	1	02/16/2017 15:19	WG952077
Lead	ND		0.00200	1	02/17/2017 11:50	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:19	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:50	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1010		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.08		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889665-04 WG953431: 8.08 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	109		5.00	5	02/16/2017 13:03	WG952287
Fluoride	0.546		0.100	1	02/16/2017 12:49	WG952287
Sulfate	188		25.0	5	02/16/2017 13:03	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 10:05	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.974		0.200	1	02/17/2017 16:50	WG952071
Lithium	0.0686		0.0150	1	02/17/2017 16:50	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:50	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:23	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:23	WG952077
Barium	0.0406		0.00500	1	02/16/2017 15:23	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:23	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:23	WG952077
Calcium	63.4		1.00	1	02/16/2017 15:23	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:23	WG952077
Cobalt	ND		0.00200	1	02/16/2017 15:23	WG952077
Lead	ND		0.00200	1	02/17/2017 11:54	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:23	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:54	WG952077

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		10.0	1	02/16/2017 05:21	WG952720

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.87		1	02/18/2017 11:04	WG953431

Sample Narrative:

9040C L889665-05 WG953431: 7.87 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	208		5.00	5	02/16/2017 13:32	WG952287
Fluoride	0.492		0.100	1	02/16/2017 13:17	WG952287
Sulfate	197		25.0	5	02/16/2017 13:32	WG952287

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/16/2017 10:12	WG952307

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.22		0.200	1	02/17/2017 16:53	WG952071
Lithium	0.0553		0.0150	1	02/17/2017 16:53	WG952071
Molybdenum	ND		0.00500	1	02/17/2017 16:53	WG952071

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/16/2017 15:26	WG952077
Arsenic	ND		0.00200	1	02/16/2017 15:26	WG952077
Barium	0.141		0.00500	1	02/16/2017 15:26	WG952077
Beryllium	ND		0.00200	1	02/16/2017 15:26	WG952077
Cadmium	ND		0.00100	1	02/16/2017 15:26	WG952077
Calcium	98.8		1.00	1	02/16/2017 15:26	WG952077
Chromium	ND		0.00200	1	02/16/2017 15:26	WG952077
Cobalt	ND		0.00200	1	02/16/2017 15:26	WG952077
Lead	ND		0.00200	1	02/17/2017 11:57	WG952077
Selenium	ND		0.00200	1	02/16/2017 15:26	WG952077
Thallium	ND		0.00200	1	02/17/2017 11:57	WG952077

Method Blank (MB)

(MB) R3197388-1 02/16/17 05:21

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

L889665-05 Original Sample (OS) • Duplicate (DUP)

(OS) L889665-05 02/16/17 05:21 • (DUP) R3197388-4 02/16/17 05:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1180	1160	1	1.53		5

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

(LCS) R3197388-2 02/16/17 05:21 • (LCSD) R3197388-3 02/16/17 05:21

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	%	%	%			%	%
Dissolved Solids	8800	8200	8390	93.2	95.3	85.0-115			2.29	5

L889226-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889226-01 02/18/17 11:04 • (DUP) WG953431-3 02/18/17 11:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.23	8.23	1	0.000		1

L889958-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889958-01 02/18/17 11:04 • (DUP) WG953431-4 02/18/17 11:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.30	9.26	1	0.431		1

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

(LCS) WG953431-1 02/18/17 11:04 • (LCSD) WG953431-2 02/18/17 11:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.07	6.02	6.03	99.2	99.3	98.4-102			0.166	1

Method Blank (MB)

(MB) R3197418-1 02/16/17 06:06

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

L889633-01 Original Sample (OS) • Duplicate (DUP)

(OS) L889633-01 02/16/17 07:46 • (DUP) R3197418-4 02/16/17 08:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.276	0.261	1	6		15
Sulfate	ND	0.000	1	0		15

L889664-05 Original Sample (OS) • Duplicate (DUP)

(OS) L889664-05 02/16/17 10:39 • (DUP) R3197418-6 02/16/17 10:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	34.4	34.4	1	0		15
Fluoride	0.510	0.505	1	1		15
Sulfate	34.5	34.3	1	1		15

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

(LCS) R3197418-2 02/16/17 06:21 • (LCSD) R3197418-3 02/16/17 06:35

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 %
Chloride	40.0	39.4	39.5	98	99	80-120			0	15
Fluoride	8.00	7.95	7.95	99	99	80-120			0	15
Sulfate	40.0	41.0	41.8	102	104	80-120			2	15

L889633-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L889633-03 02/16/17 08:29 • (MS) R3197418-5 02/16/17 09:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.268	5.26	100	1	80-120	
Sulfate	50.0	ND	50.3	101	1	80-120	

L889671-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889671-03 02/16/17 14:29 • (MS) R3197418-7 02/16/17 14:44 • (MSD) R3197418-8 02/16/17 16:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	254	292	294	77	80	20	80-120	V		1	15
Fluoride	5.00	U	5.67	5.69	113	114	20	80-120			0	15
Sulfate	50.0	1220	1210	1200	0	0	20	80-120	V	V	0	15

Method Blank (MB)

(MB) R3197183-6 02/16/17 09:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	0.0000685	J	0.000049	0.000200

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

(LCS) R3197183-7 02/16/17 09:20 • (LCSD) R3197183-8 02/16/17 09:22

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	0.00345	0.00352	115	117	80-120			2	20

L889664-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889664-01 02/16/17 09:24 • (MS) R3197183-9 02/16/17 09:27 • (MSD) R3197183-10 02/16/17 09:29

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	0.00342	0.00330	114	110	1	75-125			4	20

Method Blank (MB)

(MB) R3197778-1 02/17/17 15:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	0.0134	J	0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3197778-2 02/17/17 15:55 • (LCSD) R3197778-3 02/17/17 15:58

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 %
Boron	1.00	1.01	1.03	101	103	80-120			1	20
Lithium	1.00	0.992	0.999	99	100	80-120			1	20
Molybdenum	1.00	1.00	1.01	100	101	80-120			1	20

L889671-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889671-02 02/17/17 16:07 • (MS) R3197778-5 02/17/17 16:13 • (MSD) R3197778-6 02/17/17 16:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.484	1.47	1.49	99	100	1	75-125			1	20
Lithium	1.00	0.0706	1.15	1.15	108	108	1	75-125			0	20
Molybdenum	1.00	U	1.00	1.01	100	101	1	75-125			1	20

Method Blank (MB)

(MB) R3197270-1 02/16/17 13:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3197270-2 02/16/17 13:42 • (LCSD) R3197270-3 02/16/17 13:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	0.0495	0.0484	86	84	80-120			2	20
Arsenic	0.0500	0.0489	0.0482	98	96	80-120			2	20
Barium	0.0500	0.0470	0.0474	94	95	80-120			1	20
Beryllium	0.0500	0.0486	0.0485	97	97	80-120			0	20
Cadmium	0.0500	0.0510	0.0506	102	101	80-120			1	20
Calcium	5.00	4.72	4.86	94	97	80-120			3	20
Chromium	0.0500	0.0505	0.0499	101	100	80-120			1	20
Cobalt	0.0500	0.0523	0.0517	105	103	80-120			1	20
Lead	0.0500	0.0488	0.0492	98	98	80-120			1	20
Selenium	0.0500	0.0499	0.0488	100	98	80-120			2	20
Thallium	0.0500	0.0490	0.0491	98	98	80-120			0	20

L889456-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889456-04 02/16/17 13:49 • (MS) R3197270-5 02/16/17 13:56 • (MSD) R3197270-6 02/16/17 13:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0579	0.00209	0.0517	0.0517	86	86	1	75-125			0	20
Arsenic	0.0500	0.0169	0.0652	0.0654	97	97	1	75-125			0	20
Barium	0.0500	0.0333	0.0807	0.0798	95	93	1	75-125			1	20
Beryllium	0.0500	ND	0.0476	0.0483	95	97	1	75-125			2	20
Cadmium	0.0500	ND	0.0514	0.0525	101	104	1	75-125			2	20

L889456-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L889456-04 02/16/17 13:49 • (MS) R3197270-5 02/16/17 13:56 • (MSD) R3197270-6 02/16/17 13:59

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	5.00	89.4	93.3	93.4	79	79	1	75-125			0	20
Chromium	0.0500	ND	0.0499	0.0505	98	99	1	75-125			1	20
Cobalt	0.0500	ND	0.0505	0.0515	101	103	1	75-125			2	20
Lead	0.0500	ND	0.0491	0.0501	98	100	1	75-125			2	20
Selenium	0.0500	0.0243	0.0748	0.0746	101	101	1	75-125			0	20
Thallium	0.0500	ND	0.0490	0.0501	98	100	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
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.

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* 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
Conneticut	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 [1 4]	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		

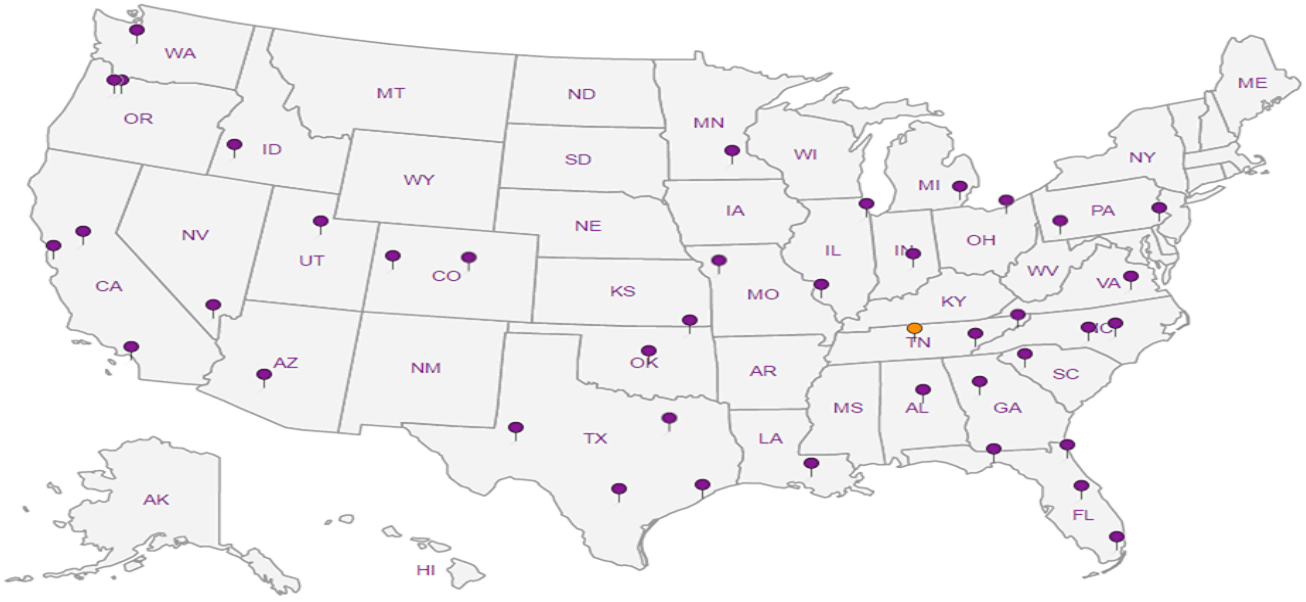
Third Party & Federal Accreditations

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.**



AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60482842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Steakley/Gwyn

Site/Facility ID #

P.O. # **URSKC1028155**

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%

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Anions - Cld, F, SO4 250mlHDPE-NoPres
TDS, pH 250mlHDPE-NoPres
Total Metals 250mlHDPE-HNO3 1/2

Chain of Custody Page ___ of ___

ESC LAB SCIENCES

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

L# 88565

C202

Acctnum: **URSKC**
Template: **T114093**
Prelogin: **P587138**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3 1/2	Rem./Contaminant	Sample # (lab only)
MW-705	Grab	GW		2/9/17	1020	3	X	X	X		01
MW-950		GW			0930	3	X	X	X		02
MW-708		GW			1245	3	X	X	X		03
MW-11		GW			1420	3	X	X	X		04
MW-6		GW			1600	3	X	X	X		05
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

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

	Date:	Time:	
Relinquished by : (Signature)	2-10-17	16:30	Received by: (Signature)
Relinquished by : (Signature)	2-10-17	1700	Received by: (Signature)
Relinquished by : (Signature)			Received for lab by: (Signature)

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

Temp: 2.9 °C Bottles Received: 15

Date: 2-11-17 Time: 9:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Case Narrative

Lab No: 20170105

This report contains the analytical results for the 22 sample(s) received under chain of custody by ESC Lab Sciences on 2/10/2017 4:41:02 PM. These samples are associated with your 60482842 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

L889868
The following QC parameters are outside method control limits:
Dup RPD Ra-226 SDG R1198

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170105-01**								
Client ID : **MW-805**								
Date Sampled : **2/6/2017 4:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.81 +/- 0.673	0.758	pCi/l				
Radium-226	SM 7500 Ra B M*	0.146 +/- 0.178	0.226	pCi/l		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	0.882 +/- 0.508	0.575	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-02**								
Client ID : **MW-805 MS**								
Date Sampled : **2/6/2017 4:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	79.4		% Rec		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	96.3		% Rec		02/28/17	03/08/17	JR
Lab ID : **20170105-03**								
Client ID : **MW-805 MSD**								
Date Sampled : **2/6/2017 4:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	10.1		RPD		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	17.5		RPD		02/28/17	03/08/17	JR
Lab ID : **20170105-04**								
Client ID : **MW-15**								
Date Sampled : **2/7/2017 10:30:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.60 +/- 0.752	0.671	pCi/l				
Radium-226	SM 7500 Ra B M*	0.775 +/- 0.271	0.112	pCi/l		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	1.66 +/- 0.495	0.532	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-05**								
Client ID : **MW-801**								
Date Sampled : **2/7/2017 3:10:00 PM**								
Matrix : **NPW**								

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		0.955 +/- 0.625	0.661	pCi/l				
Radium-226	SM 7500 Ra B M*	0.378 +/- 0.167	0.121	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.560 +/- 0.412	0.486	pCi/l		02/28/17	03/08/17	JR

Lab ID : **20170105-06**
Client ID : **MW-802**
Date Sampled : **2/7/2017 3:35:00 PM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.559 +/- 0.642	0.658	pCi/l				
Radium-226	SM 7500 Ra B M*	0.559 +/- 0.199	0.084	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.179 +/- 0.444	0.552	pCi/l		02/28/17	03/08/17	JR

Lab ID : **20170105-07**
Client ID : **MW-804**
Date Sampled : **2/7/2017 4:10:00 PM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.317 +/- 0.612	0.681	pCi/l				
Radium-226	SM 7500 Ra B M*	0.317 +/- 0.164	0.099	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.822 +/- 0.481	0.559	pCi/l		02/28/17	03/08/17	JR

Lab ID : **20170105-08**
Client ID : **MW-951**
Date Sampled : **2/8/2017 9:30:00 AM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.176 +/- 0.669	0.737	pCi/l				
Radium-226	SM 7500 Ra B M*	0.176 +/- 0.126	0.104	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.577 +/- 0.458	0.540	pCi/l		02/28/17	03/08/17	JR

Lab ID : **20170105-09**
Client ID : **MW-601**
Date Sampled : **2/8/2017 10:30:00 AM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		0.944 +/- 0.643	0.618	pCi/l				

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-226	SM 7500 Ra B M*	0.216 +/- 0.125	0.084	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.051 +/- 0.443	0.574	pCi/l		02/28/17	03/08/17	JR

Lab ID : 20170105-10
Client ID : MW-602
Date Sampled : 2/8/2017 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.936 +/- 0.549	0.740	pCi/l				
Radium-226	SM 7500 Ra B M*	0.105 +/- 0.101	0.125	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.223 +/- 0.448	0.582	pCi/l		02/28/17	03/08/17	JR

Lab ID : 20170105-11
Client ID : MW-703
Date Sampled : 2/7/2017 11:10:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.11 +/- 0.803	0.574	pCi/l				
Radium-226	SM 7500 Ra B M*	1.88 +/- 0.379	0.122	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.175 +/- 0.543	0.633	pCi/l		02/28/17	03/08/17	JR

Lab ID : 20170105-12
Client ID : TW-1
Date Sampled : 2/7/2017 12:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.328 +/- 0.663	0.732	pCi/l				
Radium-226	SM 7500 Ra B M*	0.253 +/- 0.142	0.119	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.728 +/- 0.518	0.534	pCi/l		02/28/17	03/08/17	JR

Lab ID : 20170105-13
Client ID : MW-706
Date Sampled : 2/7/2017 12:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.16 +/- 0.617	0.675	pCi/l				
Radium-226	SM 7500 Ra B M*	0.328 +/- 0.169	0.102	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.831 +/- 0.448	0.615	pCi/l		02/28/17	03/08/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170105-14**								
Client ID : **MW-707B**								
Date Sampled : **2/7/2017 1:30:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.440 +/- 0.546	0.511	pCi/l				
Radium-226	SM 7500 Ra B M*	0.214 +/- 0.122	0.090	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.226 +/- 0.424	0.452	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-15**								
Client ID : **MW-701**								
Date Sampled : **2/7/2017 3:05:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.284 +/- 0.642	0.652	pCi/l				
Radium-226	SM 7500 Ra B M*	0.209 +/- 0.121	0.082	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.075 +/- 0.521	0.613	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-16**								
Client ID : **MW-701 MS**								
Date Sampled : **2/7/2017 3:05:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	101		% Rec		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	104		% Rec		02/28/17	03/08/17	JR
Lab ID : **20170105-17**								
Client ID : **MW-701 MSD**								
Date Sampled : **2/7/2017 3:05:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	10.8		RPD		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	13.4		RPD		02/28/17	03/08/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170105-18**								
Client ID : **MW-704**								
Date Sampled : **2/7/2017 4:50:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.994 +/- 0.819	0.876	pCi/l				
Radium-226	SM 7500 Ra B M*	0.256 +/- 0.137	0.086	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.738 +/- 0.682	0.790	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-19**								
Client ID : **MW-10**								
Date Sampled : **2/8/2017 10:20:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.17 +/- 0.733	0.881	pCi/l				
Radium-226	SM 7500 Ra B M*	0.204 +/- 0.225	0.302	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.966 +/- 0.508	0.579	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-20**								
Client ID : **MW-702**								
Date Sampled : **2/8/2017 11:20:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.02 +/- 0.567	0.590	pCi/l				
Radium-226	SM 7500 Ra B M*	0.261 +/- 0.148	0.109	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.762 +/- 0.419	0.481	pCi/l		02/28/17	03/08/17	JR
Lab ID : **20170105-21**								
Client ID : **MW-7**								
Date Sampled : **2/8/2017 12:50:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.366 +/- 0.590	0.706	pCi/l				
Radium-226	SM 7500 Ra B M*	0.366 +/- 0.171	0.128	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	-0.405 +/- 0.419	0.578	pCi/l		02/28/17	03/08/17	JR

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Client	:	AECOM
Client Project	:	60482842
Lab Number	:	20170105
Date Reported	:	03/10/17
Date Received	:	02/10/17
Page Number	:	7 of 7

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID :	**20170105-22**							
Client ID :	**MW-803**							
Date Sampled :	**2/8/2017 12:10:00 PM**							
Matrix :	**NPW**							
	Radiochemical Analyses							
Combined Radium		1.62 +/- 0.746	0.713	pCi/l				
Radium-226	SM 7500 Ra B M*	0.850 +/- 0.284	0.172	pCi/l		03/07/17	03/08/17	SD
Radium-228	EPA 904*/9320*	0.768 +/- 0.462	0.541	pCi/l		02/28/17	03/08/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.017	81.0			NC	0.511	79.4	88.0	10.1	R1199
Radium-226	0.157	111.0			132.0	2.070	101.0	90.0	10.8	R1198
Radium-228							102.0	104.0	1.3	R3928
Radium-228	0.100	83.4			NC	96.300	117.0	17.5	1.6	R3928

Lab Approval:

Ron Eidson
Director of Radiochemistry

*NELAC Certified Parameter BDL = Below Detection Limit

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60482842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID #

P.O. # **URSKC1028155**

Collected by (signature):

Immediately Packed on Ice N X Y

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORI-RA-226, RA-228 1L-HDPE-Add HNO3

Chain of Custody Page 1 of 3

ESC LABORATORY 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# 889868

Table #

Acctnum: **URSKC**
Template: **T112863**
Prelogin: **P587137**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORI-RA-226, RA-228 1L-HDPE-Add HNO3	Rem./Contaminant	Sample # (lab only)
MW-805	Grab	NPW		2-6-17	16:40	2	X		
MW-805 MS	Grab	NPW		2-6-17	16:40	2	X		
MW-805 MSD	Grab	NPW		2-6-17	16:40	2	X		
MW-15	Grab	NPW		2-7-17	10:30	2	X		
MW-801	Grab	NPW		2-7-17	15:10	2	X		
MW-802	Grab	NPW		2-7-17	15:35	2	X		
MW-804	Grab	NPW		2-7-17	16:10	2	X		
MW-951	Grab	NPW		2-8-17	9:30	2	X		
MW-601	Grab	NPW		2-8-17	10:30	2	X		
MW-602	Grab	NPW		2-8-17	11:30	2	X		

Copy

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR	If preservation required by Login: Date/Time
	2/8	1655			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.5 °C Bottles Received: 44	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/10/17 Time: 1641	Hold: / Condition: NCF / OK

20170105

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Bunyn

Site/Facility ID #

P.O. # URSKC1028155

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N X Y___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3										Rem./Contaminant	Sample # (lab only)
11 MW-703		NPW		2/7/17	1110	2	X											
12 TW-1		NPW			1210	2	X											
13 MW-706		NPW			1240	2	X											
14 MW-707D		NPW			1330	2	X											
15 MW-701		NPW			1505	2	X											
16 MW-701 MS		NPW			1505	2	X											
17 MW-701-MSD		NPW			1505	2	X											
18 MW-704		NPW			1650	2	X											
19 MW-10		NPW		2/8	1020	2	X											
20 MW-702		NPW		2/8	1120	2	X											

Analysis / Container / Preservative

Chain of Custody Page 2 of 3

ESC 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# 889868

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P587137

TSR: 206 - Jeff Carr

PB:

Shipped Via:

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	2/8	1655		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 44
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 2/10/17 Time: 1641

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

20170105

Page 3 of 3

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60462842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Skaskey ch/Gwyn

Site/Facility ID #

P.O. # **URSKC1028155**

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
1 MW-7		NPW		2/8	1250	2	X
2 MW-503		NPW		2/8	1210	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

Analysis / Container / Preservative

Chain of Custody

ESC LABORATORY 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 # 809868

Table

Acctnum: **URSKC**
Template: **T112863**
Prelogin: **P587137**
TSR: **206 - Jeff Carr**
PB:

Shipped Via:

Rem./Contaminant | Sample # (lab only)

COPY

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2/8	1655	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Amb °C Bottles Received: 4 4

Date: 2/10/17 Time: 1641

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

20170105

SAMPLE LOGIN

Date Received: *2/10/2017 4:41:02* **Lab Number:** 20170105 **Due:** 3/10/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170105-01 B	MW-805	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-01 A	MW-805	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-02 A	MW-805 MS	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-02 B	MW-805 MS	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-03 A	MW-805 MSD	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-03 B	MW-805 MSD	NPW	02/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-04 A	MW-15	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-04 B	MW-15	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-05 A	MW-801	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-05 B	MW-801	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-06 A	MW-802	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-06 B	MW-802	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-07 B	MW-804	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-07 A	MW-804	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20170105-08 A	MW-951	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-08 B	MW-951	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-09 A	MW-601	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-09 B	MW-601	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-10 A	MW-602	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-10 B	MW-602	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-11 A	MW-703	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-11 B	MW-703	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-12 B	TW-1	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-12 A	TW-1	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-13 A	MW-706	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-13 B	MW-706	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-14 A	MW-707B	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-14 B	MW-707B	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-15 A	MW-701	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-15 B	MW-701	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170105-16 A	MW-701 MS	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170105-16 B	MW-701 MS	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-17 A	MW-701 MSD	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-17 B	MW-701 MSD	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-18 B	MW-704	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-18 A	MW-704	NPW	02/07/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-19 A	MW-10	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-19 B	MW-10	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-20 A	MW-702	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-20 B	MW-702	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-21 A	MW-7	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-21 B	MW-7	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170105-22 B	MW-803	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170105-22 A	MW-803	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 4 **Custody Seals Broken** Ø **Temperature:** 4.6 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ✓ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies Sample -09 has a name of MW-601 on CoC but MW601C on container

Sample -20 has a sample date of 2/8 on CoC but 6/8 on container

Inspected By: _____ **DATE** 2/13/17

QA or Designee Review: Raymond Thomas **DATE** 02/13/17

Sample Custodian Review: _____ **DATE** 2/13/17

Project Notes:

Case Narrative

Lab No: 20170108

This report contains the analytical results for the 11 sample(s) received under chain of custody by ESC Lab Sciences on 2/13/2017 1:54:29 PM. These samples are associated with your 60482842 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

L889881

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170108-01								
Client ID : MW-905								
Date Sampled : 2/8/2017 3:45:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		0.396 +/- 0.803	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.227 +/- 0.282	0.392	pCi/l		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	0.169 +/- 0.521	0.632	pCi/l		03/06/17	03/12/17	JR
Lab ID : 20170108-02								
Client ID : MW-901								
Date Sampled : 2/9/2017 1:10:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		0.986 +/- 0.707	0.850	pCi/l				
Radium-226	SM 7500 Ra B M*	0.170 +/- 0.169	0.196	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.816 +/- 0.538	0.654	pCi/l		03/06/17	03/12/17	JR
Lab ID : 20170108-03								
Client ID : MW-14R								
Date Sampled : 2/9/2017 2:05:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		0.279 +/- 0.839	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.229 +/- 0.221	0.274	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.050 +/- 0.618	0.766	pCi/l		03/06/17	03/12/17	JR
Lab ID : 20170108-04								
Client ID : MW-13								
Date Sampled : 2/10/2017 12:15:00 PM								
Matrix : NPW								
Radiochemical Analyses								
Combined Radium		0.354 +/- 0.727	1.13	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.041 +/- 0.216	0.516	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.354 +/- 0.511	0.616	pCi/l		03/06/17	03/12/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170108-05**								
Client ID : **MW-902**								
Date Sampled : **2/10/2017 1:25:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.791 +/- 0.824	0.976	pCi/l				
Radium-226	SM 7500 Ra B M*	0.315 +/- 0.265	0.251	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.476 +/- 0.559	0.725	pCi/l		03/06/17	03/12/17	JR
Lab ID : **20170108-06**								
Client ID : **MW-903**								
Date Sampled : **2/10/2017 1:00:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.850 +/- 0.674	0.812	pCi/l				
Radium-226	SM 7500 Ra B M*	0.189 +/- 0.200	0.229	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.661 +/- 0.474	0.583	pCi/l		03/06/17	03/12/17	JR
Lab ID : **20170108-07**								
Client ID : **MW-950**								
Date Sampled : **2/9/2017 9:30:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.02 +/- 0.782	0.960	pCi/l				
Radium-226	SM 7500 Ra B M*	0.481 +/- 0.386	0.429	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.538 +/- 0.396	0.531	pCi/l		03/06/17	03/12/17	JR
Lab ID : **20170108-08**								
Client ID : **MW-705**								
Date Sampled : **2/9/2017 10:20:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.555 +/- 0.712	0.940	pCi/l				
Radium-226	SM 7500 Ra B M*	0.273 +/- 0.307	0.405	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.282 +/- 0.405	0.535	pCi/l		03/06/17	03/12/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170108-09**								
Client ID : **MW-708**								
Date Sampled : **2/9/2017 12:45:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.502 +/- 0.710	0.976	pCi/l				
Radium-226	SM 7500 Ra B M*	0.189 +/- 0.276	0.415	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.313 +/- 0.434	0.561	pCi/l		03/06/17	03/12/17	JR
Lab ID : **20170108-10**								
Client ID : **MW-11**								
Date Sampled : **2/9/2017 2:20:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.711 +/- 0.580	0.888	pCi/l				
Radium-226	SM 7500 Ra B M*	0.039 +/- 0.105	0.226	pCi/l		03/07/17	03/09/17	SD
Radium-228	EPA 904*/9320*	0.672 +/- 0.475	0.662	pCi/l		03/06/17	03/12/17	JR
Lab ID : **20170108-11**								
Client ID : **MW-6**								
Date Sampled : **2/9/2017 4:00:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.431 +/- 0.695	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.255 +/- 0.291	0.374	pCi/l		03/07/17	03/10/17	SD
Radium-228	EPA 904*/9320*	0.176 +/- 0.404	0.668	pCi/l		03/06/17	03/12/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.017	81.0			NC	0.511	79.4	88.0	10.1	R1199
Radium-228	-0.212	88.0			NC	0.202	89.2	106.0	17.1	R3930

Lab Approval: _____

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Overland Park, KS

8300 College Blvd., Suite 200
Overland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler, Terry Andrews + Daryle Harrison + Dillon Moran

Site/Facility ID #

P.O. # URSKC1028155

Collected by (signature): Jim Muckler

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

Quote #

Date Results Needed

Immediately Packed on Ice N X Y ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-905	Grab	NPW		2-8-17	15:45	2	X
MW-901	Grab	NPW		2-9-17	13:10	2	X
MW-14R	Grab	NPW		2-9-17	14:05	2	X
MW-13	Grab	NPW		2-10-17	12:15	2	X
MW-902	Grab	NPW		2-10-17	13:25	2	X
MW-903	Grab	NPW		2-10-17	13:00	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

COPY

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

ESC LABORATORY 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# 889881

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P587137
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Rem./Contaminant | Sample # (lab only)

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	2-10-17	16:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Amb °C Bottles Received: 22

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Date: 2/13/17 Time: 1354

20170108

ECOM - Overland Park, KS

00 College Blvd., Suite 200
verland Park, KS 66210

Billing Information:
Dana Monroe - 1334927
8300 College Blvd., Suite 200
Overland Park, KS 66210

Pres Chk

port to:
ian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

oject
scription: La Cygne Generating Station

City/State Collected:

one: 913-344-1000
x: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

llected by (print): kaskeych/Guyn

Site/Facility ID #

P.O. # URSKC1028155

llected by (signature):

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

Quote #

Date Results Needed

mediately
cked on Ice N X Y___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-950	Grab	NPW		2/9/17	0930	2	X
MW-705		NPW			1020	2	X
MW-708		NPW			1245	2	X
MW-11		NPW			1420	2	X
MW-6		NPW			1600	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

Analysis / Container / Preservative

Copy

Chain of Custody Page 2 of 2

ESC LABORATORY 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#

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P587137
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Rem./Contaminant | Sample # (lab only)

Matrix:
S - Soil AIR - Air
W - Groundwater
VW - WasteWater
W - Drinking Water
T - Other_____

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2-10-17	16:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Amb °C Bottles Received: 22

Date: 2/13/17 Time: 1354

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

20170108

SAMPLE LOGIN

Date Received: *2/13/2017 1:54:29* **Lab Number:** 20170108 **Due:** 3/13/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170108-01 B	MW-905	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-01 A	MW-905	NPW	02/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-02 A	MW-901	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-02 B	MW-901	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-03 A	MW-14R	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-03 B	MW-14R	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-04 A	MW-13	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-04 B	MW-13	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-05 B	MW-902	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	Yes	No
20170108-05 A	MW-902	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-06 B	MW-903	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-06 A	MW-903	NPW	02/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-07 A	MW-950	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170108-07 B	MW-950	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20170108-08 A	MW-705	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170108-08 B	MW-705	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-09 A	MW-708	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170108-09 B	MW-708	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-10 A	MW-11	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170108-10 B	MW-11	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170108-11 B	MW-6	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170108-11 A	MW-6	NPW	02/09/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** ∅ **Temperature:** Amb °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: _____ **DATE** 2/13/17

QA or Designee Review: Raymond Thomas **DATE** 02/13/17

Sample Custodian Review: _____ **DATE** 2/13/17

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-6

April 2017 Sampling Event Laboratory Report

ANALYTICAL REPORT

April 14, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L901219
Samples Received:	04/07/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To:

Brian Linnan
2380 McGee Suite 200
Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-903 L901219-01 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 10:00
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969126	1	04/11/17 15:20	04/11/17 16:10	JER
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 15:39	04/10/17 15:39	KCF
Wet Chemistry by Method 9056A	WG968771	20	04/10/17 15:51	04/10/17 15:51	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 10:22	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:07	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 15:45	JPD

MW-902 L901219-02 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 10:15
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 16:03	04/10/17 16:03	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 10:43	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 12:51	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:00	JPD

MW-901 L901219-03 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 10:40
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 16:28	04/10/17 16:28	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 10:45	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:15	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:03	JPD

MW-905 L901219-04 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 11:05
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 17:18	04/10/17 17:18	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 10:48	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:18	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:07	JPD

MW-802 L901219-05 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 11:50
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 17:30	04/10/17 17:30	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 10:50	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:21	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:10	JPD

MW-804 L901219-06 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 13:15
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 17:43	04/10/17 17:43	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:03	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:24	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:14	JPD

MW-805 L901219-07 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 13:30
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 18:20	04/10/17 18:20	KCF
Wet Chemistry by Method 9056A	WG968771	20	04/10/17 18:32	04/10/17 18:32	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:05	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:27	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:18	JPD

MW-703 L901219-08 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 11:00
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 18:45	04/10/17 18:45	KCF
Wet Chemistry by Method 9056A	WG968771	20	04/10/17 18:57	04/10/17 18:57	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:07	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:30	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:21	JPD

TW-1 L901219-09 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 12:30
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 19:34	04/10/17 19:34	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:10	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:33	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:25	JPD

MW-701 L901219-10 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 13:15
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG968771	1	04/10/17 19:59	04/10/17 19:59	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:12	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:36	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:28	JPD

MW-704 L901219-11 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 14:20
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969128	1	04/11/17 16:12	04/11/17 17:04	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969114	1	04/10/17 21:42	04/10/17 21:42	SAM
Wet Chemistry by Method 9056A	WG969114	5	04/10/17 21:57	04/10/17 21:57	SAM
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:14	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:38	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:48	JPD

MW-707B L901219-12 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 15:45
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969129	1	04/11/17 17:16	04/11/17 17:32	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969114	1	04/10/17 22:44	04/10/17 22:44	SAM
Wet Chemistry by Method 9056A	WG969114	50	04/10/17 22:59	04/10/17 22:59	SAM
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:16	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:42	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:52	JPD

MW-706 L901219-13 GW

Collected by: JM/ DH / TA
Collected date/time: 04/04/17 16:45
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969129	1	04/11/17 17:16	04/11/17 17:32	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969114	1	04/10/17 23:15	04/10/17 23:15	SAM
Wet Chemistry by Method 9056A	WG969114	10	04/10/17 23:30	04/10/17 23:30	SAM
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:19	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:50	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:56	JPD

MW-702 L901219-14 GW

Collected by: JM/ DH / TA
Collected date/time: 04/05/17 09:15
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969412	1	04/12/17 18:20	04/12/17 18:49	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969114	1	04/10/17 23:45	04/10/17 23:45	SAM
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:21	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:53	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 16:59	JPD

MW-7 L901219-15 GW

Collected by: JM/ DH / TA
Collected date/time: 04/05/17 12:00
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969412	1	04/12/17 18:20	04/12/17 18:49	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969114	1	04/11/17 00:32	04/11/17 00:32	SAM
Wet Chemistry by Method 9056A	WG969114	5	04/11/17 00:47	04/11/17 00:47	SAM

MW-7 L901219-15 GW

Collected by: JM/ DH / TA
Collected date/time: 04/05/17 12:00
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:23	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:55	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 17:03	JPD

MW-6 L901219-16 GW

Collected by: JM/ DH / TA
Collected date/time: 04/05/17 13:50
Received date/time: 04/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969412	1	04/12/17 18:20	04/12/17 18:49	MMF
Wet Chemistry by Method 9040C	WG968639	1	04/11/17 09:32	04/11/17 09:32	MA
Wet Chemistry by Method 9056A	WG969115	1	04/11/17 15:27	04/11/17 15:27	KCF
Wet Chemistry by Method 9056A	WG969115	10	04/11/17 15:37	04/11/17 15:37	KCF
Mercury by Method 7470A	WG968464	1	04/07/17 15:30	04/08/17 11:33	TRB
Metals (ICP) by Method 6010B	WG968653	1	04/11/17 08:41	04/11/17 13:58	CCE
Metals (ICPMS) by Method 6020	WG968611	1	04/11/17 14:30	04/12/17 17:06	JPD

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1990		10.0	1	04/11/2017 16:10	WG969126

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.95	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-01 WG968639: 6.95 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.7		1.00	1	04/10/2017 15:39	WG968771
Fluoride	ND		0.100	1	04/10/2017 15:39	WG968771
Sulfate	1090		100	20	04/10/2017 15:51	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 10:22	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.423		0.200	1	04/11/2017 13:07	WG968653
Lithium	0.0502		0.0150	1	04/11/2017 13:07	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:07	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 15:45	WG968611
Arsenic	ND		0.00200	1	04/12/2017 15:45	WG968611
Barium	0.0151		0.00500	1	04/12/2017 15:45	WG968611
Beryllium	ND		0.00200	1	04/12/2017 15:45	WG968611
Cadmium	ND		0.00100	1	04/12/2017 15:45	WG968611
Calcium	339		1.00	1	04/12/2017 15:45	WG968611
Chromium	ND		0.00200	1	04/12/2017 15:45	WG968611
Cobalt	0.00204		0.00200	1	04/12/2017 15:45	WG968611
Lead	ND		0.00200	1	04/12/2017 15:45	WG968611
Selenium	ND		0.00200	1	04/12/2017 15:45	WG968611
Thallium	ND		0.00200	1	04/12/2017 15:45	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	533		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.42	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-02 WG968639: 7.42 at 21.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.2		1.00	1	04/10/2017 16:03	WG968771
Fluoride	0.481		0.100	1	04/10/2017 16:03	WG968771
Sulfate	33.1		5.00	1	04/10/2017 16:03	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 10:43	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.24		0.200	1	04/11/2017 12:51	WG968653
Lithium	0.0396		0.0150	1	04/11/2017 12:51	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 12:51	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:00	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:00	WG968611
Barium	0.116		0.00500	1	04/12/2017 16:00	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:00	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:00	WG968611
Calcium	68.8		1.00	1	04/12/2017 16:00	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:00	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:00	WG968611
Lead	ND		0.00200	1	04/12/2017 16:00	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:00	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:00	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	546		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-03 WG968639: 7.60 at 20.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	23.1		1.00	1	04/10/2017 16:28	WG968771
Fluoride	0.493		0.100	1	04/10/2017 16:28	WG968771
Sulfate	18.4		5.00	1	04/10/2017 16:28	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 10:45	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.18		0.200	1	04/11/2017 13:15	WG968653
Lithium	0.0521		0.0150	1	04/11/2017 13:15	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:15	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:03	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:03	WG968611
Barium	0.192		0.00500	1	04/12/2017 16:03	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:03	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:03	WG968611
Calcium	57.6		1.00	1	04/12/2017 16:03	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:03	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:03	WG968611
Lead	ND		0.00200	1	04/12/2017 16:03	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:03	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:03	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	618		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-04 WG968639: 7.64 at 21.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.5		1.00	1	04/10/2017 17:18	WG968771
Fluoride	0.522		0.100	1	04/10/2017 17:18	WG968771
Sulfate	28.6		5.00	1	04/10/2017 17:18	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 10:48	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.84		0.200	1	04/11/2017 13:18	WG968653
Lithium	0.0703		0.0150	1	04/11/2017 13:18	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:18	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:07	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:07	WG968611
Barium	0.119		0.00500	1	04/12/2017 16:07	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:07	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:07	WG968611
Calcium	51.8		1.00	1	04/12/2017 16:07	WG968611
Chromium	0.00327		0.00200	1	04/12/2017 16:07	WG968611
Cobalt	0.00214		0.00200	1	04/12/2017 16:07	WG968611
Lead	ND		0.00200	1	04/12/2017 16:07	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:07	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:07	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	693		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.59	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-05 WG968639: 7.59 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.4		1.00	1	04/10/2017 17:30	WG968771
Fluoride	0.947		0.100	1	04/10/2017 17:30	WG968771
Sulfate	ND		5.00	1	04/10/2017 17:30	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 10:50	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.48		0.200	1	04/11/2017 13:21	WG968653
Lithium	0.0919		0.0150	1	04/11/2017 13:21	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:21	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:10	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:10	WG968611
Barium	0.861		0.00500	1	04/12/2017 16:10	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:10	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:10	WG968611
Calcium	35.0		1.00	1	04/12/2017 16:10	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:10	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:10	WG968611
Lead	ND		0.00200	1	04/12/2017 16:10	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:10	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:10	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	555		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.47	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-06 WG968639: 7.47 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.0		1.00	1	04/10/2017 17:43	WG968771
Fluoride	0.429		0.100	1	04/10/2017 17:43	WG968771
Sulfate	21.4		5.00	1	04/10/2017 17:43	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:03	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.59		0.200	1	04/11/2017 13:24	WG968653
Lithium	0.0414		0.0150	1	04/11/2017 13:24	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:24	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:14	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:14	WG968611
Barium	0.147		0.00500	1	04/12/2017 16:14	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:14	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:14	WG968611
Calcium	65.1		1.00	1	04/12/2017 16:14	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:14	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:14	WG968611
Lead	ND		0.00200	1	04/12/2017 16:14	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:14	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:14	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2270		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.51	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-07 WG968639: 6.51 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	504		20.0	20	04/10/2017 18:32	WG968771
Fluoride	0.142		0.100	1	04/10/2017 18:20	WG968771
Sulfate	836		100	20	04/10/2017 18:32	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:05	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.444		0.200	1	04/11/2017 13:27	WG968653
Lithium	0.0178		0.0150	1	04/11/2017 13:27	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:27	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:18	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:18	WG968611
Barium	0.0334		0.00500	1	04/12/2017 16:18	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:18	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:18	WG968611
Calcium	444		1.00	1	04/12/2017 16:18	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:18	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:18	WG968611
Lead	ND		0.00200	1	04/12/2017 16:18	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:18	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:18	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	926		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.91	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-08 WG968639: 7.91 at 20.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	115		20.0	20	04/10/2017 18:57	WG968771
Fluoride	1.40		0.100	1	04/10/2017 18:45	WG968771
Sulfate	ND		5.00	1	04/10/2017 18:45	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:07	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.90		0.200	1	04/11/2017 13:30	WG968653
Lithium	0.0626		0.0150	1	04/11/2017 13:30	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:30	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:21	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:21	WG968611
Barium	0.299		0.00500	1	04/12/2017 16:21	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:21	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:21	WG968611
Calcium	22.4		1.00	1	04/12/2017 16:21	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:21	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:21	WG968611
Lead	ND		0.00200	1	04/12/2017 16:21	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:21	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:21	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1020		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.75	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-09 WG968639: 7.75 at 20.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	45.7		1.00	1	04/10/2017 19:34	WG968771
Fluoride	0.420		0.100	1	04/10/2017 19:34	WG968771
Sulfate	63.4		5.00	1	04/10/2017 19:34	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:10	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.68		0.200	1	04/11/2017 13:33	WG968653
Lithium	0.147		0.0150	1	04/11/2017 13:33	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:33	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:25	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:25	WG968611
Barium	0.0706		0.00500	1	04/12/2017 16:25	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:25	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:25	WG968611
Calcium	33.0		1.00	1	04/12/2017 16:25	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:25	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:25	WG968611
Lead	ND		0.00200	1	04/12/2017 16:25	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:25	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:25	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	607		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.05	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-10 WG968639: 8.05 at 21.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	55.3		1.00	1	04/10/2017 19:59	WG968771
Fluoride	0.790		0.100	1	04/10/2017 19:59	WG968771
Sulfate	83.8		5.00	1	04/10/2017 19:59	WG968771

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:12	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.06		0.200	1	04/11/2017 13:36	WG968653
Lithium	0.0399		0.0150	1	04/11/2017 13:36	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:36	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:28	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:28	WG968611
Barium	0.186		0.00500	1	04/12/2017 16:28	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:28	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:28	WG968611
Calcium	36.3		1.00	1	04/12/2017 16:28	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:28	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:28	WG968611
Lead	ND		0.00200	1	04/12/2017 16:28	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:28	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:28	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1150		10.0	1	04/11/2017 17:04	WG969128

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.81	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-11 WG968639: 7.81 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	84.7		1.00	1	04/10/2017 21:42	WG969114
Fluoride	0.882		0.100	1	04/10/2017 21:42	WG969114
Sulfate	176		25.0	5	04/10/2017 21:57	WG969114

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:14	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.09		0.200	1	04/11/2017 13:38	WG968653
Lithium	0.101		0.0150	1	04/11/2017 13:38	WG968653
Molybdenum	0.0102		0.00500	1	04/11/2017 13:38	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00719		0.00200	1	04/12/2017 16:48	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:48	WG968611
Barium	0.0747		0.00500	1	04/12/2017 16:48	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:48	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:48	WG968611
Calcium	29.8		1.00	1	04/12/2017 16:48	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:48	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:48	WG968611
Lead	ND		0.00200	1	04/12/2017 16:48	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:48	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:48	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	7890		10.0	1	04/11/2017 17:32	WG969129

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.01	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-12 WG968639: 7.01 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	242		50.0	50	04/10/2017 22:59	WG969114
Fluoride	0.323		0.100	1	04/10/2017 22:44	WG969114
Sulfate	4940		250	50	04/10/2017 22:59	WG969114

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:16	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.93		0.200	1	04/11/2017 13:42	WG968653
Lithium	0.821		0.0150	1	04/11/2017 13:42	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:42	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:52	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:52	WG968611
Barium	0.0133		0.00500	1	04/12/2017 16:52	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:52	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:52	WG968611
Calcium	382		1.00	1	04/12/2017 16:52	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:52	WG968611
Cobalt	0.00506		0.00200	1	04/12/2017 16:52	WG968611
Lead	ND		0.00200	1	04/12/2017 16:52	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:52	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:52	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1230		10.0	1	04/11/2017 17:32	WG969129

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-13 WG968639: 7.64 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	282		10.0	10	04/10/2017 23:30	WG969114
Fluoride	1.20		0.100	1	04/10/2017 23:15	WG969114
Sulfate	ND		5.00	1	04/10/2017 23:15	WG969114

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:19	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.13		0.200	1	04/11/2017 13:50	WG968653
Lithium	0.138		0.0150	1	04/11/2017 13:50	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:50	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:56	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:56	WG968611
Barium	0.276		0.00500	1	04/12/2017 16:56	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:56	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:56	WG968611
Calcium	30.8		1.00	1	04/12/2017 16:56	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:56	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:56	WG968611
Lead	ND		0.00200	1	04/12/2017 16:56	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:56	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:56	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	680		10.0	1	04/12/2017 18:49	WG969412

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.05	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-14 WG968639: 8.05 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.4		1.00	1	04/10/2017 23:45	WG969114
Fluoride	1.50		0.100	1	04/10/2017 23:45	WG969114
Sulfate	ND		5.00	1	04/10/2017 23:45	WG969114

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:21	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.95		0.200	1	04/11/2017 13:53	WG968653
Lithium	0.0841		0.0150	1	04/11/2017 13:53	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:53	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 16:59	WG968611
Arsenic	ND		0.00200	1	04/12/2017 16:59	WG968611
Barium	0.373		0.00500	1	04/12/2017 16:59	WG968611
Beryllium	ND		0.00200	1	04/12/2017 16:59	WG968611
Cadmium	ND		0.00100	1	04/12/2017 16:59	WG968611
Calcium	18.5		1.00	1	04/12/2017 16:59	WG968611
Chromium	ND		0.00200	1	04/12/2017 16:59	WG968611
Cobalt	ND		0.00200	1	04/12/2017 16:59	WG968611
Lead	ND		0.00200	1	04/12/2017 16:59	WG968611
Selenium	ND		0.00200	1	04/12/2017 16:59	WG968611
Thallium	ND		0.00200	1	04/12/2017 16:59	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	916		10.0	1	04/12/2017 18:49	WG969412

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.21	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-15 WG968639: 8.21 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	102		5.00	5	04/11/2017 00:47	WG969114
Fluoride	1.28		0.100	1	04/11/2017 00:32	WG969114
Sulfate	ND		5.00	1	04/11/2017 00:32	WG969114

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:23	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.61		0.200	1	04/11/2017 13:55	WG968653
Lithium	0.0755		0.0150	1	04/11/2017 13:55	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:55	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 17:03	WG968611
Arsenic	ND		0.00200	1	04/12/2017 17:03	WG968611
Barium	0.497		0.00500	1	04/12/2017 17:03	WG968611
Beryllium	ND		0.00200	1	04/12/2017 17:03	WG968611
Cadmium	ND		0.00100	1	04/12/2017 17:03	WG968611
Calcium	26.8		1.00	1	04/12/2017 17:03	WG968611
Chromium	ND		0.00200	1	04/12/2017 17:03	WG968611
Cobalt	ND		0.00200	1	04/12/2017 17:03	WG968611
Lead	ND		0.00200	1	04/12/2017 17:03	WG968611
Selenium	ND		0.00200	1	04/12/2017 17:03	WG968611
Thallium	ND		0.00200	1	04/12/2017 17:03	WG968611

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		10.0	1	04/12/2017 18:49	WG969412

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.57	T8	1	04/11/2017 09:32	WG968639

Sample Narrative:

9040C L901219-16 WG968639: 7.57 at 20.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	227		10.0	10	04/11/2017 15:37	WG969115
Fluoride	0.447		0.100	1	04/11/2017 15:27	WG969115
Sulfate	167		50.0	10	04/11/2017 15:37	WG969115

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2017 11:33	WG968464

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.19		0.200	1	04/11/2017 13:58	WG968653
Lithium	0.0521		0.0150	1	04/11/2017 13:58	WG968653
Molybdenum	ND		0.00500	1	04/11/2017 13:58	WG968653

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/12/2017 17:06	WG968611
Arsenic	ND		0.00200	1	04/12/2017 17:06	WG968611
Barium	0.147		0.00500	1	04/12/2017 17:06	WG968611
Beryllium	ND		0.00200	1	04/12/2017 17:06	WG968611
Cadmium	ND		0.00100	1	04/12/2017 17:06	WG968611
Calcium	97.9		1.00	1	04/12/2017 17:06	WG968611
Chromium	ND		0.00200	1	04/12/2017 17:06	WG968611
Cobalt	ND		0.00200	1	04/12/2017 17:06	WG968611
Lead	ND		0.00200	1	04/12/2017 17:06	WG968611
Selenium	ND		0.00200	1	04/12/2017 17:06	WG968611
Thallium	ND		0.00200	1	04/12/2017 17:06	WG968611

Method Blank (MB)

(MB) R3210688-1 04/11/17 16:10

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

L900969-06 Original Sample (OS) • Duplicate (DUP)

(OS) L900969-06 04/11/17 16:10 • (DUP) R3210688-4 04/11/17 16:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2050	2020	1	1.47		5

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

(LCS) R3210688-2 04/11/17 16:10 • (LCSD) R3210688-3 04/11/17 16:10

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	8350	8420	94.9	95.7	85.0-115			0.835	5

Method Blank (MB)

(MB) R3210841-1 04/11/17 17:04

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

L901219-11 Original Sample (OS) • Duplicate (DUP)

(OS) L901219-11 04/11/17 17:04 • (DUP) R3210841-4 04/11/17 17:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1150	1170	1	1.72		5

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

(LCS) R3210841-2 04/11/17 17:04 • (LCSD) R3210841-3 04/11/17 17:04

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	%	%	%			%	%
Dissolved Solids	8800	8370	8500	95.1	96.6	85.0-115			1.54	5

Method Blank (MB)

(MB) R3210837-1 04/11/17 17:32

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

L901219-13 Original Sample (OS) • Duplicate (DUP)

(OS) L901219-13 04/11/17 17:32 • (DUP) R3210837-4 04/11/17 17:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1230	1190	1	3.32		5

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

(LCS) R3210837-2 04/11/17 17:32 • (LCSD) R3210837-3 04/11/17 17:32

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	%	%	%			%	%
Dissolved Solids	8800	8500	8510	96.6	96.7	85.0-115			0.118	5

Method Blank (MB)

(MB) R3210650-1 04/12/17 18:49

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

L901513-07 Original Sample (OS) • Duplicate (DUP)

(OS) L901513-07 04/12/17 18:49 • (DUP) R3210650-4 04/12/17 18:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	803	788	1	1.84		5

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

(LCS) R3210650-2 04/12/17 18:49 • (LCSD) R3210650-3 04/12/17 18:49

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	8500	8500	96.6	96.6	85.0-115			0.000	5

L901124-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901124-01 04/11/17 09:32 • (DUP) WG968639-3 04/11/17 09:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.91	7.91	1	0.000	T8	1

L901318-02 Original Sample (OS) • Duplicate (DUP)

(OS) L901318-02 04/11/17 09:32 • (DUP) WG968639-4 04/11/17 09:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.45	7.45	1	0.000	T8	1

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

(LCS) WG968639-1 04/11/17 09:32 • (LCSD) WG968639-2 04/11/17 09:32

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	7.50	7.55	7.54	101	101	98.7-101			0.133	1

Method Blank (MB)

(MB) R3209775-1 04/10/17 12:20

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

L901196-06 Original Sample (OS) • Duplicate (DUP)

(OS) L901196-06 04/10/17 14:12 • (DUP) R3209775-5 04/10/17 14:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	0.414	0.289	1	36	J P1	15
Fluoride	U	0.000	1	0		15
Sulfate	U	0.000	1	0		15

L901219-03 Original Sample (OS) • Duplicate (DUP)

(OS) L901219-03 04/10/17 16:28 • (DUP) R3209775-8 04/10/17 16:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.1	24.1	1	4		15
Fluoride	0.493	0.513	1	4		15
Sulfate	18.4	16.5	1	11		15

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

(LCS) R3209775-2 04/10/17 12:32 • (LCSD) R3209775-3 04/10/17 12:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.5	39.5	99	99	80-120			0	15
Fluoride	8.00	7.97	7.96	100	100	80-120			0	15
Sulfate	40.0	40.0	40.2	100	101	80-120			0	15

L901219-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L901219-02 04/10/17 16:03 • (MS) R3209775-7 04/10/17 16:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	34.2	83.0	98	1	80-120	
Fluoride	5.00	0.481	5.33	97	1	80-120	

L901219-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L901219-02 04/10/17 16:03 • (MS) R3209775-7 04/10/17 16:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	33.1	81.6	97	1	80-120	

L901219-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901219-06 04/10/17 17:43 • (MS) R3209775-9 04/10/17 17:55 • (MSD) R3209775-10 04/10/17 18:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	26.0	75.6	75.9	99	100	1	80-120			0	15
Fluoride	5.00	0.429	5.50	5.32	101	98	1	80-120			3	15
Sulfate	50.0	21.4	70.7	70.8	99	99	1	80-120			0	15

Method Blank (MB)

(MB) R3209769-1 04/10/17 12:29

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

L900991-04 Original Sample (OS) • Duplicate (DUP)

(OS) L900991-04 04/10/17 18:06 • (DUP) R3209769-4 04/10/17 18:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	195	204	20	5		15
Fluoride	1.09	1.09	20	0	J	15
Sulfate	1120	1110	20	1		15

L901252-02 Original Sample (OS) • Duplicate (DUP)

(OS) L901252-02 04/11/17 01:02 • (DUP) R3209769-8 04/11/17 01:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2.89	2.77	1	4		15
Fluoride	0.215	0.215	1	0		15
Sulfate	39.5	39.6	1	0		15

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

(LCS) R3209769-2 04/10/17 12:44 • (LCSD) R3209769-3 04/10/17 13:00

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 %
Chloride	40.0	39.4	39.4	99	99	80-120			0	15
Fluoride	8.00	7.95	7.94	99	99	80-120			0	15
Sulfate	40.0	39.6	39.5	99	99	80-120			0	15

L900991-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L900991-11 04/10/17 19:08 • (MS) R3209769-5 04/10/17 19:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	0.269	51.0	102	1	80-120	
Fluoride	5.00	U	5.13	103	1	80-120	

L900991-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L900991-11 04/10/17 19:08 • (MS) R3209769-5 04/10/17 19:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	0.962	51.8	102	1	80-120	

L901219-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901219-11 04/10/17 21:42 • (MS) R3209769-6 04/10/17 22:13 • (MSD) R3209769-7 04/10/17 22:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	84.7	132	133	95	96	1	80-120	E	E	0	15
Fluoride	5.00	0.882	6.09	6.05	104	103	1	80-120			1	15

Method Blank (MB)

(MB) R3209989-1 04/11/17 08:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.239	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L901322-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901322-01 04/11/17 12:14 • (DUP) R3209989-4 04/11/17 12:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.83	3.81	1	1		15
Fluoride	U	0.000	1	0		15
Sulfate	1.13	1.06	1	6	J	15

L901356-02 Original Sample (OS) • Duplicate (DUP)

(OS) L901356-02 04/11/17 14:36 • (DUP) R3209989-8 04/11/17 14:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	0.841	1	0		15
Fluoride	ND	0.0555	1	0		15
Sulfate	ND	0.000	1	0		15

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

(LCS) R3209989-2 04/11/17 09:05 • (LCSD) R3209989-3 04/11/17 09:15

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 %
Chloride	40.0	39.4	39.4	99	99	80-120			0	15
Fluoride	8.00	8.00	7.98	100	100	80-120			0	15
Sulfate	40.0	39.6	39.6	99	99	80-120			0	15

L901322-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L901322-02 04/11/17 12:34 • (MS) R3209989-5 04/11/17 12:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	36.4	85.5	98	1	80-120	
Fluoride	5.00	0.206	5.39	104	1	80-120	

L901322-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L901322-02 04/11/17 12:34 • (MS) R3209989-5 04/11/17 12:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	15.1	66.8	103	1	80-120	

L901356-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901356-01 04/11/17 14:06 • (MS) R3209989-6 04/11/17 14:16 • (MSD) R3209989-7 04/11/17 14:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	22.6	69.7	70.4	94	96	1	80-120			1	15
Fluoride	5.00	0.111	5.18	5.16	101	101	1	80-120			0	15
Sulfate	50.0	68.4	117	117	96	96	1	80-120	E	E	0	15

Method Blank (MB)

(MB) R3209301-1 04/08/17 10:15

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

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

(LCS) R3209301-2 04/08/17 10:17 • (LCSD) R3209301-3 04/08/17 10:20

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	%	%	%			%	%
Mercury	0.00300	0.00309	0.00298	103	99	80-120			4	20

L901219-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901219-01 04/08/17 10:22 • (MS) R3209301-4 04/08/17 10:29 • (MSD) R3209301-5 04/08/17 10:32

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	%	%		%			%	%
Mercury	0.00300	ND	0.00294	0.00303	98	101	1	75-125			3	20

Method Blank (MB)

(MB) R3209953-1 04/11/17 12:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3209953-2 04/11/17 12:46 • (LCSD) R3209953-3 04/11/17 12:48

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 %
Boron	1.00	0.996	0.979	100	98	80-120			2	20
Lithium	1.00	1.01	0.994	101	99	80-120			2	20
Molybdenum	1.00	1.01	0.999	101	100	80-120			1	20

L901219-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901219-02 04/11/17 12:51 • (MS) R3209953-5 04/11/17 12:56 • (MSD) R3209953-6 04/11/17 12:59

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 %
Boron	1.00	1.24	2.23	2.21	99	97	1	75-125			1	20
Lithium	1.00	0.0396	1.04	1.04	100	100	1	75-125			0	20
Molybdenum	1.00	ND	1.02	1.01	102	101	1	75-125			1	20

Method Blank (MB)

(MB) R3210329-1 04/12/17 15:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3210329-2 04/12/17 15:20 • (LCSD) R3210329-3 04/12/17 15:24

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	0.0506	0.0513	101	103	80-120			1	20
Arsenic	0.0500	0.0487	0.0497	97	99	80-120			2	20
Barium	0.0500	0.0487	0.0482	97	96	80-120			1	20
Beryllium	0.0500	0.0440	0.0438	88	88	80-120			0	20
Cadmium	0.0500	0.0502	0.0507	100	101	80-120			1	20
Calcium	5.00	5.07	5.03	101	101	80-120			1	20
Chromium	0.0500	0.0490	0.0504	98	101	80-120			3	20
Cobalt	0.0500	0.0507	0.0522	101	104	80-120			3	20
Lead	0.0500	0.0493	0.0503	99	101	80-120			2	20
Selenium	0.0500	0.0486	0.0494	97	99	80-120			2	20
Thallium	0.0500	0.0494	0.0503	99	101	80-120			2	20

L901071-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901071-05 04/12/17 15:28 • (MS) R3210329-5 04/12/17 15:35 • (MSD) R3210329-6 04/12/17 15:38

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	ND	0.0503	0.0514	101	103	1	75-125			2	20
Arsenic	0.0500	ND	0.0498	0.0491	97	96	1	75-125			1	20
Barium	0.0500	0.0564	0.105	0.105	97	98	1	75-125			0	20
Beryllium	0.0500	ND	0.0444	0.0430	89	86	1	75-125			3	20
Cadmium	0.0500	ND	0.0520	0.0517	104	103	1	75-125			0	20

L901071-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901071-05 04/12/17 15:28 • (MS) R3210329-5 04/12/17 15:35 • (MSD) R3210329-6 04/12/17 15:38

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	5.00	47.2	52.6	51.3	107	82	1	75-125			2	20
Chromium	0.0500	ND	0.0505	0.0493	99	97	1	75-125			3	20
Cobalt	0.0500	ND	0.0512	0.0504	101	100	1	75-125			1	20
Lead	0.0500	ND	0.0514	0.0508	101	100	1	75-125			1	20
Selenium	0.0500	ND	0.0494	0.0491	98	97	1	75-125			1	20
Thallium	0.0500	ND	0.0500	0.0496	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
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.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

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
Conneticut	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 [1 4]	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		

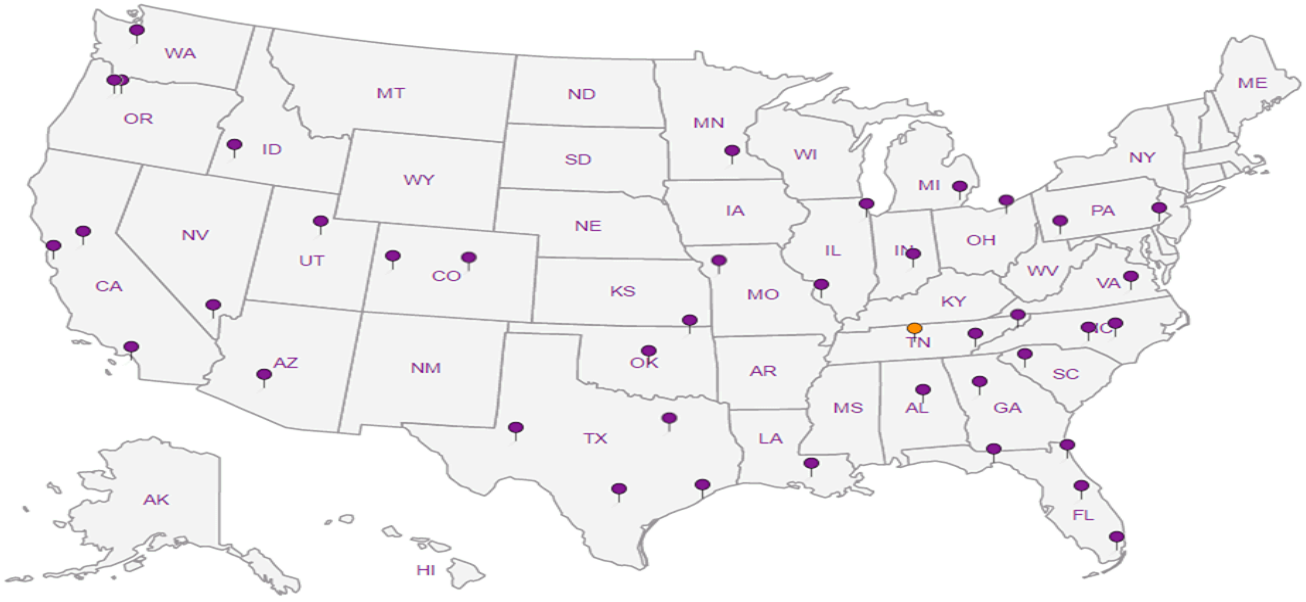
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: **Brian Linnan**

Email To: **brian.linnan@aecom.com; robert.exceen@aecom.com;**

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # 60482842

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Terry Andrews + Darryle Harrison

Site/Facility ID #

P.O. # **no PO number**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-903	Grab	GW		4-4-17	10:00	3	X	X	X		01
MW-902	Grab	GW		4-4-17	10:15	3	X	X	X		02
MW-901	Grab	GW		4-4-17	10:40	3	X	X	X		03
MW-905	Grab	GW		4-4-17	11:05	3	X	X	X		04
MW-802	Grab	GW		4-5-17	11:90	3	X	X	X		05
MW-804	Grab	GW		4-5-17	13:15	3	X	X	X		06
MW-805	Grab	GW		4-5-17	13:30	3	X	X	X		07
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 526 7788 0193

Chain of Custody Page ___ of ___

ESC LABORATORY 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# L901219
J249

Acctnum: **URSKC**
Template: **T112860**
Prelogin: **P594561**
TSR: **206 - Jeff Carr**
PB:
Shipped Via:

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	4-5-17	14:45	
Relinquished by : (Signature)	Date: 4/6/17	Time: 1700	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 3.1 °C Bottles Received: 48

Date: 4-7-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skoskewych/Gough

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-703	Grab	GW		4/4/17	1100	3	X	X	X		-08
TW-1		GW			1230	3	X	X	X		09
MW-701		GW			1315	3	X	X	X		10
MW-704		GW			1420	3	X	X	X		11
MW-707B		GW			1545	3	X	X	X		12
MW-706		GW			1645	3	X	X	X		13
MW-702		GW		4/5	0915	3	X	X	X		14
MW-7		GW			1200	3	X	X	X		15
MW-6		GW			1350	3	X	X	X		16
		GW				3	X	X	X		

Chain of Custody Page ___ of ___

ESC 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# L961219

Table #

Acctnum: URSKC
Template: T112860
Prelogin: P594561
TSR: 206 - Jeff Carr
PB:

Shipped Via:

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

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

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking # 526 7758 0193

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4/5/17	1620	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4/6/17	700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.1 °C Bottles Received: 48

Date: 4-7-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

April 18, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L901513
Samples Received:	04/08/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Brian Linnan
2380 McGee Suite 200
Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

MW-10 L901513-01 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 09:45
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969832	1	04/13/17 15:32	04/13/17 16:13	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 12:11	04/12/17 12:11	SAM
Mercury by Method 7470A	WG968959	1	04/10/17 09:44	04/11/17 09:39	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 01:40	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 09:59	JPD

MW-11 L901513-02 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 11:50
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969832	1	04/13/17 15:32	04/13/17 16:13	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 12:55	04/12/17 12:55	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 13:10	04/12/17 13:10	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:33	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:06	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:13	JPD

MW-950 L901513-03 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 13:30
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969832	1	04/13/17 15:32	04/13/17 16:13	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 13:25	04/12/17 13:25	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 14:10	04/12/17 14:10	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:35	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:09	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:16	JPD

MW-705 L901513-04 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 14:45
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 14:25	04/12/17 14:25	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 14:40	04/12/17 14:40	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:37	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:12	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:32	JPD
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:31	JPD

MW-708 L901513-05 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 16:35
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 14:55	04/12/17 14:55	SAM

MW-708 L901513-05 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 16:35
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:39	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:15	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:36	JPD

MW-13 L901513-06 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 18:15
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 15:10	04/12/17 15:10	SAM
Wet Chemistry by Method 9056A	WG969117	50	04/12/17 15:25	04/12/17 15:25	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:42	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:18	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:39	JPD

MW-15 L901513-07 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/05/17 15:00
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969412	1	04/12/17 18:20	04/12/17 18:49	MMF
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 15:40	04/12/17 15:40	SAM
Wet Chemistry by Method 9056A	WG970251	5	04/14/17 11:19	04/14/17 11:19	MCG
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:48	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:21	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:43	JPD

MW-801 L901513-08 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 13:50
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 15:54	04/12/17 15:54	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 16:09	04/12/17 16:09	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:51	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:24	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:46	JPD

MW-803 L901513-09 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/07/17 12:50
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG970392	1	04/14/17 17:02	04/15/17 08:31	MMF
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 16:24	04/12/17 16:24	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:53	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:27	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 10:50	JPD
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:35	JPD

MW-601 L901513-10 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 16:20
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 17:09	04/12/17 17:09	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 19:23	04/12/17 19:23	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:12	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 01:50	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:11	JPD

MW-951 L901513-11 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/06/17 12:30
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG969833	1	04/13/17 18:32	04/14/17 07:54	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 17:54	04/12/17 17:54	SAM
Wet Chemistry by Method 9056A	WG969117	10	04/12/17 18:09	04/12/17 18:09	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:55	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:29	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:21	JPD

MW-14R L901513-12 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/07/17 13:25
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG970392	1	04/14/17 17:02	04/15/17 08:31	MMF
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 18:24	04/12/17 18:24	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 12:57	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:37	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:24	JPD

MW-602 L901513-13 GW

Collected by: Gwyn, Andrews
Collected date/time: 04/07/17 13:45
Received date/time: 04/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG970395	1	04/14/17 16:23	04/14/17 17:22	AS
Wet Chemistry by Method 9040C	WG969205	1	04/12/17 14:08	04/12/17 14:08	MA
Wet Chemistry by Method 9056A	WG969117	1	04/12/17 18:39	04/12/17 18:39	SAM
Mercury by Method 7470A	WG968961	1	04/10/17 09:41	04/11/17 13:00	NJB
Metals (ICP) by Method 6010B	WG968931	1	04/13/17 14:31	04/14/17 02:40	LTB
Metals (ICPMS) by Method 6020	WG969195	1	04/11/17 21:42	04/13/17 11:28	JPD

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	596		10.0	1	04/13/2017 16:13	WG969832

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.59	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-01 WG969205: 7.59 at 20.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	63.7		1.00	1	04/12/2017 12:11	WG969117
Fluoride	0.338		0.100	1	04/12/2017 12:11	WG969117
Sulfate	31.6		5.00	1	04/12/2017 12:11	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 09:39	WG968959

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.933		0.200	1	04/14/2017 01:40	WG968931
Lithium	0.0393		0.0150	1	04/14/2017 01:40	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 01:40	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 09:59	WG969195
Arsenic	0.00302		0.00200	1	04/13/2017 09:59	WG969195
Barium	0.280		0.00500	1	04/13/2017 09:59	WG969195
Beryllium	ND		0.00200	1	04/13/2017 09:59	WG969195
Cadmium	ND		0.00100	1	04/13/2017 09:59	WG969195
Calcium	57.4	V	1.00	1	04/13/2017 09:59	WG969195
Chromium	ND		0.00200	1	04/13/2017 09:59	WG969195
Cobalt	ND		0.00200	1	04/13/2017 09:59	WG969195
Lead	ND		0.00200	1	04/13/2017 09:59	WG969195
Selenium	ND		0.00200	1	04/13/2017 09:59	WG969195
Thallium	ND		0.00200	1	04/13/2017 09:59	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	938		10.0	1	04/13/2017 16:13	WG969832

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.69	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-02 WG969205: 7.69 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	94.5		10.0	10	04/12/2017 13:10	WG969117
Fluoride	0.527		0.100	1	04/12/2017 12:55	WG969117
Sulfate	148		50.0	10	04/12/2017 13:10	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:33	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.04		0.200	1	04/14/2017 02:06	WG968931
Lithium	0.0638		0.0150	1	04/14/2017 02:06	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:06	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:13	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:13	WG969195
Barium	0.0358		0.00500	1	04/13/2017 10:13	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:13	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:13	WG969195
Calcium	61.1		1.00	1	04/13/2017 10:13	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:13	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:13	WG969195
Lead	ND		0.00200	1	04/13/2017 10:13	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:13	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:13	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	924		10.0	1	04/13/2017 16:13	WG969832

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-03 WG969205: 7.67 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		10.0	10	04/12/2017 14:10	WG969117
Fluoride	0.902		0.100	1	04/12/2017 13:25	WG969117
Sulfate	41.9		5.00	1	04/12/2017 13:25	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:35	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.22		0.200	1	04/14/2017 02:09	WG968931
Lithium	0.121		0.0150	1	04/14/2017 02:09	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:09	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:16	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:16	WG969195
Barium	0.0861		0.00500	1	04/13/2017 10:16	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:16	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:16	WG969195
Calcium	38.2		1.00	1	04/13/2017 10:16	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:16	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:16	WG969195
Lead	ND		0.00200	1	04/13/2017 10:16	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:16	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:16	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	932		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-04 WG969205: 7.56 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	131		10.0	10	04/12/2017 14:40	WG969117
Fluoride	0.905		0.100	1	04/12/2017 14:25	WG969117
Sulfate	41.9		5.00	1	04/12/2017 14:25	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:37	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.23		0.200	1	04/14/2017 02:12	WG968931
Lithium	0.121		0.0150	1	04/14/2017 02:12	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:12	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:31	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:32	WG969195
Barium	0.0873		0.00500	1	04/13/2017 10:32	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:32	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:32	WG969195
Calcium	37.5		1.00	1	04/13/2017 10:32	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:32	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:32	WG969195
Lead	ND		0.00200	1	04/13/2017 10:32	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:32	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:32	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	623		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-05 WG969205: 7.62 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.7		1.00	1	04/12/2017 14:55	WG969117
Fluoride	0.612		0.100	1	04/12/2017 14:55	WG969117
Sulfate	8.36		5.00	1	04/12/2017 14:55	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:39	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.48		0.200	1	04/14/2017 02:15	WG968931
Lithium	0.0762		0.0150	1	04/14/2017 02:15	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:15	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:36	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:36	WG969195
Barium	0.244		0.00500	1	04/13/2017 10:36	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:36	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:36	WG969195
Calcium	31.4		1.00	1	04/13/2017 10:36	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:36	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:36	WG969195
Lead	ND		0.00200	1	04/13/2017 10:36	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:36	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:36	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6050		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.16	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-06 WG969205: 7.16 at 19.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.8		1.00	1	04/12/2017 15:10	WG969117
Fluoride	0.171		0.100	1	04/12/2017 15:10	WG969117
Sulfate	1480		250	50	04/12/2017 15:25	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:42	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.449		0.200	1	04/14/2017 02:18	WG968931
Lithium	0.0554		0.0150	1	04/14/2017 02:18	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:18	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:39	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:39	WG969195
Barium	0.0160		0.00500	1	04/13/2017 10:39	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:39	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:39	WG969195
Calcium	320		1.00	1	04/13/2017 10:39	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:39	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:39	WG969195
Lead	ND		0.00200	1	04/13/2017 10:39	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:39	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:39	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	803		10.0	1	04/12/2017 18:49	WG969412

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-07 WG969205: 7.37 at 19.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	19.3		1.00	1	04/12/2017 15:40	WG969117
Fluoride	0.235		0.100	1	04/12/2017 15:40	WG969117
Sulfate	221		25.0	5	04/14/2017 11:19	WG970251

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:48	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.261		0.200	1	04/14/2017 02:21	WG968931
Lithium	0.0237		0.0150	1	04/14/2017 02:21	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:21	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:43	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:43	WG969195
Barium	0.0500		0.00500	1	04/13/2017 10:43	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:43	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:43	WG969195
Calcium	98.9		1.00	1	04/13/2017 10:43	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:43	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:43	WG969195
Lead	ND		0.00200	1	04/13/2017 10:43	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:43	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:43	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	826		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-08 WG969205: 7.62 at 21.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	111		10.0	10	04/12/2017 16:09	WG969117
Fluoride	1.03		0.100	1	04/12/2017 15:54	WG969117
Sulfate	ND		5.00	1	04/12/2017 15:54	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:51	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	04/14/2017 02:24	WG968931
Lithium	0.101		0.0150	1	04/14/2017 02:24	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:24	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 10:46	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:46	WG969195
Barium	0.560		0.00500	1	04/13/2017 10:46	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:46	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:46	WG969195
Calcium	32.5		1.00	1	04/13/2017 10:46	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:46	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:46	WG969195
Lead	0.00296		0.00200	1	04/13/2017 10:46	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:46	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:46	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	605		10.0	1	04/15/2017 08:31	WG970392

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-09 WG969205: 7.60 at 20.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.5		1.00	1	04/12/2017 16:24	WG969117
Fluoride	0.586		0.100	1	04/12/2017 16:24	WG969117
Sulfate	17.8		5.00	1	04/12/2017 16:24	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:53	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.14		0.200	1	04/14/2017 02:27	WG968931
Lithium	0.0690		0.0150	1	04/14/2017 02:27	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:27	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:35	WG969195
Arsenic	ND		0.00200	1	04/13/2017 10:50	WG969195
Barium	0.217		0.00500	1	04/13/2017 10:50	WG969195
Beryllium	ND		0.00200	1	04/13/2017 10:50	WG969195
Cadmium	ND		0.00100	1	04/13/2017 10:50	WG969195
Calcium	46.7		1.00	1	04/13/2017 10:50	WG969195
Chromium	ND		0.00200	1	04/13/2017 10:50	WG969195
Cobalt	ND		0.00200	1	04/13/2017 10:50	WG969195
Lead	ND		0.00200	1	04/13/2017 10:50	WG969195
Selenium	ND		0.00200	1	04/13/2017 10:50	WG969195
Thallium	ND		0.00200	1	04/13/2017 10:50	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.97	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-10 WG969205: 7.97 at 21.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	156		10.0	10	04/12/2017 19:23	WG969117
Fluoride	1.59		0.100	1	04/12/2017 17:09	WG969117
Sulfate	ND		5.00	1	04/12/2017 17:09	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:12	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.89		0.200	1	04/14/2017 01:50	WG968931
Lithium	0.0746		0.0150	1	04/14/2017 01:50	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 01:50	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:11	WG969195
Arsenic	ND		0.00200	1	04/13/2017 11:11	WG969195
Barium	0.122		0.00500	1	04/13/2017 11:11	WG969195
Beryllium	ND		0.00200	1	04/13/2017 11:11	WG969195
Cadmium	ND		0.00100	1	04/13/2017 11:11	WG969195
Calcium	21.3		1.00	1	04/13/2017 11:11	WG969195
Chromium	ND		0.00200	1	04/13/2017 11:11	WG969195
Cobalt	ND		0.00200	1	04/13/2017 11:11	WG969195
Lead	ND		0.00200	1	04/13/2017 11:11	WG969195
Selenium	ND		0.00200	1	04/13/2017 11:11	WG969195
Thallium	ND		0.00200	1	04/13/2017 11:11	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	818		10.0	1	04/14/2017 07:54	WG969833

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.78	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-11 WG969205: 7.78 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	102		10.0	10	04/12/2017 18:09	WG969117
Fluoride	1.03		0.100	1	04/12/2017 17:54	WG969117
Sulfate	ND		5.00	1	04/12/2017 17:54	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:55	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.33		0.200	1	04/14/2017 02:29	WG968931
Lithium	0.102		0.0150	1	04/14/2017 02:29	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:29	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:21	WG969195
Arsenic	ND		0.00200	1	04/13/2017 11:21	WG969195
Barium	0.553		0.00500	1	04/13/2017 11:21	WG969195
Beryllium	ND		0.00200	1	04/13/2017 11:21	WG969195
Cadmium	ND		0.00100	1	04/13/2017 11:21	WG969195
Calcium	32.1		1.00	1	04/13/2017 11:21	WG969195
Chromium	ND		0.00200	1	04/13/2017 11:21	WG969195
Cobalt	ND		0.00200	1	04/13/2017 11:21	WG969195
Lead	0.00315		0.00200	1	04/13/2017 11:21	WG969195
Selenium	ND		0.00200	1	04/13/2017 11:21	WG969195
Thallium	ND		0.00200	1	04/13/2017 11:21	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	530		10.0	1	04/15/2017 08:31	WG970392

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-12 WG969205: 7.77 at 19.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.11		1.00	1	04/12/2017 18:24	WG969117
Fluoride	0.201		0.100	1	04/12/2017 18:24	WG969117
Sulfate	44.3		5.00	1	04/12/2017 18:24	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 12:57	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.526		0.200	1	04/14/2017 02:37	WG968931
Lithium	0.0393		0.0150	1	04/14/2017 02:37	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:37	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:24	WG969195
Arsenic	ND		0.00200	1	04/13/2017 11:24	WG969195
Barium	0.0376		0.00500	1	04/13/2017 11:24	WG969195
Beryllium	ND		0.00200	1	04/13/2017 11:24	WG969195
Cadmium	ND		0.00100	1	04/13/2017 11:24	WG969195
Calcium	57.4		1.00	1	04/13/2017 11:24	WG969195
Chromium	ND		0.00200	1	04/13/2017 11:24	WG969195
Cobalt	ND		0.00200	1	04/13/2017 11:24	WG969195
Lead	ND		0.00200	1	04/13/2017 11:24	WG969195
Selenium	ND		0.00200	1	04/13/2017 11:24	WG969195
Thallium	ND		0.00200	1	04/13/2017 11:24	WG969195

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	555		10.0	1	04/14/2017 17:22	WG970395

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.93	T8	1	04/12/2017 14:08	WG969205

Sample Narrative:

9040C L901513-13 WG969205: 7.93 at 19.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.2		1.00	1	04/12/2017 18:39	WG969117
Fluoride	1.18		0.100	1	04/12/2017 18:39	WG969117
Sulfate	23.8		5.00	1	04/12/2017 18:39	WG969117

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/11/2017 13:00	WG968961

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.44		0.200	1	04/14/2017 02:40	WG968931
Lithium	0.0624		0.0150	1	04/14/2017 02:40	WG968931
Molybdenum	ND		0.00500	1	04/14/2017 02:40	WG968931

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	04/13/2017 11:28	WG969195
Arsenic	ND		0.00200	1	04/13/2017 11:28	WG969195
Barium	0.0921		0.00500	1	04/13/2017 11:28	WG969195
Beryllium	ND		0.00200	1	04/13/2017 11:28	WG969195
Cadmium	ND		0.00100	1	04/13/2017 11:28	WG969195
Calcium	24.9		1.00	1	04/13/2017 11:28	WG969195
Chromium	ND		0.00200	1	04/13/2017 11:28	WG969195
Cobalt	ND		0.00200	1	04/13/2017 11:28	WG969195
Lead	ND		0.00200	1	04/13/2017 11:28	WG969195
Selenium	ND		0.00200	1	04/13/2017 11:28	WG969195
Thallium	ND		0.00200	1	04/13/2017 11:28	WG969195

Method Blank (MB)

(MB) R3210650-1 04/12/17 18:49

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

L901513-07 Original Sample (OS) • Duplicate (DUP)

(OS) L901513-07 04/12/17 18:49 • (DUP) R3210650-4 04/12/17 18:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	803	788	1	1.84		5

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

(LCS) R3210650-2 04/12/17 18:49 • (LCSD) R3210650-3 04/12/17 18:49

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	8500	8500	96.6	96.6	85.0-115			0.000	5

Method Blank (MB)

(MB) R3210988-1 04/13/17 16:13

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

L901500-03 Original Sample (OS) • Duplicate (DUP)

(OS) L901500-03 04/13/17 16:13 • (DUP) R3210988-4 04/13/17 16:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1050	1050	1	0.127		5

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

(LCS) R3210988-2 04/13/17 16:13 • (LCSD) R3210988-3 04/13/17 16:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8440	8520	95.9	96.8	85.0-115			0.943	5

Method Blank (MB)

(MB) R3211004-1 04/14/17 07:54

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

L901409-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901409-01 04/14/17 07:54 • (DUP) R3211004-4 04/14/17 07:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	154	160	1	3.82		5

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

(LCS) R3211004-2 04/14/17 07:54 • (LCSD) R3211004-3 04/14/17 07:54

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	%	%	%			%	%
Dissolved Solids	8800	8430	8580	95.8	97.5	85.0-115			1.76	5

Method Blank (MB)

(MB) R3211240-1 04/15/17 08:31

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

L901413-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901413-01 04/15/17 08:31 • (DUP) R3211240-4 04/15/17 08:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	219	221	1	0.909		5

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

(LCS) R3211240-2 04/15/17 08:31 • (LCSD) R3211240-3 04/15/17 08:31

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	%	%	%			%	%
Dissolved Solids	8800	8450	8550	96.0	97.2	85.0-115			1.18	5

Method Blank (MB)

(MB) R3211293-1 04/14/17 17:22

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

L901513-13 Original Sample (OS) • Duplicate (DUP)

(OS) L901513-13 04/14/17 17:22 • (DUP) R3211293-4 04/14/17 17:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	555	555	1	0.000		5

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

(LCS) R3211293-2 04/14/17 17:22 • (LCSD) R3211293-3 04/14/17 17:22

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	8480	8590	96.4	97.6	85.0-115			1.29	5

L901477-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901477-01 04/12/17 14:08 • (DUP) WG969205-3 04/12/17 14:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.22	8.22	1	0.000	T8	1

L901638-02 Original Sample (OS) • Duplicate (DUP)

(OS) L901638-02 04/12/17 14:08 • (DUP) WG969205-4 04/12/17 14:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.74	5.74	1	0.000	T8	1

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

(LCS) WG969205-1 04/12/17 14:08 • (LCSD) WG969205-2 04/12/17 14:08

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	7.50	7.49	7.47	99.9	99.6	98.7-101			0.267	1

Method Blank (MB)

(MB) R3210437-1 04/12/17 06:59

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

L901500-07 Original Sample (OS) • Duplicate (DUP)

(OS) L901500-07 04/12/17 09:56 • (DUP) R3210437-4 04/12/17 10:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	ND	0.423	1	0		15
Fluoride	ND	0.000	1	0		15
Sulfate	ND	0.000	1	0		15

L901510-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901510-01 04/12/17 11:41 • (DUP) R3210437-5 04/12/17 11:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	2.33	2.72	1	15		15
Fluoride	U	0.000	1	0		15
Sulfate	1.84	1.86	1	1	J	15

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

(LCS) R3210437-2 04/12/17 07:14 • (LCSD) R3210437-3 04/12/17 07:29

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	38.9	39.0	97	97	80-120			0	15
Fluoride	8.00	8.21	8.19	103	102	80-120			0	15
Sulfate	40.0	38.9	39.1	97	98	80-120			1	15

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/12/17 12:11 • (MS) R3210437-6 04/12/17 12:26 • (MSD) R3210437-7 04/12/17 12:40

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Chloride	50.0	63.7	115	115	103	102	1	80-120	E	E	0	15
Fluoride	5.00	0.338	5.66	5.68	106	107	1	80-120			0	15

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/12/17 12:11 • (MS) R3210437-6 04/12/17 12:26 • (MSD) R3210437-7 04/12/17 12:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	31.6	84.0	84.5	105	106	1	80-120			1	15

L901513-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-10 04/12/17 17:09 • (MS) R3210437-8 04/12/17 17:24 • (MSD) R3210437-9 04/12/17 17:39

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 %
Fluoride	5.00	1.59	7.00	7.13	108	111	1	80-120			2	15
Sulfate	50.0	ND	55.3	56.7	104	106	1	80-120			3	15

Method Blank (MB)

(MB) R3211048-1 04/14/17 05:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L902168-02 Original Sample (OS) • Duplicate (DUP)

(OS) L902168-02 04/14/17 13:18 • (DUP) R3211048-4 04/14/17 13:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	15.0	15.1	1	1		15

L902168-04 Original Sample (OS) • Duplicate (DUP)

(OS) L902168-04 04/14/17 16:17 • (DUP) R3211048-6 04/14/17 16:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	ND	3.27	1	0		15

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

(LCS) R3211048-2 04/14/17 05:52 • (LCSD) R3211048-3 04/14/17 06:07

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	%	%	%			%	%
Sulfate	40.0	38.6	38.6	96	97	80-120			0	15

L902168-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L902168-03 04/14/17 13:48 • (MS) R3211048-5 04/14/17 14:03

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	29.3	81.0	103	1	80-120	

L902358-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L902358-01 04/14/17 17:47 • (MS) R3211048-7 04/14/17 18:02 • (MSD) R3211048-8 04/14/17 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
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Sulfate	50.0	18.9	70.8	72.6	104	107	1	80-120			3	15

Method Blank (MB)

(MB) R3209794-1 04/11/17 09:33

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

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

(LCS) R3209794-2 04/11/17 09:35 • (LCSD) R3209794-3 04/11/17 09:37

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	%	%	%			%	%
Mercury	0.00300	0.00281	0.00286	94	95	80-120			2	20

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/11/17 09:39 • (MS) R3209794-4 04/11/17 09:42 • (MSD) R3209794-5 04/11/17 09:44

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	%	%		%			%	%
Mercury	0.00300	ND	0.00295	0.00277	98	92	1	75-125			7	20

Method Blank (MB)

(MB) R3209874-1 04/11/17 12:05

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

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

(LCS) R3209874-2 04/11/17 12:07 • (LCSD) R3209874-3 04/11/17 12:10

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	%	%	%			%	%
Mercury	0.00300	0.00288	0.00293	96	98	80-120			2	20

L901513-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-10 04/11/17 12:12 • (MS) R3209874-4 04/11/17 12:21 • (MSD) R3209874-5 04/11/17 12:23

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	%	%		%			%	%
Mercury	0.00300	ND	0.00300	0.00293	100	98	1	75-125			2	20

Method Blank (MB)

(MB) R3210852-1 04/14/17 01:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3210852-2 04/14/17 01:34 • (LCSD) R3210852-3 04/14/17 01:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.00	1.00	100	100	80-120			0	20
Lithium	1.00	0.979	0.972	98	97	80-120			1	20
Molybdenum	1.00	0.958	0.951	96	95	80-120			1	20

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/14/17 01:40 • (MS) R3210852-5 04/14/17 01:45 • (MSD) R3210852-6 04/14/17 01:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.933	1.93	1.94	100	101	1	75-125			0	20
Lithium	1.00	0.0393	1.01	1.02	97	98	1	75-125			1	20
Molybdenum	1.00	ND	0.955	0.966	95	97	1	75-125			1	20

L901513-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-10 04/14/17 01:50 • (MS) R3210852-7 04/14/17 01:53 • (MSD) R3210852-8 04/14/17 01:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	1.89	2.83	2.86	94	97	1	75-125			1	20
Lithium	1.00	0.0746	1.02	1.05	94	97	1	75-125			3	20
Molybdenum	1.00	ND	0.938	0.954	94	95	1	75-125			2	20

Method Blank (MB)

(MB) R3210507-1 04/13/17 09:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3210507-2 04/13/17 09:52 • (LCSD) R3210507-3 04/13/17 09:55

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	0.0508	0.0497	102	99	80-120			2	20
Arsenic	0.0500	0.0503	0.0497	101	99	80-120			1	20
Barium	0.0500	0.0466	0.0468	93	94	80-120			1	20
Beryllium	0.0500	0.0447	0.0436	89	87	80-120			2	20
Cadmium	0.0500	0.0531	0.0533	106	107	80-120			0	20
Calcium	5.00	4.97	4.96	99	99	80-120			0	20
Chromium	0.0500	0.0525	0.0522	105	104	80-120			0	20
Cobalt	0.0500	0.0539	0.0535	108	107	80-120			1	20
Lead	0.0500	0.0513	0.0512	103	102	80-120			0	20
Selenium	0.0500	0.0511	0.0511	102	102	80-120			0	20
Thallium	0.0500	0.0521	0.0518	104	104	80-120			1	20

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/13/17 09:59 • (MS) R3210507-5 04/13/17 10:06 • (MSD) R3210507-6 04/13/17 10:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0516	0.0515	103	103	1	75-125			0	20
Arsenic	0.0500	0.00302	0.0531	0.0519	100	98	1	75-125			2	20
Barium	0.0500	0.280	0.323	0.324	85	87	1	75-125			0	20
Beryllium	0.0500	ND	0.0437	0.0428	87	86	1	75-125			2	20
Cadmium	0.0500	ND	0.0539	0.0542	108	108	1	75-125			1	20

L901513-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-01 04/13/17 09:59 • (MS) R3210507-5 04/13/17 10:06 • (MSD) R3210507-6 04/13/17 10:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	5.00	57.4	61.1	60.6	73	64	1	75-125	V	V	1	20
Chromium	0.0500	ND	0.0520	0.0508	104	102	1	75-125			2	20
Cobalt	0.0500	ND	0.0522	0.0514	104	103	1	75-125			2	20
Lead	0.0500	ND	0.0527	0.0521	103	102	1	75-125			1	20
Selenium	0.0500	ND	0.0520	0.0507	104	101	1	75-125			3	20
Thallium	0.0500	ND	0.0528	0.0523	106	105	1	75-125			1	20

L901513-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901513-10 04/13/17 11:11 • (MS) R3210507-7 04/13/17 11:14 • (MSD) R3210507-8 04/13/17 11:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0519	0.0527	104	105	1	75-125			2	20
Arsenic	0.0500	ND	0.0502	0.0511	100	102	1	75-125			2	20
Barium	0.0500	0.122	0.169	0.168	94	92	1	75-125			0	20
Beryllium	0.0500	ND	0.0422	0.0428	84	86	1	75-125			1	20
Cadmium	0.0500	ND	0.0550	0.0557	110	111	1	75-125			1	20
Calcium	5.00	21.3	26.1	25.7	95	88	1	75-125			1	20
Chromium	0.0500	ND	0.0521	0.0533	103	105	1	75-125			2	20
Cobalt	0.0500	ND	0.0522	0.0533	104	107	1	75-125			2	20
Lead	0.0500	ND	0.0508	0.0520	102	104	1	75-125			2	20
Selenium	0.0500	ND	0.0511	0.0521	102	104	1	75-125			2	20
Thallium	0.0500	ND	0.0513	0.0520	103	104	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.
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
Conneticut	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 [1 4]	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		

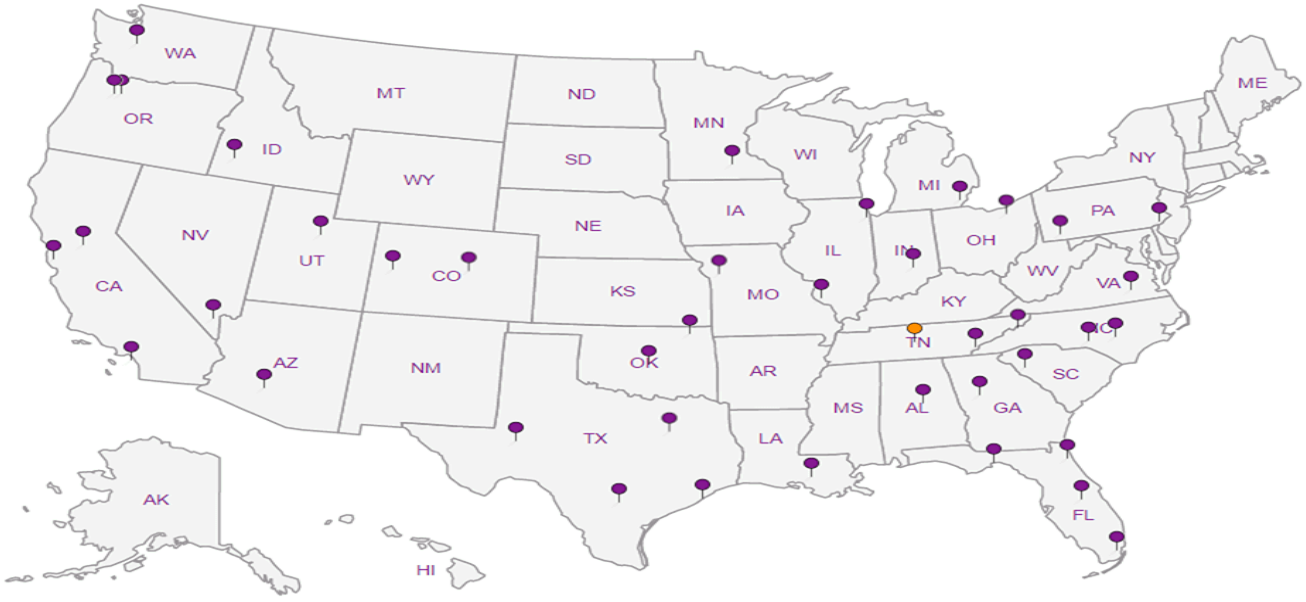
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Gwyn Andrews

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N___ Y___

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-10	Grab	GW		4/6/17	0945	3	X	X	X		01
MW-10-MS	Grab	GW		4/6/17	0945	3	X	X	X		01
MW-10-MSD	Grab	GW		4/6/17	0945	3	X	X	X		01
MW-11	Grab	GW		4/6/17	1150	3	X	X	X		02
MW-950	Grab	GW		4/6/17	1330	3	X	X	X		03
MW-705	Grab	GW		4/6/17	1445	3	X	X	X		04
MW-708	Grab	GW		4/6/17	1635	3	X	X	X		05
MW-13	Grab	GW		4/6/17	1815	3	X	X	X		06
		GW				3	X	X	X		
		GW				3	X	X	X		

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORY 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# 901513
H234

Acctnum: URSKC
Template: T112860
Prelogin: P594561
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

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

pH _____ Temp _____
Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date: 4/7/17	Time: 1700	Received by: (Signature)	Temp: 2.1 °C Bottles Received: 5 1	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4-8-17 Time: 840	Hold: Condition: NCF / OK

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Mudder + Daryle Harrison

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-15	Grab	GW		4-5-17	15:00	3	X	X	X		01
MW-801	Grab	GW		4-6-17	13:50	3	X	X	X		02
MW-803	Grab	GW		4-7-17	12:50	3	X	X	X		03
MW-601	Grab	GW		4-6-17	16:20	3	X	X	X	MW-601 MS/MSD	10
MW-601 MS	Grab	GW		4-6-17	16:20	3	X	X	X		10
MW-601 MSD	Grab	GW		4-6-17	16:20	3	X	X	X		12
MW-951	Grab	GW		4-6-17	12:30	3	X	X	X		11
MW-14R	Grab	GW		4-7-17	13:25	3	X	X	X		12
MW-602	Grab	GW		4-7-17	13:45	3	X	X	X		13
		GW				3	X	X	X		

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

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

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4-7-17	16:35	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4/7/17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.1 °C Bottles Received: 51

Date: 4-8-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page ___ of ___

ESC 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# 901573

Table #

Acctnum: URSKC

Template: T112860

Prelogin: P594561

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Case Narrative

Lab No: 20170285

This report contains the analytical results for the 16 sample(s) received under chain of custody by ESC Lab Sciences on 4/7/2017 9:06:40 AM. These samples are associated with your 60482842 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

L901650

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170285-01**								
Client ID : **MW-703**								
Date Sampled : **4/4/2017 11:00:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.30 +/- 0.938	1.08	pCi/l				
Radium-226	SM 7500 Ra B M*	1.16 +/- 0.426	0.457	pCi/l		05/01/17	05/03/17	SD
Radium-228	EPA 904*	0.142 +/- 0.512	0.623	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-02**								
Client ID : **TW-1**								
Date Sampled : **4/4/2017 12:30:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.375 +/- 0.695	0.920	pCi/l				
Radium-226	SM 7500 Ra B M*	0.055 +/- 0.184	0.345	pCi/l		05/01/17	05/03/17	SD
Radium-228	EPA 904*	0.320 +/- 0.511	0.575	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-03**								
Client ID : **MW-701**								
Date Sampled : **4/4/2017 1:15:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.371 +/- 0.671	0.802	pCi/l				
Radium-226	SM 7500 Ra B M*	0.268 +/- 0.168	0.200	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	0.103 +/- 0.503	0.602	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-04**								
Client ID : **MW-704**								
Date Sampled : **4/4/2017 2:20:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.505 +/- 0.682	0.882	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.011 +/- 0.204	0.332	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	0.505 +/- 0.478	0.550	pCi/l		04/21/17	05/01/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170285-05**								
Client ID : **MW-707B**								
Date Sampled : **4/4/2017 3:45:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.701 +/- 0.631	0.707	pCi/l				
Radium-226	SM 7500 Ra B M*	0.331 +/- 0.172	0.183	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	0.370 +/- 0.459	0.524	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-06**								
Client ID : **MW-706**								
Date Sampled : **4/4/2017 4:45:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.628 +/- 0.699	0.799	pCi/l				
Radium-226	SM 7500 Ra B M*	0.628 +/- 0.232	0.214	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	-0.275 +/- 0.467	0.585	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-07**								
Client ID : **MW-702**								
Date Sampled : **4/5/2017 9:15:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.331 +/- 0.697	1.00	pCi/l				
Radium-226	SM 7500 Ra B M*	0.331 +/- 0.195	0.238	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	-0.525 +/- 0.502	0.765	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-08**								
Client ID : **MW-7**								
Date Sampled : **4/5/2017 12:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.23 +/- 0.695	0.797	pCi/l				
Radium-226	SM 7500 Ra B M*	0.627 +/- 0.224	0.170	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	0.606 +/- 0.471	0.627	pCi/l		04/21/17	05/01/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170285-09**								
Client ID : **MW-6**								
Date Sampled : **4/5/2017 1:50:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.674 +/- 0.596	0.728	pCi/l				
Radium-226	SM 7500 Ra B M*	0.274 +/- 0.172	0.202	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	0.400 +/- 0.424	0.526	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-10**								
Client ID : **WM-903**								
Date Sampled : **4/4/2017 10:00:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.45 +/- 0.586	0.685	pCi/l				
Radium-226	SM 7500 Ra B M*	0.274 +/- 0.169	0.174	pCi/l		05/01/17	05/04/17	SD
Radium-228	EPA 904*	1.18 +/- 0.417	0.511	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-11**								
Client ID : **MW-902**								
Date Sampled : **4/4/2017 10:15:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.23 +/- 0.792	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.292 +/- 0.374	0.569	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	0.942 +/- 0.418	0.517	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-12**								
Client ID : **MW-901**								
Date Sampled : **4/4/2017 10:40:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.639 +/- 0.719	0.864	pCi/l				
Radium-226	SM 7500 Ra B M*	0.398 +/- 0.232	0.300	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	0.241 +/- 0.487	0.564	pCi/l		04/21/17	05/01/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170285-13**								
Client ID : **MW-905**								
Date Sampled : **4/4/2017 11:05:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.953 +/- 0.667	0.779	pCi/l				
Radium-226	SM 7500 Ra B M*	0.275 +/- 0.210	0.282	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	0.678 +/- 0.457	0.497	pCi/l		04/21/17	05/01/17	JR
Lab ID : **20170285-14**								
Client ID : **MW-802**								
Date Sampled : **4/5/2017 11:50:00 AM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.78 +/- 0.847	1.11	pCi/l				
Radium-226	SM 7500 Ra B M*	0.996 +/- 0.333	0.362	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	0.780 +/- 0.514	0.752	pCi/l		04/21/17	05/02/17	JR
Lab ID : **20170285-15**								
Client ID : **MW-804**								
Date Sampled : **4/5/2017 1:15:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.825 +/- 0.759	0.775	pCi/l				
Radium-226	SM 7500 Ra B M*	0.430 +/- 0.229	0.230	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	0.395 +/- 0.530	0.545	pCi/l		04/21/17	05/02/17	JR
Lab ID : **20170285-16**								
Client ID : **MW-805**								
Date Sampled : **4/5/2017 1:30:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		0.018 +/- 0.781	0.993	pCi/l				
Radium-226	SM 7500 Ra B M*	0.018 +/- 0.095	0.183	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	-0.030 +/- 0.686	0.810	pCi/l		04/21/17	05/02/17	JR

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.011	106.0			NC	0.156	77.9	86.1	9.8	R1217
Radium-226	-0.008	81.5			NC	0.274	102.0	107.0	5.2	R1216RP
Radium-228	0.719	85.2			NC	0.227	110.0	98.9	10.7	R3950

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
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Chain of Custody Page 1 of 2

ESC LABS SCIENCES

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

L# 90650

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P594559
TSR: 206 - Jeff Carr
PB:

Shipped Via:

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to:
Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych / Guyon

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs		Remarks	Sample # (lab only)
MW-703	Grab	NPW		4/4/17	1100	2	X		
TW-1		NPW			1230	2	X		
MW-701		NPW			1315	2	X		
MW-704		NPW			1420	2	X		
MW-707b		NPW			1545	2	X		
MW-706		NPW			1645	2	X		
MW-702		NPW		4/5	0915	2	X		
MW-7		NPW			1200	2	X		
MW-6		NPW			1350	2	X		
		NPW				2	X		

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking #

Sample Receipt Checklist

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

	Date:	Time:	
Relinquished by: (Signature)	4/5/17	1620	Received by: (Signature)
Relinquished by: (Signature)	4/6/17	1700	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Amb °C Bottles Received: 32

If preservation required by Login: Date/Time

Date: 4/7/17 Time: 906

Hold:

Condition: NCF / OK

20170285

Page 2 of 4

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: **Brian Linnan**

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: **La Cygne Generating Station**

City/State Collected:

Phone: **913-344-1000**
Fax: **913-344-1011**

Client Project # **60482842**

Lab Project # **URSKC-LACYGNE**

Collected by (print): Jim Muckler + Terry Andrews + Daryle Harrison

Site/Facility ID # **TASK 100**

P.O. # **no PO number**

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228-1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs		Remarks	Sample # (lab only)
MW-903	Grab	NPW		4-4-17	10:00	2	X		
MW-902	Grab	NPW		4-4-17	10:15	2	X		
MW-901	Grab	NPW		4-4-17	10:40	2	X		
MW-905	Grab	NPW		4-4-17	11:05	2	X		
MW-802	Grab	NPW		4-5-17	11:50	2	X		
MW-804	Grab	NPW		4-5-17	13:15	2	X		
MW-805	Grab	NPW		4-5-17	13:30	2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		

Chain of Custody

ESC LABS 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# 901650

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P594559
TSR: 206 - Jeff Carr
PB:

Shipped Via:

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

	Date:	Time:	
Relinquished by : (Signature) Jim Muckler	4-5-17	14:45	Received by: (Signature)
Relinquished by : (Signature)	4/6/17	1700	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Ab °C Bottles Received: 32

If preservation required by Login: Date/Time

Date: 4/7/17 Time: 906

Hold:

Condition: NCF / OK

20170285-2

SAMPLE LOGIN

Date Received: *4/7/2017 9:06:40* **Lab Number:** 20170285 **Due:** 5/5/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170285-01 B	MW-703	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-01 A	MW-703	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-02 A	TW-1	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-02 B	TW-1	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-03 A	MW-701	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-03 B	MW-701	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-04 B	MW-704	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-04 A	MW-704	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-05 A	MW-707B	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-05 B	MW-707B	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-06 A	MW-706	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-06 B	MW-706	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-07 A	MW-702	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-07 B	MW-702	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20170285-08 A	MW-7	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-08 B	MW-7	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-09 B	MW-6	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-09 A	MW-6	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-10 A	WM-903	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-10 B	WM-903	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-11 A	MW-902	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-11 B	MW-902	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-12 B	MW-901	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-12 A	MW-901	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-13 A	MW-905	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-13 B	MW-905	NPW	04/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-14 A	MW-802	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-14 B	MW-802	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-15 A	MW-804	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-15 B	MW-804	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170285-16 B	MW-805	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170285-16 A	MW-805	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No

Radium-226	SM 7500 Ra B M*
Radium-228	EPA 904*/9320*

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** ☑ **Temperature:** 4.6 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: _____ **DATE** 4/7/17

QA or Designee Review: _____ **DATE** 4/7/17

Sample Custodian Review: _____ **DATE** 4/7/17

Project Notes:

ESC LAB SCIENCES
YOUR LAB OF CHOICE

ACCREDITED IN ACCORDANCE WITH nelac
NJ OK001

Case Narrative

Lab No: 20170288

This report contains the analytical results for the 9 sample(s) received under chain of custody by ESC Lab Sciences on 4/10/2017 9:43:09 AM. These samples are associated with your 60482842 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:

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

L901653

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170288-01								
Client ID : MW-15								
Date Sampled : 4/5/2017 3:00:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		2.12 +/- 0.508	0.718	pCi/l				
Radium-226	SM 7500 Ra B M*	0.072 +/- 0.131	0.217	pCi/l		04/20/17	05/04/17	SD
Radium-228	EPA 904*	2.05 +/- 0.377	0.501	pCi/l		04/25/17	05/08/17	RE
Lab ID : 20170288-02								
Client ID : MW-801								
Date Sampled : 4/6/2017 1:50:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.27 +/- 0.673	0.824	pCi/l				
Radium-226	SM 7500 Ra B M*	0.370 +/- 0.205	0.236	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.902 +/- 0.468	0.588	pCi/l		04/25/17	05/08/17	RE
Lab ID : 20170288-03								
Client ID : MW-803								
Date Sampled : 4/7/2017 12:50:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.988 +/- 0.580	0.866	pCi/l				
Radium-226	SM 7500 Ra B M*	0.362 +/- 0.187	0.190	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.626 +/- 0.393	0.676	pCi/l		04/25/17	05/08/17	RE
Lab ID : 20170288-04								
Client ID : MW-601								
Date Sampled : 4/6/2017 4:20:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.967 +/- 0.764	1.25	pCi/l				
Radium-226	SM 7500 Ra B M*	0.205 +/- 0.160	0.206	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.762 +/- 0.604	1.04	pCi/l		04/25/17	05/08/17	RE

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170288-05**								
Client ID : **MW-601 MS**								
Date Sampled : **4/6/2017 4:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	77.9		% Rec		04/20/17	05/05/17	SD
Radium-228	EPA 904*	86.6		% Rec		04/25/17	05/08/17	RE
Lab ID : **20170288-06**								
Client ID : **MW-601 MSD**								
Date Sampled : **4/6/2017 4:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	9.8		RPD		04/20/17	05/05/17	SD
Radium-228	EPA 904*	14.8		RPD		04/25/17	05/08/17	RE
Lab ID : **20170288-07**								
Client ID : **MW-951**								
Date Sampled : **4/6/2017 12:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.202 +/- 0.562	0.891	pCi/l				
Radium-226	SM 7500 Ra B M*	0.05 +/- 0.069	0.110	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.152 +/- 0.493	0.781	pCi/l		04/25/17	05/08/17	RE
Lab ID : **20170288-08**								
Client ID : **MW-14R**								
Date Sampled : **4/7/2017 1:25:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.762 +/- 0.679	1.14	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.027 +/- 0.204	0.386	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.762 +/- 0.475	0.756	pCi/l		04/25/17	05/08/17	RE
Lab ID : **20170288-09**								
Client ID : **MW-602**								
Date Sampled : **4/7/2017 1:45:00 PM**								
Matrix : **NPW**								

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		1.26 +/- 0.763	0.994	pCi/l				
Radium-226	SM 7500 Ra B M*	0.715 +/- 0.290	0.277	pCi/l		04/20/17	05/05/17	SD
Radium-228	EPA 904*	0.549 +/- 0.473	0.717	pCi/l		04/25/17	05/08/17	RE

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.011	106.0			NC	0.156	77.9	86.1	9.8	R1217
Radium-228	0.611	89.7			16.1	2.810	86.6	102.0	14.8	R3952

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Daryle Harrison

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Quote #

Analysis / Container / Preservative

ORL-RA-226, RA-228 L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs		Remarks	Sample # (lab only)
MW-15	Grab	NPW		4-5-17	15:00	2	X		
MW-801	Grab	NPW		4-6-17	13:50	2	X		
MW-803	Grab	NPW		4-7-17	12:50	2	X		
MW-601	Grab	NPW		4-6-17	16:20	2	X		
MW-601 MS	Grab	NPW		4-6-17	16:20	2	X		
MW-601 MSD	Grab	NPW		4-6-17	16:20	2	X		
MW-951	Grab	NPW		4-6-17	12:30	2	X		
MW-14R	Grab	NPW		4-7-17	13:25	2	X		
MW-602	Grab	NPW		4-7-17	13:45	2	X		

Chain of Custody Page ___ of ___

ESC LABORATORIES

ESC LAB OF SCIENCE
1206S Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 901653

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P594559

TSR: 206 - Jeff Carr

PB:

Shipped Via:

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: ___NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

	Date:	Time:	
Relinquished by: (Signature)	4-7-17	16:35	Received by: (Signature)
Relinquished by: (Signature)	4/7/17	1700	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Ab °C Bottles Received: 18

Date: 4/10/17 Time: 943

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

0170288

SAMPLE LOGIN

Date Received: *4/10/2017 9:43:09* **Lab Number:** 20170288 **Due:** 5/8/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170288-01 B	MW-15	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-01 A	MW-15	NPW	04/05/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-02 A	MW-801	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-02 B	MW-801	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-03 A	MW-803	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-03 B	MW-803	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-04 B	MW-601	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-04 A	MW-601	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-05 B	MW-601 MS	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	Yes	No
20170288-05 A	MW-601 MS	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-06 A	MW-601 MSD	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-06 B	MW-601 MSD	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-07 A	MW-951	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-07 B	MW-951	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170288-08 A	MW-14R	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-08 B	MW-14R	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170288-09 B	MW-602	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170288-09 A	MW-602	NPW	04/07/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø **Temperature:** 4.6 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ✓ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies Samples -04, 05, and 06 have sample times of 1620 on CoC but 1820 on labels

Inspected By: _____ **DATE** 4/10/17

QA or Designee Review: _____ **DATE** 4/10/17

Sample Custodian Review _____ **DATE** 4/10/17

Project Notes:

ESC LAB SCIENCES
YOUR LAB OF CHOICE

ACCREDITED IN ACCORDANCE WITH nelac
NJ OK001

Case Narrative

Lab No: 20170289

This report contains the analytical results for the 8 sample(s) received under chain of custody by ESC Lab Sciences on 4/10/2017 9:43:10 AM. These samples are associated with your 60482842 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:

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

L901655
The following QC parameters were outside method control limits:
MS/MSD RPD Radium-228 SDG# R3953

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170289-01**								
Client ID : **MW-10**								
Date Sampled : **4/6/2017 9:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.40 +/- 0.687	0.918	pCi/l				
Radium-226	SM 7500 Ra B M*	0.202 +/- 0.243	0.364	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	1.37 +/- 0.555	0.657	pCi/l		04/26/17	05/02/17	SD
Lab ID : **20170289-02**								
Client ID : **MW-10-MS**								
Date Sampled : **4/6/2017 9:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	108		% Rec		04/26/17	04/27/17	SD
Radium-228	EPA 904*	83.2		% Rec		04/26/17	05/02/17	SD
Lab ID : **20170289-03**								
Client ID : **MW-10-MSD**								
Date Sampled : **4/6/2017 9:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	14.1		RPD		04/26/17	04/27/17	SD
Radium-228	EPA 904*	31.4		RPD		04/26/17	05/02/17	SD
Lab ID : **20170289-04**								
Client ID : **MW-11**								
Date Sampled : **4/6/2017 11:50:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.54 +/- 0.739	1.06	pCi/l				
Radium-226	SM 7500 Ra B M*	0.236 +/- 0.280	0.419	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	1.30 +/- 0.459	0.636	pCi/l		04/26/17	05/04/17	SD
Lab ID : **20170289-05**								
Client ID : **MW-950**								
Date Sampled : **4/6/2017 1:30:00 PM**								
Matrix : **NPW**								

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		2.30 +/- 1.14	1.31	pCi/l				
Radium-226	SM 7500 Ra B M*	1.97 +/- 0.496	0.472	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	0.334 +/- 0.647	0.837	pCi/l		04/26/17	05/02/17	SD

Lab ID : 20170289-06
Client ID : MW-705
Date Sampled : 4/6/2017 2:45:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.264 +/- 0.747	0.912	pCi/l				
Radium-226	SM 7500 Ra B M*	0.264 +/- 0.224	0.291	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	-0.039 +/- 0.523	0.621	pCi/l		04/26/17	05/04/17	SD

Lab ID : 20170289-07
Client ID : MW-708
Date Sampled : 4/6/2017 4:35:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		1.62 +/- 0.827	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.330 +/- 0.190	0.206	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	1.29 +/- 0.637	0.813	pCi/l		04/26/17	05/04/17	SD

Lab ID : 20170289-08
Client ID : MW-13
Date Sampled : 4/6/2017 6:15:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.340 +/- 0.741	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.212 +/- 0.211	0.298	pCi/l		04/26/17	04/27/17	SD
Radium-228	EPA 904*	0.128 +/- 0.530	0.746	pCi/l		04/26/17	05/04/17	SD

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QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.010	103.0			17.8	2.300	108.0	124.0	14.1	R1218
Radium-228	0.457	101.0			NC	0.021	83.2	121.0	31.4	R3953

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to:
Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Gwyn, Andrew

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226; RA-228 1L-HDR -Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs		Remarks	Sample # (lab only)
MW-10	Grab	NPW		4/6/17	0945	2	X		
MW-10-MS	Grab	NPW		4/6/17	0945	2	X		
MW-10-MSD	Grab	NPW		4/6/17	0945	2	X		
MW-11	Grab	NPW		4/6/17	1150	2	X		
MW-950	Grab	NPW		4/6/17	1330	2	X		
MW-705	Grab	NPW		4/6/17	1445	2	X		
MW-708	Grab	NPW		4/6/17	1635	2	X		
MW-13	Grab	NPW		4/6/17	1815	2	X		
		NPW				2	X		
		NPW				2	X		

Chain of Custody Page ___ of ___

ESC LABS 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# 901155

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P594559

TSR: 206 - Jeff Carr

PB:

Shipped Via:

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

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

	Date:	Time:	
Relinquished by: (Signature)	4/6/17	1900	Received by: (Signature)
Relinquished by: (Signature)	4/7/17	1700	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 4.5 °C Bottles Received: 16

Date: 4/10/17 Time: 943

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

20170284

SAMPLE LOGIN

Date Received: *4/10/2017 9:43:10* **Lab Number:** 20170289 **Due:** 5/8/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170289-01 B	MW-10	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-01 A	MW-10	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-02 A	MW-10-MS	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-02 B	MW-10-MS	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-03 A	MW-10-MSD	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-03 B	MW-10-MSD	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-04 B	MW-11	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-04 A	MW-11	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-05 B	MW-950	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	Yes	No
20170289-05 A	MW-950	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-06 A	MW-705	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-06 B	MW-705	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170289-07 A	MW-708	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170289-07 B	MW-708	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170289-08 B	MW-13	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170289-08 A	MW-13	NPW	04/06/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø **Temperature:** 4.6 **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ~ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 4/10/17

QA or Designee Review: _____ **DATE** 4/10/17

Sample Custodian Review: _____ **DATE** 4/10/17

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-7

June 2017 Sampling Event Laboratory Report

Case Narrative

Lab No: 20170544

This report contains the analytical results for the 17 sample(s) received under chain of custody by ESC Lab Sciences on 6/16/2017 9:40:37 AM. These samples are associated with your 60482842 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

L916971

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170544-01**								
Client ID : **MW-904**								
Date Sampled : **6/12/2017 12:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.52 +/- 0.480	0.638	pCi/l				
Radium-226	SM 7500 Ra B M*	0.089 +/- 0.099	0.144	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	1.43 +/- 0.381	0.494	pCi/l		07/03/17	07/10/17	JR
Lab ID : **20170544-02**								
Client ID : **MW-805**								
Date Sampled : **6/13/2017 1:45:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.060 +/- 0.571	0.744	pCi/l				
Radium-226	SM 7500 Ra B M*	0.050 +/- 0.098	0.162	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	0.010 +/- 0.473	0.582	pCi/l		07/03/17	07/10/17	JR
Lab ID : **20170544-03**								
Client ID : **MW-803**								
Date Sampled : **6/13/2017 2:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.10 +/- 0.646	0.824	pCi/l				
Radium-226	SM 7500 Ra B M*	0.428 +/- 0.257	0.342	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	0.667 +/- 0.389	0.482	pCi/l		07/03/17	07/10/17	JR
Lab ID : **20170544-04**								
Client ID : **MW-802**								
Date Sampled : **6/13/2017 3:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.26 +/- 0.873	1.20	pCi/l				
Radium-226	SM 7500 Ra B M*	0.494 +/- 0.245	0.308	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	1.77 +/- 0.628	0.889	pCi/l		07/03/17	07/10/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170544-05**								
Client ID : **MW-804**								
Date Sampled : **6/13/2017 4:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.61 +/- 0.712	0.883	pCi/l				
Radium-226	SM 7500 Ra B M*	0.376 +/- 0.227	0.284	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	1.23 +/- 0.485	0.599	pCi/l		07/03/17	07/10/17	JR
Lab ID : **20170544-06**								
Client ID : **MW-951**								
Date Sampled : **6/13/2017 4:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.841 +/- 0.670	0.825	pCi/l				
Radium-226	SM 7500 Ra B M*	0.508 +/- 0.251	0.297	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	0.333 +/- 0.419	0.528	pCi/l		07/03/17	07/10/17	JR
Lab ID : **20170544-07**								
Client ID : **MW-801**								
Date Sampled : **6/14/2017 10:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.973 +/- 0.706	0.828	pCi/l				
Radium-226	SM 7500 Ra B M*	0.526 +/- 0.244	0.273	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	0.447 +/- 0.462	0.555	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-08**								
Client ID : **MW-15**								
Date Sampled : **6/14/2017 12:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.00 +/- 0.536	0.697	pCi/l				
Radium-226	SM 7500 Ra B M*	0.056 +/- 0.132	0.224	pCi/l		06/28/17	06/29/17	RE
Radium-228	EPA 904*	0.946 +/- 0.404	0.473	pCi/l		07/03/17	07/11/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170544-09**								
Client ID : **MW-950**								
Date Sampled : **6/13/2017 10:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.36 +/- 0.533	0.623	pCi/l				
Radium-226	SM 7500 Ra B M*	0.264 +/- 0.128	0.126	pCi/l		06/28/17	06/30/17	RE
Radium-228	EPA 904*	1.10 +/- 0.405	0.497	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-10**								
Client ID : **MW-705**								
Date Sampled : **6/13/2017 10:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.278 +/- 0.601	0.696	pCi/l				
Radium-226	SM 7500 Ra B M*	0.278 +/- 0.127	0.116	pCi/l		06/28/17	06/30/17	RE
Radium-228	EPA 904*	-0.182 +/- 0.474	0.580	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-11**								
Client ID : **MW-706**								
Date Sampled : **6/13/2017 11:50:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.812 +/- 0.498	0.604	pCi/l				
Radium-226	SM 7500 Ra B M*	0.273 +/- 0.151	0.178	pCi/l		06/28/17	06/30/17	RE
Radium-228	EPA 904*	0.539 +/- 0.347	0.426	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-12**								
Client ID : **TW-1**								
Date Sampled : **6/13/2017 1:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.64 +/- 0.567	0.734	pCi/l				
Radium-226	SM 7500 Ra B M*	0.185 +/- 0.122	0.146	pCi/l		06/28/17	06/30/17	RE
Radium-228	EPA 904*	2.45 +/- 0.445	0.588	pCi/l		07/03/17	07/11/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170544-13**								
Client ID : **MW-701**								
Date Sampled : **6/13/2017 2:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.956 +/- 0.523	0.553	pCi/l				
Radium-226	SM 7500 Ra B M*	0.206 +/- 0.107	0.090	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.750 +/- 0.416	0.463	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-14**								
Client ID : **MW-704**								
Date Sampled : **6/13/2017 4:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.27 +/- 0.652	0.873	pCi/l				
Radium-226	SM 7500 Ra B M*	0.250 +/- 0.128	0.126	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	1.02 +/- 0.524	0.747	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-15**								
Client ID : **MW-707B**								
Date Sampled : **6/13/2017 5:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.00 +/- 0.634	0.777	pCi/l				
Radium-226	SM 7500 Ra B M*	0.161 +/- 0.106	0.121	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.841 +/- 0.528	0.656	pCi/l		07/03/17	07/11/17	JR
Lab ID : **20170544-16**								
Client ID : **MW-703**								
Date Sampled : **6/14/2017 11:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.05 +/- 0.679	0.653	pCi/l				
Radium-226	SM 7500 Ra B M*	0.971 +/- 0.219	0.074	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.080 +/- 0.460	0.579	pCi/l		07/03/17	07/11/17	JR

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Analytical Report

Lab ID : **20170544-17**
Client ID : **MW-708**
Date Sampled : **6/14/2017 1:40:00 PM**
Matrix : **NPW**

Radiochemical Analyses

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Combined Radium		0.176 +/- 0.506	0.709	pCi/l				
Radium-226	SM 7500 Ra B M*	0.063 +/- 0.114	0.185	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.113 +/- 0.392	0.524	pCi/l		07/03/17	07/11/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.014	81.4			NC	0.133	83.5	97.0	14.9	R1249
Radium-226	-0.002	90.8			NC	0.703	92.7	101.0	8.6	R1248
Radium-228	-0.191	83.0			NC	0.024	81.8	73.6	9.6	R3977

Lab Approval:

Ron Eidson
Director of Radiochemistry

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AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Report to:
Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillen Moran

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N___ Y X

Pres Chk

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Chain of Custody Page ___ of ___

ESC 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# 916971

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P605329

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-904	Grab	NPW	N/A	6-12-17	12:00	2	X		
MW-805	Grab	NPW	N/A	6-13-17	13:45	2	X		
MW-803	Grab	NPW	N/A	6-13-17	14:40	2	X		
MW-802	Grab	NPW	N/A	6-13-17	15:15	2	X		
MW-804	Grab	NPW	N/A	6-13-17	16:00	2	X		
MW-951	Grab	NPW	N/A	6-13-17	16:50	2	X		
MW-801	Grab	NPW	N/A	6-14-17	10:40	2	X		
MW-15	Grab	NPW	N/A	6-14-17	12:00	2	X		
		NPW				2	X		
		NPW				2	X		

COPY

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6-14-17	15:45			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 34	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/16/17 Time: 9:40	Hold: / Condition: NCF / OK

20170544

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORIES
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:
Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project
Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #
60482842

Lab Project #
URSKC-LACYGNE

L# 916971

Table #

Collected by (print):
Skaskevych/Guyn

Collected by (signature):

Site/Facility ID #
TASK 100

P.O. #
no PO number

Acctnum: URSKC
Template: T112863
Prelogin: P605329
TSR: 206 - Jeff Carr
PB:

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-950	Grab	NPW		6/13/17	1000	2	X		
~~MW-705~~		NPW			1040	2	X		
MW-706		NPW			1150	2	X		
TW-1		NPW			1300	2	X		
MW-701		NPW			1420	2	X		
MW-704		NPW			1610	2	X		
MW-707B		NPW			1710	2	X		
MW-703		NPW		6/14/17	1140	2	X		
MW-708		NPW		6/14/17	1340	2	X		
		NPW				2	X		

COPY

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	6/14	1740	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 34	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/16/17 Time: 940	Hold: / Condition: NCF / OK

20170544

SAMPLE LOGIN

Date Received: *6/16/2017 9:40:37* **Lab Number:** 20170544 **Due:** 7/17/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170544-01 B	MW-904	NPW	06/12/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-01 A	MW-904	NPW	06/12/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-02 A	MW-805	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-02 B	MW-805	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-03 A	MW-803	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-03 B	MW-803	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-04 B	MW-802	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-04 A	MW-802	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-05 A	MW-804	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-05 B	MW-804	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	Yes	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-06 A	MW-951	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170544-06 B	MW-951	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-07 A	MW-801	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-07 B	MW-801	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170544-08 A	MW-15	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-08 B	MW-15	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-09 B	MW-950	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-09 A	MW-950	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-10 A	MW-705	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-10 B	MW-705	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-11 A	MW-706	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-11 B	MW-706	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-12 A	TW-1	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-12 B	TW-1	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-13 A	MW-701	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-13 B	MW-701	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-14 B	MW-704	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-14 A	MW-704	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-15 A	MW-707B	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-15 B	MW-707B	NPW	06/13/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-16 A	MW-703	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No
20170544-16	MW-703	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✔	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170544-17 B	MW-708	NPW	06/14/17	Plastic	1 L	HNO_3, pH < 2	✔	No	No
20170544-17 A	MW-708	NPW	06/14/17	Plastic	1 L	HNO_3, pH < 2	✔	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 3 **Custody Seals Broken** 0 **Temperature:** 4.6 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 **Chain of Custody Record** ✓ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 6/16/17

QA or Designee Review: _____ **DATE** 6/16/17

Sample Custodian Review: _____ **DATE** 6/16/17

Project Notes:

Case Narrative

Lab No: 20170558

This report contains the analytical results for the 17 sample(s) received under chain of custody by ESC Lab Sciences on 6/19/2017 10:04:18 AM. These samples are associated with your 60482842 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:

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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

L917043

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170558-01								
Client ID : MW-905								
Date Sampled : 6/14/2017 5:10:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.980 +/- 0.515	0.646	pCi/l				
Radium-226	SM 7500 Ra B M*	0.285 +/- 0.16	0.205	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.695 +/- 0.355	0.441	pCi/l		07/10/17	07/13/17	RE
Lab ID : 20170558-02								
Client ID : MW-902								
Date Sampled : 6/15/2017 12:05:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.05 +/- 0.659	0.908	pCi/l				
Radium-226	SM 7500 Ra B M*	0.365 +/- 0.178	0.202	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.683 +/- 0.481	0.706	pCi/l		07/10/17	07/13/17	RE
Lab ID : 20170558-03								
Client ID : MW-602								
Date Sampled : 6/15/2017 2:35:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.000 +/- 0.507	0.683	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.008 +/- 0.091	0.184	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	-0.105 +/- 0.416	0.499	pCi/l		07/10/17	07/13/17	RE
Lab ID : 20170558-04								
Client ID : MW-601								
Date Sampled : 6/15/2017 3:10:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.088 +/- 0.563	0.828	pCi/l				
Radium-226	SM 7500 Ra B M*	0.088 +/- 0.098	0.143	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	-0.071 +/- 0.465	0.685	pCi/l		07/10/17	07/13/17	RE

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170558-05**								
Client ID : **MW-601 MS**								
Date Sampled : **6/15/2017 3:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	83.5		% Rec		07/03/17	07/07/17	SD
Radium-228	EPA 904*	77.4		% Rec		07/10/17	07/13/17	RE
Lab ID : **20170558-06**								
Client ID : **MW-601 MSD**								
Date Sampled : **6/15/2017 3:10:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	14.9		RPD		07/03/17	07/07/17	SD
Radium-228	EPA 904*	18.1		RPD		07/10/17	07/13/17	RE
Lab ID : **20170558-07**								
Client ID : **MW-14R**								
Date Sampled : **6/15/2017 3:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.573 +/- 0.527	0.702	pCi/l				
Radium-226	SM 7500 Ra B M*	0.198 +/- 0.155	0.215	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.375 +/- 0.372	0.487	pCi/l		07/10/17	07/13/17	RE
Lab ID : **20170558-08**								
Client ID : **MW-903**								
Date Sampled : **6/16/2017 10:30:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.02 +/- 0.498	0.667	pCi/l				
Radium-226	SM 7500 Ra B M*	0.118 +/- 0.092	0.110	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	1.90 +/- 0.406	0.557	pCi/l		07/10/17	07/13/17	RE
Lab ID : **20170558-09**								
Client ID : **MW-901**								
Date Sampled : **6/16/2017 10:50:00 AM**								
Matrix : **NPW**								

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		1.63 +/- 0.650	0.752	pCi/l				
Radium-226	SM 7500 Ra B M*	0.780 +/- 0.192	0.153	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.845 +/- 0.458	0.599	pCi/l		07/10/17	07/13/17	RE

Lab ID : 20170558-10
Client ID : MW-702
Date Sampled : 6/15/2017 9:05:00 AM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.605 +/- 0.564	0.753	pCi/l				
Radium-226	SM 7500 Ra B M*	0.441 +/- 0.158	0.126	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.164 +/- 0.406	0.627	pCi/l		07/10/17	07/13/17	RE

Lab ID : 20170558-11
Client ID : MW-13
Date Sampled : 6/15/2017 10:45:00 AM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		1.33 +/- 0.534	0.869	pCi/l				
Radium-226	SM 7500 Ra B M*	0.082 +/- 0.094	0.139	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	1.25 +/- 0.440	0.730	pCi/l		07/10/17	07/13/17	RE

Lab ID : 20170558-12
Client ID : MW-10
Date Sampled : 6/15/2017 12:30:00 PM
Matrix : NPW

Radiochemical Analyses								
Combined Radium		0.834 +/- 0.625	0.853	pCi/l				
Radium-226	SM 7500 Ra B M*	0.317 +/- 0.141	0.126	pCi/l		07/03/17	07/06/17	SD
Radium-228	EPA 904*	0.517 +/- 0.484	0.727	pCi/l		07/10/17	07/13/17	RE

Lab ID : 20170558-13
Client ID : MW-10 MS
Date Sampled : 6/15/2017 12:30:00 PM
Matrix : NPW

Radiochemical Analyses								
Radium-226	SM 7500 Ra B M*	93.4		% Rec		07/03/17	07/06/17	SD

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radium-228	EPA 904*	79.3		% Rec		07/10/17	07/13/17	RE

Lab ID : 20170558-14
Client ID : MW-10 MSD
Date Sampled : 6/15/2017 12:30:00 PM
Matrix : NPW

Radiochemical Analyses

Radium-226	SM 7500 Ra B M*	4.0		RPD		07/03/17	07/06/17	SD
Radium-228	EPA 904*	0.635		RPD		07/10/17	07/13/17	RE

Lab ID : 20170558-15
Client ID : MW-11
Date Sampled : 6/15/2017 3:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.317 +/- 0.564	0.745	pCi/l				
Radium-226	SM 7500 Ra B M*	0.153 +/- 0.105	0.116	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.164 +/- 0.459	0.629	pCi/l		07/10/17	07/14/17	RE

Lab ID : 20170558-16
Client ID : MW-7
Date Sampled : 6/15/2017 5:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.38 +/- 0.715	0.708	pCi/l				
Radium-226	SM 7500 Ra B M*	1.20 +/- 0.338	0.246	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	0.182 +/- 0.377	0.462	pCi/l		07/10/17	07/14/17	RE

Lab ID : 20170558-17
Client ID : MW-6
Date Sampled : 6/15/2017 6:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.53 +/- 0.574	0.804	pCi/l				
Radium-226	SM 7500 Ra B M*	0.224 +/- 0.169	0.229	pCi/l		07/03/17	07/07/17	SD
Radium-228	EPA 904*	1.31 +/- 0.405	0.575	pCi/l		07/10/17	07/14/17	RE

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.000	95.6			NC	0.558	93.4	97.3	4.0	R1250
Radium-226	0.014	81.4			NC	0.133	83.5	97.0	14.9	R1249
Radium-228							79.3	79.8	0.6	R3979
Radium-228	0.879	84.6			NC	0.431	77.4	92.6	18.1	R3979

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature): Jim Muckler

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Quote #

Pres Chk

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-905	Grab	NPW	N/A	6-14-17	17:10	2	X		
MW-902	Grab	NPW	N/A	6-15-17	12:05	2	X		
MW-602	Grab	NPW	N/A	6-15-17	14:35	2	X		
MW-601	Grab	NPW	N/A	6-15-17	15:10	2	X		
MW-601 MS	Grab	NPW	N/A	6-15-17	15:10	2	X		
MW-601 MSD	Grab	NPW	N/A	6-15-17	15:10	2	X		
MW-14R	Grab	NPW	N/A	6-15-17	15:50	2	X		
MW-903	Grab	NPW	N/A	6-16-17	10:30	2	X		
MW-901	Grab	NPW	N/A	6-16-17	10:50	2	X		
		NPW				2	X		

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature) Jim Muckler — Date: 6-16-17 — Time: 14:00 — Received by: (Signature)

Relinquished by : (Signature) — Date: 6/16/17 — Time: 1700 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: Amb °C Bottles Received: 34

Date: 6/17/17 Time: 0004

If preservation required by Login: Date/Time

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

Chain of Custody Page ___ of ___

ESC LABORATORY 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# 917043

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P594559
TSR: 206 - Jeff Carr
PB:

Shipped Via:

COPY

20170558

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Guyon

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-102	Grab	NPW		6/15/17	0905	2	X		
MW-13		NPW			1045	2	X		
MW-10		NPW			1230	2	X		
MW-10_MS		NPW			1230	2	X		
MW-10-MSD		NPW			1230	2	X		
MW-11		NPW			1540	2	X		
MW-7		NPW			1725	2	X		
MW-6		NPW			1840	2	X		
		NPW				2	X		
		NPW				2	X		

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L # 917043

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P605329
TSR: 206 - Jeff Carr
PB:

Shipped Via:

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD. MW-10 for MS/MSD

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #-

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	6-16-17	14:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	6/16/17	1700		4.6 34	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				6/19/17 1004	

20170558

SAMPLE LOGIN

Date Received: *6/19/2017 10:04:1* **Lab Number:** 20170558 **Due:** 7/18/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170558-01 B	MW-905	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-01 A	MW-905	NPW	06/14/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-02 A	MW-902	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-02 B	MW-902	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-03 A	MW-602	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-03 B	MW-602	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-04 B	MW-601	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-04 A	MW-601	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-05 A	MW-601 MS	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-05 B	MW-601 MS	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	Yes	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-06 A	MW-601 MSD	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-06 B	MW-601 MSD	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-07 A	MW-14R	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-07 B	MW-14R	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170558-08 A	MW-903	NPW	06/16/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-08 B	MW-903	NPW	06/16/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-09 B	MW-901	NPW	06/16/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-09 A	MW-901	NPW	06/16/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-10 A	MW-702	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-10 B	MW-702	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-11 A	MW-13	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-11 B	MW-13	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-12 A	MW-10	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-12 B	MW-10	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-13 A	MW-10 MS	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-13 B	MW-10 MS	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-14 B	MW-10 MSD	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-14 A	MW-10 MSD	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-15 A	MW-11	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-15 B	MW-11	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-16 A	MW-7	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-16 B	MW-7	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170558-17 B	MW-6	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170558-17 A	MW-6	NPW	06/15/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** 0 **Temperature:** 4.0 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 **Chain of Custody Record** ✓ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies Sample -07 has a time of 1550 on CoC but 1545 on label

Inspected By: _____ **DATE** 6/19/17

QA or Designee Review: Raymond Thomas **DATE** 06/19/17

Sample Custodian Review: _____ **DATE** 6/19/17

Project Notes:

ANALYTICAL REPORT

June 26, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L916561
Samples Received:	06/16/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

MW-950 L916561-01 GW

Collected by: SK | Collected date/time: 06/13/17 10:00 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990372	1	06/20/17 13:37	06/20/17 14:09	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990192	1	06/19/17 19:23	06/19/17 19:23	DR
Wet Chemistry by Method 9056A	WG990192	5	06/19/17 20:28	06/19/17 20:28	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:35	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 21:42	ST
Metals (ICPMS) by Method 6020	WG992375	1	06/23/17 13:50	06/24/17 13:38	JPD

MW-705 L916561-02 GW

Collected by: SK | Collected date/time: 06/13/17 10:40 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990372	1	06/20/17 13:37	06/20/17 14:09	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990192	1	06/19/17 20:41	06/19/17 20:41	DR
Wet Chemistry by Method 9056A	WG990192	5	06/19/17 20:54	06/19/17 20:54	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:42	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 21:56	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:20	VSS

MW-706 L916561-03 GW

Collected by: SK | Collected date/time: 06/13/17 11:50 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990372	1	06/20/17 13:37	06/20/17 14:09	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990192	1	06/19/17 21:07	06/19/17 21:07	DR
Wet Chemistry by Method 9056A	WG990192	5	06/19/17 21:20	06/19/17 21:20	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:44	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 21:59	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:23	VSS

TW-1 L916561-04 GW

Collected by: SK | Collected date/time: 06/13/17 13:00 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990825	1	06/22/17 19:14	06/22/17 19:14	DR
Wet Chemistry by Method 9056A	WG992228	1	06/23/17 13:46	06/23/17 13:46	CSU
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:47	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:08	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:41	VSS

MW-701 L916561-05 GW

Collected by: SK | Collected date/time: 06/13/17 14:20 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990825	1	06/22/17 19:34	06/22/17 19:34	DR

MW-701 L916561-05 GW

Collected by: SK | Collected date/time: 06/13/17 14:20 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG992228	1	06/23/17 14:11	06/23/17 14:11	CSU
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:49	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:11	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:45	VSS

MW-704 L916561-06 GW

Collected by: SK | Collected date/time: 06/13/17 16:10 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990825	1	06/22/17 19:54	06/22/17 19:54	DR
Wet Chemistry by Method 9056A	WG992228	10	06/23/17 14:37	06/23/17 14:37	CSU
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:56	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:14	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:48	VSS

MW-707B L916561-07 GW

Collected by: SK | Collected date/time: 06/13/17 17:10 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	100	06/19/17 19:18	06/19/17 19:18	DR
Wet Chemistry by Method 9056A	WG990194	5	06/19/17 19:03	06/19/17 19:03	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 12:58	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:17	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:52	VSS

MW-703 L916561-08 GW

Collected by: SK | Collected date/time: 06/14/17 11:40 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991197	1	06/21/17 16:21	06/21/17 16:57	EG
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990196	1	06/20/17 15:45	06/20/17 15:45	DR
Wet Chemistry by Method 9056A	WG990196	10	06/20/17 15:59	06/20/17 15:59	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:00	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:20	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:55	VSS

MW-708 L916561-09 GW

Collected by: SK | Collected date/time: 06/14/17 13:40 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991197	1	06/21/17 16:21	06/21/17 16:57	EG
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990196	1	06/20/17 16:14	06/20/17 16:14	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:03	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:23	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 22:59	VSS

MW-904 L916561-10 GW

Collected by: SK | Collected date/time: 06/12/17 12:00 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990368	1	06/19/17 15:51	06/19/17 16:23	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990825	1	06/22/17 20:04	06/22/17 20:04	DR
Wet Chemistry by Method 9056A	WG992228	10	06/23/17 14:50	06/23/17 14:50	CSU
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:05	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:26	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:02	VSS

MW-805 L916561-11 GW

Collected by: SK | Collected date/time: 06/13/17 13:45 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	1	06/19/17 19:32	06/19/17 19:32	DR
Wet Chemistry by Method 9056A	WG990194	10	06/19/17 19:46	06/19/17 19:46	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:07	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:29	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:06	VSS

MW-803 L916561-12 GW

Collected by: SK | Collected date/time: 06/13/17 14:40 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	1	06/19/17 20:01	06/19/17 20:01	DR
Mercury by Method 7470A	WG991019	1	06/21/17 12:00	06/22/17 06:04	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:32	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:09	VSS

MW-802 L916561-13 GW

Collected by: SK | Collected date/time: 06/13/17 15:15 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	1	06/19/17 20:15	06/19/17 20:15	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:09	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:35	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:13	VSS

MW-804 L916561-14 GW

Collected by: SK | Collected date/time: 06/13/17 16:00 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	1	06/19/17 20:59	06/19/17 20:59	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:12	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:43	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:28	VSS

MW-951 L916561-15 GW

Collected by: SK | Collected date/time: 06/13/17 16:50 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG990373	1	06/20/17 14:11	06/20/17 15:56	MMF
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990194	1	06/19/17 21:13	06/19/17 21:13	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:14	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:46	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:31	VSS

MW-801 L916561-16 GW

Collected by: SK | Collected date/time: 06/14/17 10:40 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991199	1	06/21/17 22:23	06/21/17 22:35	EG
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990196	1	06/20/17 16:43	06/20/17 16:43	DR
Wet Chemistry by Method 9056A	WG990196	10	06/20/17 17:26	06/20/17 17:26	DR
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:16	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:49	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:35	VSS

MW-15 L916561-17 GW

Collected by: SK | Collected date/time: 06/14/17 12:00 | Received date/time: 06/16/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991199	1	06/21/17 22:23	06/21/17 22:35	EG
Wet Chemistry by Method 9040C	WG990163	1	06/16/17 15:51	06/16/17 15:51	MA
Wet Chemistry by Method 9056A	WG990196	1	06/20/17 17:40	06/20/17 17:40	DR
Wet Chemistry by Method 9056A	WG992228	10	06/23/17 15:03	06/23/17 15:03	CSU
Mercury by Method 7470A	WG990239	1	06/19/17 15:32	06/20/17 13:31	EL
Metals (ICP) by Method 6010B	WG991096	1	06/20/17 17:39	06/20/17 22:52	ST
Metals (ICPMS) by Method 6020	WG991105	1	06/21/17 10:23	06/21/17 23:38	VSS

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		10.0	1	06/20/2017 14:09	WG990372

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-01 WG990163: 7.65 at 11.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		5.00	5	06/19/2017 20:28	WG990192
Fluoride	0.913		0.100	1	06/19/2017 19:23	WG990192
Sulfate	42.1		5.00	1	06/19/2017 19:23	WG990192

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:35	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.10		0.200	1	06/20/2017 21:42	WG991096
Lithium	0.129		0.0150	1	06/20/2017 21:42	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 21:42	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/24/2017 13:38	WG992375
Arsenic	ND		0.00200	1	06/24/2017 13:38	WG992375
Barium	0.0872		0.00500	1	06/24/2017 13:38	WG992375
Beryllium	ND		0.00200	1	06/24/2017 13:38	WG992375
Cadmium	ND		0.00100	1	06/24/2017 13:38	WG992375
Calcium	33.4		1.00	1	06/24/2017 13:38	WG992375
Chromium	ND		0.00200	1	06/24/2017 13:38	WG992375
Cobalt	ND		0.00200	1	06/24/2017 13:38	WG992375
Lead	ND		0.00200	1	06/24/2017 13:38	WG992375
Selenium	ND		0.00200	1	06/24/2017 13:38	WG992375
Thallium	ND		0.00200	1	06/24/2017 13:38	WG992375

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1020		10.0	1	06/20/2017 14:09	WG990372

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.57	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-02 WG990163: 7.57 at 11.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		5.00	5	06/19/2017 20:54	WG990192
Fluoride	0.924		0.100	1	06/19/2017 20:41	WG990192
Sulfate	42.2		5.00	1	06/19/2017 20:41	WG990192

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:42	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.09		0.200	1	06/20/2017 21:56	WG991096
Lithium	0.129		0.0150	1	06/20/2017 21:56	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 21:56	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:20	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:20	WG991105
Barium	0.0837		0.00500	1	06/21/2017 22:20	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:20	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:20	WG991105
Calcium	35.4		1.00	1	06/21/2017 22:20	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:20	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:20	WG991105
Lead	ND		0.00200	1	06/21/2017 22:20	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:20	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:20	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1300		10.0	1	06/20/2017 14:09	WG990372

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-03 WG990163: 7.62 at 11.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	274		5.00	5	06/19/2017 21:20	WG990192
Fluoride	1.09		0.100	1	06/19/2017 21:07	WG990192
Sulfate	ND		5.00	1	06/19/2017 21:07	WG990192

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:44	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.05		0.200	1	06/20/2017 21:59	WG991096
Lithium	0.146		0.0150	1	06/20/2017 21:59	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 21:59	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:23	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:23	WG991105
Barium	0.245		0.00500	1	06/21/2017 22:23	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:23	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:23	WG991105
Calcium	28.0		1.00	1	06/21/2017 22:23	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:23	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:23	WG991105
Lead	ND		0.00200	1	06/21/2017 22:23	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:23	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:23	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1030		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-04 WG990163: 7.65 at 11.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.3		1.00	1	06/22/2017 19:14	WG990825
Fluoride	0.384		0.100	1	06/22/2017 19:14	WG990825
Sulfate	62.7		5.00	1	06/23/2017 13:46	WG992228

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:47	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.53		0.200	1	06/20/2017 22:08	WG991096
Lithium	0.151		0.0150	1	06/20/2017 22:08	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:08	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:41	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:41	WG991105
Barium	0.0711		0.00500	1	06/21/2017 22:41	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:41	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:41	WG991105
Calcium	29.6		1.00	1	06/21/2017 22:41	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:41	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:41	WG991105
Lead	ND		0.00200	1	06/21/2017 22:41	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:41	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:41	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	612		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.79	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-05 WG990163: 7.79 at 11.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	54.1		1.00	1	06/22/2017 19:34	WG990825
Fluoride	0.692		0.100	1	06/22/2017 19:34	WG990825
Sulfate	80.6	J6	5.00	1	06/23/2017 14:11	WG992228

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:49	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.01		0.200	1	06/20/2017 22:11	WG991096
Lithium	0.0403		0.0150	1	06/20/2017 22:11	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:11	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:45	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:45	WG991105
Barium	0.172		0.00500	1	06/21/2017 22:45	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:45	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:45	WG991105
Calcium	36.1		1.00	1	06/21/2017 22:45	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:45	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:45	WG991105
Lead	ND		0.00200	1	06/21/2017 22:45	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:45	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:45	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1310		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.76	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-06 WG990163: 7.76 at 12.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	81.8		1.00	1	06/22/2017 19:54	WG990825
Fluoride	0.740		0.100	1	06/22/2017 19:54	WG990825
Sulfate	151		50.0	10	06/23/2017 14:37	WG992228

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:56	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.04		0.200	1	06/20/2017 22:14	WG991096
Lithium	0.106		0.0150	1	06/20/2017 22:14	WG991096
Molybdenum	0.00858		0.00500	1	06/20/2017 22:14	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00488		0.00200	1	06/21/2017 22:48	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:48	WG991105
Barium	0.0774		0.00500	1	06/21/2017 22:48	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:48	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:48	WG991105
Calcium	26.6		1.00	1	06/21/2017 22:48	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:48	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:48	WG991105
Lead	ND		0.00200	1	06/21/2017 22:48	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:48	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:48	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6910		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.91	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-07 WG990163: 6.91 at 12.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	209		5.00	5	06/19/2017 19:03	WG990194
Fluoride	0.613		0.500	5	06/19/2017 19:03	WG990194
Sulfate	4600		500	100	06/19/2017 19:18	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 12:58	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.95		0.200	1	06/20/2017 22:17	WG991096
Lithium	0.976		0.0150	1	06/20/2017 22:17	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:17	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:52	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:52	WG991105
Barium	0.0143		0.00500	1	06/21/2017 22:52	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:52	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:52	WG991105
Calcium	374		1.00	1	06/21/2017 22:52	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:52	WG991105
Cobalt	0.00542		0.00200	1	06/21/2017 22:52	WG991105
Lead	ND		0.00200	1	06/21/2017 22:52	WG991105
Selenium	0.00218		0.00200	1	06/21/2017 22:52	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:52	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	908		10.0	1	06/21/2017 16:57	WG991197

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.84	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-08 WG990163: 7.84 at 13.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	102		10.0	10	06/20/2017 15:59	WG990196
Fluoride	1.45		0.100	1	06/20/2017 15:45	WG990196
Sulfate	ND		5.00	1	06/20/2017 15:45	WG990196

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:00	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.81		0.200	1	06/20/2017 22:20	WG991096
Lithium	0.0742		0.0150	1	06/20/2017 22:20	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:20	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:55	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:55	WG991105
Barium	0.255		0.00500	1	06/21/2017 22:55	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:55	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:55	WG991105
Calcium	17.4		1.00	1	06/21/2017 22:55	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:55	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:55	WG991105
Lead	ND		0.00200	1	06/21/2017 22:55	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:55	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:55	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	653		10.0	1	06/21/2017 16:57	WG991197

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.61	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-09 WG990163: 7.61 at 13.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.0		1.00	1	06/20/2017 16:14	WG990196
Fluoride	0.624		0.100	1	06/20/2017 16:14	WG990196
Sulfate	9.38		5.00	1	06/20/2017 16:14	WG990196

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:03	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.36		0.200	1	06/20/2017 22:23	WG991096
Lithium	0.0792		0.0150	1	06/20/2017 22:23	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:23	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 22:59	WG991105
Arsenic	ND		0.00200	1	06/21/2017 22:59	WG991105
Barium	0.222		0.00500	1	06/21/2017 22:59	WG991105
Beryllium	ND		0.00200	1	06/21/2017 22:59	WG991105
Cadmium	ND		0.00100	1	06/21/2017 22:59	WG991105
Calcium	30.2		1.00	1	06/21/2017 22:59	WG991105
Chromium	ND		0.00200	1	06/21/2017 22:59	WG991105
Cobalt	ND		0.00200	1	06/21/2017 22:59	WG991105
Lead	ND		0.00200	1	06/21/2017 22:59	WG991105
Selenium	ND		0.00200	1	06/21/2017 22:59	WG991105
Thallium	ND		0.00200	1	06/21/2017 22:59	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	571		10.0	1	06/19/2017 16:23	WG990368

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-10 WG990163: 7.45 at 13.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	39.5		1.00	1	06/22/2017 20:04	WG990825
Fluoride	0.366		0.100	1	06/22/2017 20:04	WG990825
Sulfate	113		50.0	10	06/23/2017 14:50	WG992228

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:05	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.37		0.200	1	06/20/2017 22:26	WG991096
Lithium	0.0744		0.0150	1	06/20/2017 22:26	WG991096
Molybdenum	0.0119		0.00500	1	06/20/2017 22:26	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:02	WG991105
Arsenic	0.00508		0.00200	1	06/21/2017 23:02	WG991105
Barium	0.191		0.00500	1	06/21/2017 23:02	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:02	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:02	WG991105
Calcium	86.2		1.00	1	06/21/2017 23:02	WG991105
Chromium	0.0159		0.00200	1	06/21/2017 23:02	WG991105
Cobalt	0.00960		0.00200	1	06/21/2017 23:02	WG991105
Lead	0.00451		0.00200	1	06/21/2017 23:02	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:02	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:02	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2420		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.00	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-11 WG990163: 7 at 19.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	459		10.0	10	06/19/2017 19:46	WG990194
Fluoride	0.214		0.100	1	06/19/2017 19:32	WG990194
Sulfate	742		50.0	10	06/19/2017 19:46	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:07	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.468		0.200	1	06/20/2017 22:29	WG991096
Lithium	ND		0.0150	1	06/20/2017 22:29	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:29	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:06	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:06	WG991105
Barium	0.0337		0.00500	1	06/21/2017 23:06	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:06	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:06	WG991105
Calcium	430		1.00	1	06/21/2017 23:06	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:06	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:06	WG991105
Lead	ND		0.00200	1	06/21/2017 23:06	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:06	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:06	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	627		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.52	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-12 WG990163: 6.52 at 15.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.2		1.00	1	06/19/2017 20:01	WG990194
Fluoride	0.665		0.100	1	06/19/2017 20:01	WG990194
Sulfate	21.2		5.00	1	06/19/2017 20:01	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 06:04	WG991019

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.97		0.200	1	06/20/2017 22:32	WG991096
Lithium	0.0968		0.0150	1	06/20/2017 22:32	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:32	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:09	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:09	WG991105
Barium	0.234		0.00500	1	06/21/2017 23:09	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:09	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:09	WG991105
Calcium	44.1		1.00	1	06/21/2017 23:09	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:09	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:09	WG991105
Lead	ND		0.00200	1	06/21/2017 23:09	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:09	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:09	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	709		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-13 WG990163: 7.62 at 14.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.4		1.00	1	06/19/2017 20:15	WG990194
Fluoride	0.995		0.100	1	06/19/2017 20:15	WG990194
Sulfate	ND		5.00	1	06/19/2017 20:15	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:09	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.41		0.200	1	06/20/2017 22:35	WG991096
Lithium	0.0971		0.0150	1	06/20/2017 22:35	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:35	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:13	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:13	WG991105
Barium	0.860		0.00500	1	06/21/2017 23:13	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:13	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:13	WG991105
Calcium	31.6		1.00	1	06/21/2017 23:13	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:13	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:13	WG991105
Lead	ND		0.00200	1	06/21/2017 23:13	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:13	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:13	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	575		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.26	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-14 WG990163: 7.26 at 14.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.0		1.00	1	06/19/2017 20:59	WG990194
Fluoride	0.474		0.100	1	06/19/2017 20:59	WG990194
Sulfate	21.5		5.00	1	06/19/2017 20:59	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:12	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.57		0.200	1	06/20/2017 22:43	WG991096
Lithium	0.0422		0.0150	1	06/20/2017 22:43	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:43	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:28	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:28	WG991105
Barium	0.150		0.00500	1	06/21/2017 23:28	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:28	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:28	WG991105
Calcium	63.2		1.00	1	06/21/2017 23:28	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:28	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:28	WG991105
Lead	ND		0.00200	1	06/21/2017 23:28	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:28	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:28	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	579		10.0	1	06/20/2017 15:56	WG990373

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.28	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-15 WG990163: 7.28 at 14.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.1		1.00	1	06/19/2017 21:13	WG990194
Fluoride	0.476		0.100	1	06/19/2017 21:13	WG990194
Sulfate	21.5		5.00	1	06/19/2017 21:13	WG990194

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:14	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.58		0.200	1	06/20/2017 22:46	WG991096
Lithium	0.0405		0.0150	1	06/20/2017 22:46	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:46	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:31	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:31	WG991105
Barium	0.146		0.00500	1	06/21/2017 23:31	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:31	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:31	WG991105
Calcium	64.6		1.00	1	06/21/2017 23:31	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:31	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:31	WG991105
Lead	ND		0.00200	1	06/21/2017 23:31	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:31	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:31	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	862		10.0	1	06/21/2017 22:35	WG991199

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-16 WG990163: 7.52 at 13.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	103		10.0	10	06/20/2017 17:26	WG990196
Fluoride	1.12		0.100	1	06/20/2017 16:43	WG990196
Sulfate	ND		5.00	1	06/20/2017 16:43	WG990196

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:16	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.27		0.200	1	06/20/2017 22:49	WG991096
Lithium	0.114		0.0150	1	06/20/2017 22:49	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:49	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:35	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:35	WG991105
Barium	0.565		0.00500	1	06/21/2017 23:35	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:35	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:35	WG991105
Calcium	28.8		1.00	1	06/21/2017 23:35	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:35	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:35	WG991105
Lead	0.00212		0.00200	1	06/21/2017 23:35	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:35	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:35	WG991105

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	808		10.0	1	06/21/2017 22:35	WG991199

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.27	T8	1	06/16/2017 15:51	WG990163

Sample Narrative:

9040C L916561-17 WG990163: 7.27 at 15.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	18.5		1.00	1	06/20/2017 17:40	WG990196
Fluoride	0.304		0.100	1	06/20/2017 17:40	WG990196
Sulfate	212		50.0	10	06/23/2017 15:03	WG992228

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/20/2017 13:31	WG990239

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.240		0.200	1	06/20/2017 22:52	WG991096
Lithium	0.0211		0.0150	1	06/20/2017 22:52	WG991096
Molybdenum	ND		0.00500	1	06/20/2017 22:52	WG991096

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/21/2017 23:38	WG991105
Arsenic	ND		0.00200	1	06/21/2017 23:38	WG991105
Barium	0.0546		0.00500	1	06/21/2017 23:38	WG991105
Beryllium	ND		0.00200	1	06/21/2017 23:38	WG991105
Cadmium	ND		0.00100	1	06/21/2017 23:38	WG991105
Calcium	105		1.00	1	06/21/2017 23:38	WG991105
Chromium	ND		0.00200	1	06/21/2017 23:38	WG991105
Cobalt	ND		0.00200	1	06/21/2017 23:38	WG991105
Lead	ND		0.00200	1	06/21/2017 23:38	WG991105
Selenium	ND		0.00200	1	06/21/2017 23:38	WG991105
Thallium	ND		0.00200	1	06/21/2017 23:38	WG991105

Method Blank (MB)

(MB) R3227237-1 06/19/17 16:23

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

L915728-02 Original Sample (OS) • Duplicate (DUP)

(OS) L915728-02 06/19/17 16:23 • (DUP) R3227237-4 06/19/17 16:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	697	683	1	2.13		5

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

(LCS) R3227237-2 06/19/17 16:23 • (LCSD) R3227237-3 06/19/17 16:23

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	%	%	%			%	%
Dissolved Solids	8800	8580	8620	97.5	98.0	85.0-115			0.465	5

Method Blank (MB)

(MB) R3227587-1 06/20/17 14:09

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

L916384-04 Original Sample (OS) • Duplicate (DUP)

(OS) L916384-04 06/20/17 14:09 • (DUP) R3227587-4 06/20/17 14:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	90.0	92.0	1	2.20		5

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

(LCS) R3227587-2 06/20/17 14:09 • (LCSD) R3227587-3 06/20/17 14:09

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	8720	8610	99.1	97.8	85.0-115			1.27	5

Method Blank (MB)

(MB) R3227584-1 06/20/17 15:56

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

L916561-04 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-04 06/20/17 15:56 • (DUP) R3227584-4 06/20/17 15:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1030	1040	1	1.35		5

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

(LCS) R3227584-2 06/20/17 15:56 • (LCSD) R3227584-3 06/20/17 15:56

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	%	%	%			%	%
Dissolved Solids	8800	8780	8690	99.8	98.8	85.0-115			1.03	5

Method Blank (MB)

(MB) R3228005-1 06/21/17 16:57

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

L916561-08 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-08 06/21/17 16:57 • (DUP) R3228005-4 06/21/17 16:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	908	910	1	0.220		5

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

(LCS) R3228005-2 06/21/17 16:57 • (LCSD) R3228005-3 06/21/17 16:57

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	%	%	%			%	%
Dissolved Solids	8800	8350	7990	94.9	90.8	85.0-115			4.41	5

Method Blank (MB)

(MB) R3228038-1 06/21/17 22:35

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

L916561-16 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-16 06/21/17 22:35 • (DUP) R3228038-4 06/21/17 22:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	862	900	1	4.31		5

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

(LCS) R3228038-2 06/21/17 22:35 • (LCSD) R3228038-3 06/21/17 22:35

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	8400	8440	95.5	95.9	85.0-115			0.475	5

L916517-01 Original Sample (OS) • Duplicate (DUP)

(OS) L916517-01 06/16/17 15:51 • (DUP) WG990163-3 06/16/17 15:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.68	7.68	1	0.000	T8	1

L916561-17 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-17 06/16/17 15:51 • (DUP) WG990163-4 06/16/17 15:51

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.27	7.27	1	0.000	T8	1

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

(LCS) WG990163-1 06/16/17 15:51 • (LCSD) WG990163-2 06/16/17 15:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.38	6.36	6.37	99.7	99.8	98.7-101			0.157	1

Method Blank (MB)

(MB) R3226922-1 06/19/17 12:05

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

L916272-01 Original Sample (OS) • Duplicate (DUP)

(OS) L916272-01 06/19/17 18:32 • (DUP) R3226922-5 06/19/17 18:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14.9	14.7	1	1		15
Fluoride	0.532	0.534	1	0		15
Sulfate	12.7	12.7	1	0		15

L915778-15 Original Sample (OS) • Duplicate (DUP)

(OS) L915778-15 06/19/17 20:02 • (DUP) R3226922-8 06/19/17 20:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	24.9	25.0	10	0		15
Fluoride	0.964	0.969	10	1	J	15
Sulfate	334	338	10	1		15

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

(LCS) R3226922-2 06/19/17 12:18 • (LCSD) R3226922-3 06/19/17 12:31

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 %
Chloride	40.0	39.4	39.4	98	98	80-120			0	15
Fluoride	8.00	8.09	8.07	101	101	80-120			0	15
Sulfate	40.0	39.3	39.3	98	98	80-120			0	15

L915691-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L915691-02 06/19/17 16:35 • (MS) R3226922-4 06/19/17 16:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	77.7	125	95	1	80-120	E
Fluoride	5.00	0.290	5.21	98	1	80-120	

L915691-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L915691-02 06/19/17 16:35 • (MS) R3226922-4 06/19/17 16:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	ND	50.9	99	1	80-120	

L916272-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916272-01 06/19/17 18:32 • (MS) R3226922-6 06/19/17 18:57 • (MSD) R3226922-7 06/19/17 19:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	14.9	65.0	64.5	100	99	1	80-120			1	15
Fluoride	5.00	0.532	5.62	5.55	102	100	1	80-120			1	15
Sulfate	50.0	12.7	62.8	62.4	100	99	1	80-120			1	15

Method Blank (MB)

(MB) R3226911-1 06/19/17 12:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0814	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L916231-12 Original Sample (OS) • Duplicate (DUP)

(OS) L916231-12 06/19/17 14:58 • (DUP) R3226911-4 06/19/17 15:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	80.2	80.5	1	0		15
Fluoride	0.447	0.441	1	1		15
Sulfate	89.2	89.1	1	0		15

L916355-01 Original Sample (OS) • Duplicate (DUP)

(OS) L916355-01 06/19/17 17:08 • (DUP) R3226911-6 06/19/17 17:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11.9	11.7	1	2		15
Fluoride	0.179	0.227	1	24	P1	15
Sulfate	6.39	6.37	1	0		15

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

(LCS) R3226911-2 06/19/17 12:26 • (LCSD) R3226911-3 06/19/17 12:41

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 %
Chloride	40.0	39.5	39.5	99	99	80-120			0	15
Fluoride	8.00	7.51	7.51	94	94	80-120			0	15
Sulfate	40.0	41.4	41.5	104	104	80-120			0	15

L916231-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L916231-15 06/19/17 16:25 • (MS) R3226911-5 06/19/17 16:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.0557	4.80	95	1	80-120	
Sulfate	50.0	0.422	52.8	105	1	80-120	

L916561-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916561-13 06/19/17 20:15 • (MS) R3226911-7 06/19/17 20:30 • (MSD) R3226911-8 06/19/17 20:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	36.4	85.3	85.6	98	98	1	80-120			0	15
Fluoride	5.00	0.995	5.64	5.66	93	93	1	80-120			0	15
Sulfate	50.0	ND	50.3	50.5	101	101	1	80-120			0	15

Method Blank (MB)

(MB) R3227282-1 06/20/17 06:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0693	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L916364-04 Original Sample (OS) • Duplicate (DUP)

(OS) L916364-04 06/20/17 10:42 • (DUP) R3227282-4 06/20/17 10:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	56.6	56.4	1	0		15
Fluoride	0.667	0.674	1	1		15

L916561-17 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-17 06/20/17 17:40 • (DUP) R3227282-6 06/20/17 17:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	18.5	18.4	1	0		15
Fluoride	0.304	0.303	1	0		15

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

(LCS) R3227282-2 06/20/17 06:34 • (LCSD) R3227282-3 06/20/17 06:48

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 %
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	7.60	7.61	95	95	80-120			0	15
Sulfate	40.0	41.8	41.8	104	104	80-120			0	15

L916364-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L916364-07 06/20/17 12:09 • (MS) R3227282-5 06/20/17 12:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	4.96	53.5	97	1	80-120	
Fluoride	5.00	0.273	4.82	91	1	80-120	
Sulfate	50.0	7.68	57.8	100	1	80-120	

L916593-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916593-02 06/20/17 18:23 • (MS) R3227282-7 06/20/17 18:38 • (MSD) R3227282-8 06/20/17 18:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	2.72	52.4	52.5	99	100	1	80-120			0	15
Fluoride	5.00	0.571	3.90	3.92	67	67	1	80-120	J6	J6	0	15
Sulfate	50.0	ND	50.9	50.9	102	102	1	80-120			0	15

Method Blank (MB)

(MB) R3228150-1 06/22/17 12:18

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

L916561-05 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-05 06/22/17 19:34 • (DUP) R3228150-6 06/22/17 19:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	54.1	53.8	1	1		15
Fluoride	0.692	0.705	1	2		15

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

(LCS) R3228150-2 06/22/17 12:28 • (LCSD) R3228150-3 06/22/17 12:38

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 %
Chloride	40.0	39.2	39.3	98	98	80-120			0	15
Fluoride	8.00	8.03	8.01	100	100	80-120			0	15

L916561-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L916561-04 06/22/17 19:14 • (MS) R3228150-5 06/22/17 19:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	44.3	93.1	98	1	80-120	
Fluoride	5.00	0.384	5.48	102	1	80-120	

L916561-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916561-10 06/22/17 20:04 • (MS) R3228150-7 06/22/17 20:15 • (MSD) R3228150-8 06/22/17 20:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	39.5	85.1	84.8	91	91	1	80-120			0	15
Fluoride	5.00	0.366	5.12	5.10	95	95	1	80-120			1	15

Method Blank (MB)

(MB) R3228442-1 06/23/17 06:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L918050-01 Original Sample (OS) • Duplicate (DUP)

(OS) L918050-01 06/23/17 15:42 • (DUP) R3228442-5 06/23/17 15:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	ND	0.000	1	0		15

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

(LCS) R3228442-2 06/23/17 06:43 • (LCSD) R3228442-3 06/23/17 06:56

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	%	%	%			%	%
Sulfate	40.0	38.8	38.8	97	97	80-120			0	15

L916561-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L916561-05 06/23/17 14:11 • (MS) R3228442-4 06/23/17 14:24

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	80.6	117	74	1	80-120	E J6

L918119-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918119-02 06/23/17 18:56 • (MS) R3228442-6 06/23/17 19:09 • (MSD) R3228442-7 06/23/17 19:22

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	%	%		%			%	%
Sulfate	50.0	27.3	71.8	71.4	89	88	1	80-120			1	15

Method Blank (MB)

(MB) R3227094-1 06/20/17 12:29

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

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

(LCS) R3227094-2 06/20/17 12:31 • (LCSD) R3227094-3 06/20/17 12:33

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	%	%	%			%	%
Mercury	0.00300	0.00334	0.00324	111	108	80-120			3	20

L916561-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916561-01 06/20/17 12:35 • (MS) R3227094-4 06/20/17 12:38 • (MSD) R3227094-5 06/20/17 12:40

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	%	%		%			%	%
Mercury	0.00300	ND	0.00337	0.00351	112	117	1	75-125			4	20

Method Blank (MB)

(MB) R3227699-1 06/22/17 05:44

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

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

(LCS) R3227699-2 06/22/17 05:46 • (LCSD) R3227699-3 06/22/17 05:53

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	%	%	%			%	%
Mercury	0.00300	0.00303	0.00292	101	97	80-120			4	20

L917069-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L917069-10 06/22/17 05:55 • (MS) R3227699-4 06/22/17 05:58 • (MSD) R3227699-5 06/22/17 06:00

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	%	%		%			%	%
Mercury	0.00300	U	0.00191	0.00190	64	63	1	75-125	J6	J6	0	20

Method Blank (MB)

(MB) R3227240-1 06/20/17 21:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3227240-2 06/20/17 21:36 • (LCSD) R3227240-3 06/20/17 21:39

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 %
Boron	1.00	0.961	0.954	96	95	80-120			1	20
Lithium	1.00	1.09	1.06	109	106	80-120			2	20
Molybdenum	1.00	1.02	1.01	102	101	80-120			1	20

L916561-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916561-01 06/20/17 21:42 • (MS) R3227240-5 06/20/17 21:48 • (MSD) R3227240-6 06/20/17 21:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	2.10	3.02	3.05	93	95	1	75-125			1	20
Lithium	1.00	0.129	1.25	1.25	112	113	1	75-125			1	20
Molybdenum	1.00	ND	1.00	1.00	100	100	1	75-125			0	20

Method Blank (MB)

(MB) R3227649-1 06/21/17 21:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3227649-2 06/21/17 21:55 • (LCSD) R3227649-3 06/21/17 21:59

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	0.0525	0.0519	105	104	80-120			1	20
Arsenic	0.0500	0.0488	0.0477	98	95	80-120			2	20
Barium	0.0500	0.0463	0.0477	93	95	80-120			3	20
Beryllium	0.0500	0.0447	0.0448	89	90	80-120			0	20
Cadmium	0.0500	0.0508	0.0496	102	99	80-120			2	20
Calcium	5.00	4.94	4.88	99	98	80-120			1	20
Chromium	0.0500	0.0497	0.0493	99	99	80-120			1	20
Cobalt	0.0500	0.0508	0.0507	102	101	80-120			0	20
Lead	0.0500	0.0487	0.0487	97	97	80-120			0	20
Selenium	0.0500	0.0509	0.0487	102	97	80-120			4	20
Thallium	0.0500	0.0487	0.0485	97	97	80-120			0	20

L916699-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916699-02 06/21/17 22:02 • (MS) R3227649-5 06/21/17 22:09 • (MSD) R3227649-6 06/21/17 22:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	U	0.0528	0.0520	106	104	1	75-125			1	20
Arsenic	0.0500	U	0.0467	0.0478	93	96	1	75-125			2	20
Barium	0.0500	U	0.0471	0.0472	94	94	1	75-125			0	20
Beryllium	0.0500	U	0.0450	0.0453	90	91	1	75-125			1	20
Cadmium	0.0500	U	0.0498	0.0498	100	100	1	75-125			0	20

L916699-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916699-02 06/21/17 22:02 • (MS) R3227649-5 06/21/17 22:09 • (MSD) R3227649-6 06/21/17 22:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	5.00	U	4.85	4.88	97	98	1	75-125			1	20
Chromium	0.0500	U	0.0490	0.0495	98	99	1	75-125			1	20
Cobalt	0.0500	U	0.0503	0.0506	101	101	1	75-125			0	20
Lead	0.0500	U	0.0490	0.0494	98	99	1	75-125			1	20
Selenium	0.0500	U	0.0506	0.0500	101	100	1	75-125			1	20
Thallium	0.0500	U	0.0485	0.0487	97	97	1	75-125			0	20

Method Blank (MB)

(MB) R3228479-1 06/24/17 13:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3228479-2 06/24/17 13:06 • (LCSD) R3228479-3 06/24/17 13:12

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	0.0500	0.0486	100	97	80-120			3	20
Arsenic	0.0500	0.0477	0.0460	95	92	80-120			4	20
Barium	0.0500	0.0474	0.0472	95	94	80-120			0	20
Beryllium	0.0500	0.0503	0.0492	101	98	80-120			2	20
Cadmium	0.0500	0.0473	0.0463	95	93	80-120			2	20
Calcium	5.00	4.83	4.74	97	95	80-120			2	20
Chromium	0.0500	0.0483	0.0475	97	95	80-120			2	20
Cobalt	0.0500	0.0492	0.0487	98	97	80-120			1	20
Lead	0.0500	0.0516	0.0503	103	101	80-120			3	20
Selenium	0.0500	0.0476	0.0481	95	96	80-120			1	20
Thallium	0.0500	0.0521	0.0513	104	103	80-120			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.
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.
T8	Sample(s) received past/too close to holding time expiration.

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
Conneticut	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 [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
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Michigan	9958	Virginia	109
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Nebraska	NE-OS-15-05		

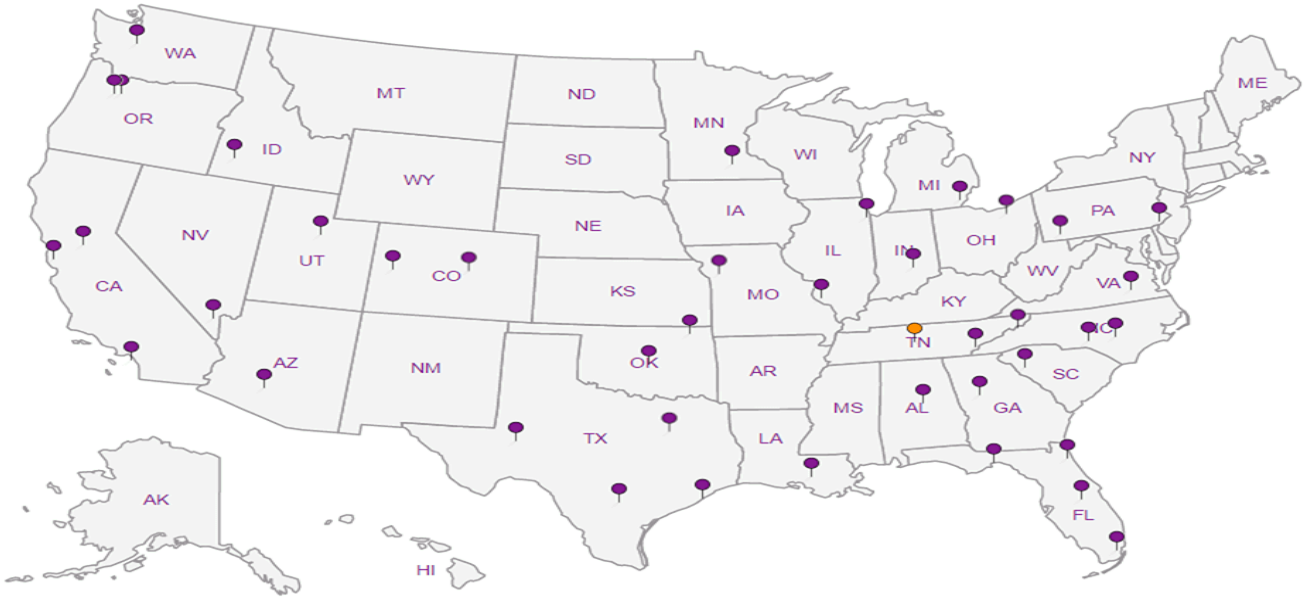
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Guyn

Site/Facility ID # La Cygne Task 100

P.O. # no PO number

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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L# L916561
F026

Acctnum: URSKC
Template: T114093
Prelogin: P605330
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-950	Grab	GW		6/13/17	1000	3	X	X	X		-01
MW-705		GW			1040	3	X	X	X		02
MW-706		GW			1150	3	X	X	X		03
TW-1		GW			1300	3	X	X	X		04
MW-701		GW			1420	3	X	X	X		05
MW-704		GW			1610	3	X	X	X		06
MW-707B		GW			1710	3	X	X	X		07
MW-703		GW		6/14/17	1140	3	X	X	X		08
MW-708		GW		6/14/17	1340	3	X	X	X		09
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	6/14/17	1740			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1 °C Bottles Received: 5	
	6/15/17	1700			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/16/17 Time: 845	Hold: Condition: NCF / OK

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature): Jim Muckler

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-904	Grab	GW	N/A	6-12-17	12:00	3	X	X	X		-10
MW-805	Grab	GW	N/A	6-13-17	13:45	3	X	X	X		11
MW-803	Grab	GW	N/A	6-13-17	14:40	3	X	X	X		12
MW-802	Grab	GW	N/A	6-13-17	15:15	3	X	X	X		13
MW-804	Grab	GW	N/A	6-13-17	16:00	3	X	X	X		14
MW-951	Grab	GW	N/A	6-13-17	16:50	3	X	X	X		15
MW-801	Grab	GW	N/A	6-14-17	10:40	3	X	X	X		16
MW-15	Grab	GW	N/A	6-14-17	12:00	3	X	X	X		17
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature) Jim Muckler — Date: 6-14-17 — Time: 15:45

Received by: (Signature) Dan Hurd

Relinquished by : (Signature) — Date: 6/15/17 — Time: 1700

Received by: (Signature)

Relinquished by : (Signature) — Date: — Time:

Received for lab by: (Signature)

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

Temp: 2.1 °C Bottles Received: 81

Date: 6-16-17 Time: 845

If preservation required by Login: Date/Time

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

Chain of Custody Page ___ of ___

ESC LABORATORY 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 #

Table #

Acctnum: URSKC

Template: T112860

Prelogin: P594561

TSR: 206 - Jeff Carr

PB:

Shipped Via:

ANALYTICAL REPORT

June 28, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L916923
Samples Received:	06/17/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Alla Skaskevych
2380 McGee Suite 200
Kansas City, MO 64108

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.

MW-905 L916923-01 GW

Collected by: JM/DM | Collected date/time: 06/14/17 17:10 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991199	1	06/21/17 22:23	06/21/17 22:35	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992492	1	06/24/17 13:22	06/24/17 13:22	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 12:52	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:12	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:13	LAT

MW-902 L916923-02 GW

Collected by: JM/DM | Collected date/time: 06/15/17 12:05 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991637	1	06/22/17 21:01	06/22/17 21:29	MMF
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 18:58	06/24/17 18:58	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 12:54	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:14	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:17	LAT

MW-602 L916923-03 GW

Collected by: JM/DM | Collected date/time: 06/15/17 14:35 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991637	1	06/22/17 21:01	06/22/17 21:29	MMF
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 19:11	06/24/17 19:11	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 12:57	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:17	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:21	LAT

MW-601 L916923-04 GW

Collected by: JM/DM | Collected date/time: 06/15/17 15:10 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 19:24	06/24/17 19:24	DR
Wet Chemistry by Method 9056A	WG992494	5	06/24/17 20:16	06/24/17 20:16	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 12:13	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 12:36	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/22/17 21:09	VSS

MW-14R L916923-05 GW

Collected by: JM/DM | Collected date/time: 06/15/17 15:50 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 20:03	06/24/17 20:03	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 13:07	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:20	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:24	LAT

MW-903 L916923-06 GW

Collected by: JM/DM
Collected date/time: 06/16/17 10:30
Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG992052	1	06/23/17 14:22	06/23/17 15:01	MMF
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 21:33	06/24/17 21:33	DR
Wet Chemistry by Method 9056A	WG993234	20	06/27/17 15:23	06/27/17 15:23	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 13:09	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:23	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:35	LAT

MW-901 L916923-07 GW

Collected by: JM/DM
Collected date/time: 06/16/17 10:50
Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG992052	1	06/23/17 14:22	06/23/17 15:01	MMF
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 20:28	06/24/17 20:28	DR
Mercury by Method 7470A	WG990484	1	06/20/17 12:52	06/21/17 13:12	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:26	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:38	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	536		10.0	1	06/21/2017 22:35	WG991199

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.38	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-01 WG990802: 7.38 at 10.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.7		1.00	1	06/24/2017 13:22	WG992492
Fluoride	0.567		0.100	1	06/24/2017 13:22	WG992492
Sulfate	27.6		5.00	1	06/24/2017 13:22	WG992492

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 12:52	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.85		0.200	1	06/21/2017 13:12	WG991317
Lithium	0.0706		0.0150	1	06/21/2017 13:12	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:12	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:13	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:13	WG991763
Barium	0.115		0.00500	1	06/23/2017 01:13	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:13	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:13	WG991763
Calcium	49.6		1.00	1	06/23/2017 01:13	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:13	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:13	WG991763
Lead	ND		0.00200	1	06/23/2017 01:13	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:13	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:13	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	533		10.0	1	06/22/2017 21:29	WG991637

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-02 WG990802: 7.37 at 9.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	33.0		1.00	1	06/24/2017 18:58	WG992494
Fluoride	0.467		0.100	1	06/24/2017 18:58	WG992494
Sulfate	30.4		5.00	1	06/24/2017 18:58	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 12:54	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.25		0.200	1	06/21/2017 13:14	WG991317
Lithium	0.0397		0.0150	1	06/21/2017 13:14	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:14	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:17	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:17	WG991763
Barium	0.112		0.00500	1	06/23/2017 01:17	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:17	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:17	WG991763
Calcium	65.4		1.00	1	06/23/2017 01:17	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:17	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:17	WG991763
Lead	ND		0.00200	1	06/23/2017 01:17	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:17	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:17	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	607		10.0	1	06/22/2017 21:29	WG991637

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-03 WG990802: 7.65 at 10.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.2		1.00	1	06/24/2017 19:11	WG992494
Fluoride	1.20		0.100	1	06/24/2017 19:11	WG992494
Sulfate	24.4		5.00	1	06/24/2017 19:11	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 12:57	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.41		0.200	1	06/21/2017 13:17	WG991317
Lithium	0.0652		0.0150	1	06/21/2017 13:17	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:17	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:21	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:21	WG991763
Barium	0.0940		0.00500	1	06/23/2017 01:21	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:21	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:21	WG991763
Calcium	23.2		1.00	1	06/23/2017 01:21	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:21	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:21	WG991763
Lead	ND		0.00200	1	06/23/2017 01:21	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:21	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:21	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	916		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.71	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-04 WG990802: 7.71 at 10.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	167		5.00	5	06/24/2017 20:16	WG992494
Fluoride	1.63		0.100	1	06/24/2017 19:24	WG992494
Sulfate	ND		5.00	1	06/24/2017 19:24	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 12:13	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.85		0.200	1	06/21/2017 12:36	WG991317
Lithium	0.0778		0.0150	1	06/21/2017 12:36	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 12:36	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/22/2017 21:09	WG991763
Arsenic	ND		0.00200	1	06/22/2017 21:09	WG991763
Barium	0.123		0.00500	1	06/22/2017 21:09	WG991763
Beryllium	ND		0.00200	1	06/22/2017 21:09	WG991763
Cadmium	ND		0.00100	1	06/22/2017 21:09	WG991763
Calcium	22.0	V	1.00	1	06/22/2017 21:09	WG991763
Chromium	ND		0.00200	1	06/22/2017 21:09	WG991763
Cobalt	ND		0.00200	1	06/22/2017 21:09	WG991763
Lead	ND		0.00200	1	06/22/2017 21:09	WG991763
Selenium	ND		0.00200	1	06/22/2017 21:09	WG991763
Thallium	ND		0.00200	1	06/22/2017 21:09	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	499		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.33	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-05 WG990802: 7.33 at 11.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.25		1.00	1	06/24/2017 20:03	WG992494
Fluoride	0.237		0.100	1	06/24/2017 20:03	WG992494
Sulfate	44.2		5.00	1	06/24/2017 20:03	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 13:07	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.488		0.200	1	06/21/2017 13:20	WG991317
Lithium	0.0401		0.0150	1	06/21/2017 13:20	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:20	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:24	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:24	WG991763
Barium	0.0411		0.00500	1	06/23/2017 01:24	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:24	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:24	WG991763
Calcium	57.0		1.00	1	06/23/2017 01:24	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:24	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:24	WG991763
Lead	ND		0.00200	1	06/23/2017 01:24	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:24	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:24	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2020		10.0	1	06/23/2017 15:01	WG992052

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.77	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-06 WG990802: 6.77 at 11.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.7		1.00	1	06/24/2017 21:33	WG992494
Fluoride	0.132		0.100	1	06/24/2017 21:33	WG992494
Sulfate	913		100	20	06/27/2017 15:23	WG993234

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 13:09	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.404		0.200	1	06/21/2017 13:23	WG991317
Lithium	0.0539		0.0150	1	06/21/2017 13:23	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:23	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:35	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:35	WG991763
Barium	0.0148		0.00500	1	06/23/2017 01:35	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:35	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:35	WG991763
Calcium	331		1.00	1	06/23/2017 01:35	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:35	WG991763
Cobalt	0.00207		0.00200	1	06/23/2017 01:35	WG991763
Lead	ND		0.00200	1	06/23/2017 01:35	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:35	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:35	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	536		10.0	1	06/23/2017 15:01	WG992052

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.35	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916923-07 WG990802: 7.35 at 11.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.6		1.00	1	06/24/2017 20:28	WG992494
Fluoride	0.489		0.100	1	06/24/2017 20:28	WG992494
Sulfate	15.6		5.00	1	06/24/2017 20:28	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/21/2017 13:12	WG990484

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.20		0.200	1	06/21/2017 13:26	WG991317
Lithium	0.0586		0.0150	1	06/21/2017 13:26	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:26	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:38	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:38	WG991763
Barium	0.193		0.00500	1	06/23/2017 01:38	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:38	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:38	WG991763
Calcium	56.7		1.00	1	06/23/2017 01:38	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:38	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:38	WG991763
Lead	ND		0.00200	1	06/23/2017 01:38	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:38	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:38	WG991763

Method Blank (MB)

(MB) R3228038-1 06/21/17 22:35

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

L916561-16 Original Sample (OS) • Duplicate (DUP)

(OS) L916561-16 06/21/17 22:35 • (DUP) R3228038-4 06/21/17 22:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	862	900	1	4.31		5

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

(LCS) R3228038-2 06/21/17 22:35 • (LCSD) R3228038-3 06/21/17 22:35

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	8400	8440	95.5	95.9	85.0-115			0.475	5

Method Blank (MB)

(MB) R3228417-1 06/22/17 21:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	4.00	J	2.82	10.0

L916923-03 Original Sample (OS) • Duplicate (DUP)

(OS) L916923-03 06/22/17 21:29 • (DUP) R3228417-4 06/22/17 21:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	607	620	1	2.17		5

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

(LCS) R3228417-2 06/22/17 21:29 • (LCSD) R3228417-3 06/22/17 21:29

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 %
Dissolved Solids	8800	8410	8460	95.6	96.1	85.0-115			0.593	5

Method Blank (MB)

(MB) R3228422-1 06/22/17 21:29

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

L916925-02 Original Sample (OS) • Duplicate (DUP)

(OS) L916925-02 06/22/17 21:29 • (DUP) R3228422-4 06/22/17 21:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2350	2310	1	1.72		5

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

(LCS) R3228422-2 06/22/17 21:29 • (LCSD) R3228422-3 06/22/17 21:29

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	%	%	%			%	%
Dissolved Solids	8800	8280	8660	94.1	98.4	85.0-115			4.49	5

Method Blank (MB)

(MB) R3228485-1 06/23/17 15:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	4.00	J	2.82	10.0

L916923-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916923-07 06/23/17 15:01 • (DUP) R3228485-4 06/23/17 15:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	536	540	1	0.743		5

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

(LCS) R3228485-2 06/23/17 15:01 • (LCSD) R3228485-3 06/23/17 15:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8500	8610	96.6	97.8	85.0-115			1.29	5

L916861-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916861-07 06/20/17 11:05 • (DUP) WG990802-3 06/20/17 11:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.92	6.94	1	0.289	T8	1

L916943-16 Original Sample (OS) • Duplicate (DUP)

(OS) L916943-16 06/20/17 11:05 • (DUP) WG990802-4 06/20/17 11:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.36	5.37	1	0.186	T8	1

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

(LCS) WG990802-1 06/20/17 11:05 • (LCSD) WG990802-2 06/20/17 11:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.38	6.44	6.45	101	101	98.7-101			0.155	1

Method Blank (MB)

(MB) R3228629-1 06/24/17 06:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0744	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L916829-03 Original Sample (OS) • Duplicate (DUP)

(OS) L916829-03 06/24/17 12:11 • (DUP) R3228629-4 06/24/17 12:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	81.9	82.8	1	1		15
Fluoride	0.546	0.540	1	1		15

L916829-03 Original Sample (OS) • Duplicate (DUP)

(OS) L916829-03 06/24/17 15:34 • (DUP) R3228629-6 06/24/17 15:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	530	526	10	1		15

L916942-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916942-07 06/24/17 18:27 • (DUP) R3228629-7 06/24/17 18:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.97	6.64	1	5		15

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

(LCS) R3228629-2 06/24/17 06:17 • (LCSD) R3228629-3 06/24/17 06:31

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 %
Chloride	40.0	39.4	39.5	98	99	80-120			0	15
Fluoride	8.00	7.53	7.57	94	95	80-120			1	15
Sulfate	40.0	41.0	41.3	103	103	80-120			1	15

L916923-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L916923-01 06/24/17 13:22 • (MS) R3228629-5 06/24/17 13:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	52.7	100	95	1	80-120	E
Fluoride	5.00	0.567	5.11	91	1	80-120	
Sulfate	50.0	27.6	77.2	99	1	80-120	

Method Blank (MB)

(MB) R3228642-1 06/24/17 05:57

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

L916829-23 Original Sample (OS) • Duplicate (DUP)

(OS) L916829-23 06/24/17 12:46 • (DUP) R3228642-4 06/24/17 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	63.1	62.8	1	0		15
Fluoride	0.259	0.262	1	1		15
Sulfate	93.4	93.4	1	0		15

L916923-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916923-07 06/24/17 20:28 • (DUP) R3228642-8 06/24/17 20:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.6	22.3	1	1		15
Fluoride	0.489	0.495	1	1		15
Sulfate	15.6	15.5	1	0		15

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

(LCS) R3228642-2 06/24/17 06:10 • (LCSD) R3228642-3 06/24/17 06:23

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 %
Chloride	40.0	39.5	39.6	99	99	80-120			0	15
Fluoride	8.00	8.13	8.12	102	102	80-120			0	15
Sulfate	40.0	38.8	38.8	97	97	80-120			0	15

L916829-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L916829-08 06/24/17 17:15 • (MS) R3228642-5 06/24/17 17:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.635	5.52	98	1	80-120	
Sulfate	50.0	0.556	46.4	92	1	80-120	

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/24/17 19:24 • (MS) R3228642-6 06/24/17 19:37 • (MSD) R3228642-7 06/24/17 19:50

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 %
Fluoride	5.00	1.63	6.74	6.62	102	100	1	80-120			2	15
Sulfate	50.0	ND	51.4	50.4	96	94	1	80-120			2	15

Method Blank (MB)

(MB) R3229401-1 06/27/17 12:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L916901-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916901-07 06/27/17 14:53 • (DUP) R3229401-4 06/27/17 15:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	309	307	10	1		15

L917179-01 Original Sample (OS) • Duplicate (DUP)

(OS) L917179-01 06/27/17 18:22 • (DUP) R3229401-7 06/27/17 18:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	23.7	23.7	1	0		15

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

(LCS) R3229401-2 06/27/17 12:54 • (LCSD) R3229401-3 06/27/17 13:09

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	%	%	%			%	%
Sulfate	40.0	39.0	39.0	97	97	80-120			0	15

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/27/17 15:38 • (MS) R3229401-5 06/27/17 15:53 • (MSD) R3229401-6 06/27/17 16:07

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	%	%		%			%	%
Sulfate	50.0	31.1	81.4	81.4	101	101	1	80-120			0	15

L917410-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L917410-01 06/27/17 20:51 • (MS) R3229401-8 06/27/17 21:06

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	ND	52.4	101	1	80-120	

Method Blank (MB)

(MB) R3227477-1 06/21/17 12:02

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

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

(LCS) R3227477-2 06/21/17 12:09 • (LCSD) R3227477-3 06/21/17 12:11

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	%	%	%			%	%
Mercury	0.00300	0.00308	0.00310	103	103	80-120			0	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/21/17 12:13 • (MS) R3227477-4 06/21/17 12:16 • (MSD) R3227477-5 06/21/17 12:18

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	%	%		%			%	%
Mercury	0.00300	ND	0.00332	0.00313	111	104	1	75-125			6	20

Method Blank (MB)

(MB) R3227461-1 06/21/17 12:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3227461-2 06/21/17 12:30 • (LCSD) R3227461-3 06/21/17 12:33

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	%	%	%			%	%
Boron	1.00	0.961	0.960	96	96	80-120			0	20
Lithium	1.00	1.00	1.00	100	100	80-120			0	20
Molybdenum	1.00	1.00	1.01	100	101	80-120			1	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/21/17 12:36 • (MS) R3227461-5 06/21/17 12:41 • (MSD) R3227461-6 06/21/17 12:44

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	%	%		%			%	%
Boron	1.00	1.85	2.79	2.78	95	93	1	75-125			0	20
Lithium	1.00	0.0778	1.11	1.10	103	103	1	75-125			1	20
Molybdenum	1.00	ND	1.02	1.01	102	101	1	75-125			1	20

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/21/17 13:39 • (MS) R3227461-7 06/21/17 13:42 • (MSD) R3227461-8 06/21/17 13:44

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	%	%		%			%	%
Boron	1.00	0.942	1.92	1.90	98	96	1	75-125			1	20
Lithium	1.00	0.0409	1.08	1.08	104	104	1	75-125			0	20
Molybdenum	1.00	ND	1.04	1.04	104	104	1	75-125			0	20

Method Blank (MB)

(MB) R3228037-1 06/22/17 20:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	0.0737	J	0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3228037-2 06/22/17 21:02 • (LCSD) R3228037-3 06/22/17 21:06

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	0.0524	0.0513	105	103	80-120			2	20
Arsenic	0.0500	0.0488	0.0476	98	95	80-120			2	20
Barium	0.0500	0.0480	0.0459	96	92	80-120			4	20
Beryllium	0.0500	0.0486	0.0463	97	93	80-120			5	20
Cadmium	0.0500	0.0549	0.0531	110	106	80-120			3	20
Calcium	5.00	5.03	4.77	101	95	80-120			5	20
Chromium	0.0500	0.0518	0.0506	104	101	80-120			2	20
Cobalt	0.0500	0.0527	0.0519	105	104	80-120			2	20
Lead	0.0500	0.0511	0.0489	102	98	80-120			4	20
Selenium	0.0500	0.0510	0.0508	102	102	80-120			0	20
Thallium	0.0500	0.0505	0.0486	101	97	80-120			4	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/22/17 21:09 • (MS) R3228037-5 06/22/17 21:16 • (MSD) R3228037-6 06/22/17 21:20

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	ND	0.0551	0.0559	110	112	1	75-125			1	20
Arsenic	0.0500	ND	0.0491	0.0478	97	95	1	75-125			3	20
Barium	0.0500	0.123	0.171	0.169	96	92	1	75-125			1	20
Beryllium	0.0500	ND	0.0481	0.0480	96	96	1	75-125			0	20
Cadmium	0.0500	ND	0.0540	0.0546	108	109	1	75-125			1	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/22/17 21:09 • (MS) R3228037-5 06/22/17 21:16 • (MSD) R3228037-6 06/22/17 21:20

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	5.00	22.0	26.2	24.7	85	55	1	75-125		V	6	20
Chromium	0.0500	ND	0.0519	0.0496	104	99	1	75-125			4	20
Cobalt	0.0500	ND	0.0520	0.0501	104	100	1	75-125			4	20
Lead	0.0500	ND	0.0500	0.0500	100	100	1	75-125			0	20
Selenium	0.0500	ND	0.0525	0.0505	105	101	1	75-125			4	20
Thallium	0.0500	ND	0.0499	0.0492	100	98	1	75-125			1	20

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/23/17 01:59 • (MS) R3228037-7 06/23/17 02:03 • (MSD) R3228037-8 06/23/17 02:06

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	ND	0.0556	0.0565	111	113	1	75-125			2	20
Arsenic	0.0500	0.00528	0.0535	0.0527	96	95	1	75-125			1	20
Barium	0.0500	0.306	0.355	0.356	98	99	1	75-125			0	20
Beryllium	0.0500	ND	0.0476	0.0485	95	97	1	75-125			2	20
Cadmium	0.0500	ND	0.0490	0.0503	98	101	1	75-125			3	20
Calcium	5.00	55.5	59.5	58.3	81	57	1	75-125		V	2	20
Chromium	0.0500	ND	0.0493	0.0489	99	98	1	75-125			1	20
Cobalt	0.0500	ND	0.0500	0.0492	99	97	1	75-125			2	20
Lead	0.0500	ND	0.0490	0.0494	97	98	1	75-125			1	20
Selenium	0.0500	ND	0.0501	0.0500	100	100	1	75-125			0	20
Thallium	0.0500	ND	0.0485	0.0493	97	99	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.
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
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [2]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

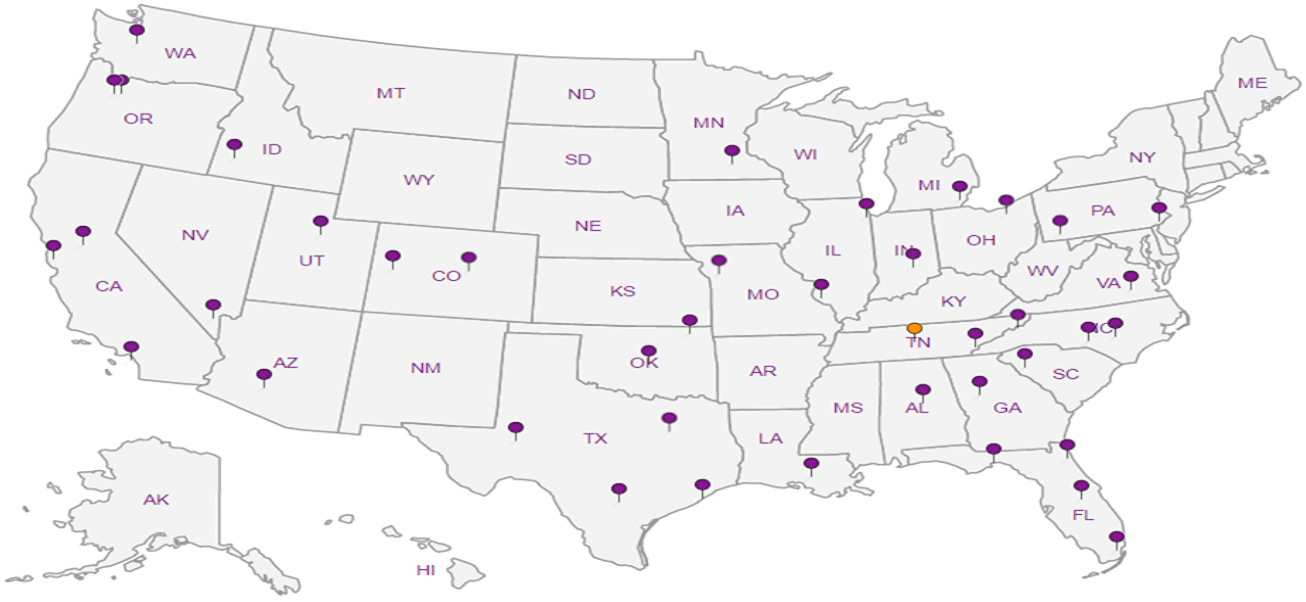
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC	100789
DOD	1461.01
USDA	S-67674

[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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-905	Grab	GW	N/A	6-14-17	17:10	3	X	X	X		-01
MW-902	Grab	GW	N/A	6-15-17	12:05	3	X	X	X		-02
MW-602	Grab	GW	N/A	6-15-17	14:35	3	X	X	X		-03
MW-601	Grab	GW	N/A	6-15-17	15:10	3	X	X	X		-04
MW-601 MS	Grab	GW	N/A	6-15-17	15:10	3	X	X	X		-04
MW-601 MSD	Grab	GW	N/A	6-15-17	15:10	3	X	X	X		-04
MW-14R	Grab	GW	N/A	6-15-17	15:50	3	X	X	X		-05
MW-903	Grab	GW	N/A	6-16-17	10:30	3	X	X	X		-06
MW-901	Grab	GW	N/A	6-16-17	10:50	3	X	X	X		-07

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

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

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Chain of Custody Page ___ of ___

ESC LABORATORY 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# L916923
B028

Acctnum: URSKC
Template: T112860
Prelogin: P594561
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	6-16-17	14:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/16/17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: 2.1°C Bottles Received: 27 total

Date: 6-17-17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

June 29, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L916925
Samples Received:	06/17/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

MW-702 L916925-01 GW

Collected by: SK/G | Collected date/time: 06/15/17 09:05 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992494	1	06/24/17 20:54	06/24/17 20:54	DR
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 15:55	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:34	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:42	LAT

MW-13 L916925-02 GW

Collected by: SK/G | Collected date/time: 06/15/17 10:45 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992496	1	06/24/17 18:41	06/24/17 18:41	DR
Wet Chemistry by Method 9056A	WG993859	50	06/28/17 18:35	06/28/17 18:35	CSU
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 15:57	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:37	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:45	LAT

MW-10 L916925-03 GW

Collected by: SK/G | Collected date/time: 06/15/17 12:30 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG993234	1	06/27/17 15:38	06/27/17 15:38	DR
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 15:41	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:39	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:59	LAT

MW-11 L916925-04 GW

Collected by: SK/G | Collected date/time: 06/15/17 15:40 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG992496	1	06/24/17 18:58	06/24/17 18:58	DR
Wet Chemistry by Method 9056A	WG993012	10	06/27/17 18:19	06/27/17 18:19	SAM
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 15:59	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:47	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:49	LAT

MW-7 L916925-05 GW

Collected by: SK/G | Collected date/time: 06/15/17 17:25 | Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG993012	1	06/27/17 18:29	06/27/17 18:29	SAM
Wet Chemistry by Method 9056A	WG993012	10	06/27/17 18:39	06/27/17 18:39	SAM
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 16:02	EL

MW-7 L916925-05 GW

Collected by: SK/G
Collected date/time: 06/15/17 17:25
Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:50	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:52	LAT

MW-6 L916925-06 GW

Collected by: SK/G
Collected date/time: 06/15/17 18:40
Received date/time: 06/17/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG991639	1	06/22/17 21:15	06/22/17 21:29	EG
Wet Chemistry by Method 9040C	WG990802	1	06/20/17 11:05	06/20/17 11:05	MHM
Wet Chemistry by Method 9056A	WG993012	10	06/27/17 19:19	06/27/17 19:19	SAM
Mercury by Method 7470A	WG990485	1	06/22/17 14:21	06/22/17 16:04	EL
Metals (ICP) by Method 6010B	WG991317	1	06/21/17 09:26	06/21/17 13:53	NJB
Metals (ICPMS) by Method 6020	WG991763	1	06/22/17 09:07	06/23/17 01:56	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	648		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.62	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-01 WG990802: 8.62 at 10.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.2		1.00	1	06/24/2017 20:54	WG992494
Fluoride	1.32		0.100	1	06/24/2017 20:54	WG992494
Sulfate	ND		5.00	1	06/24/2017 20:54	WG992494

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 15:55	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.80		0.200	1	06/21/2017 13:34	WG991317
Lithium	0.174		0.0150	1	06/21/2017 13:34	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:34	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:42	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:42	WG991763
Barium	0.302		0.00500	1	06/23/2017 01:42	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:42	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:42	WG991763
Calcium	15.1		1.00	1	06/23/2017 01:42	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:42	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:42	WG991763
Lead	ND		0.00200	1	06/23/2017 01:42	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:42	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:42	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2350		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.04	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-02 WG990802: 7.04 at 10.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.2		1.00	1	06/24/2017 18:41	WG992496
Fluoride	0.137		0.100	1	06/24/2017 18:41	WG992496
Sulfate	1630		250	50	06/28/2017 18:35	WG993859

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 15:57	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.368		0.200	1	06/21/2017 13:37	WG991317
Lithium	0.0565		0.0150	1	06/21/2017 13:37	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:37	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:45	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:45	WG991763
Barium	0.0162		0.00500	1	06/23/2017 01:45	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:45	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:45	WG991763
Calcium	339		1.00	1	06/23/2017 01:45	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:45	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:45	WG991763
Lead	ND		0.00200	1	06/23/2017 01:45	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:45	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:45	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	625		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.48	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-03 WG990802: 7.48 at 8.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	63.6		1.00	1	06/27/2017 15:38	WG993234
Fluoride	0.401		0.100	1	06/27/2017 15:38	WG993234
Sulfate	31.1		5.00	1	06/27/2017 15:38	WG993234

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 15:41	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.942		0.200	1	06/21/2017 13:39	WG991317
Lithium	0.0409		0.0150	1	06/21/2017 13:39	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:39	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:59	WG991763
Arsenic	0.00528		0.00200	1	06/23/2017 01:59	WG991763
Barium	0.306		0.00500	1	06/23/2017 01:59	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:59	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:59	WG991763
Calcium	55.5	V	1.00	1	06/23/2017 01:59	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:59	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:59	WG991763
Lead	ND		0.00200	1	06/23/2017 01:59	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:59	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:59	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	984		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-04 WG990802: 7.5 at 13.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	89.7		10.0	10	06/27/2017 18:19	WG993012
Fluoride	0.452		0.100	1	06/24/2017 18:58	WG992496
Sulfate	145		50.0	10	06/27/2017 18:19	WG993012

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 15:59	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.02		0.200	1	06/21/2017 13:47	WG991317
Lithium	0.0665		0.0150	1	06/21/2017 13:47	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:47	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:49	WG991763
Arsenic	ND		0.00200	1	06/23/2017 01:49	WG991763
Barium	0.0386		0.00500	1	06/23/2017 01:49	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:49	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:49	WG991763
Calcium	58.2		1.00	1	06/23/2017 01:49	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:49	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:49	WG991763
Lead	ND		0.00200	1	06/23/2017 01:49	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:49	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:49	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.93	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-05 WG990802: 7.93 at 11.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	81.2		10.0	10	06/27/2017 18:39	WG993012
Fluoride	1.27		0.100	1	06/27/2017 18:29	WG993012
Sulfate	ND		5.00	1	06/27/2017 18:29	WG993012

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 16:02	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.64		0.200	1	06/21/2017 13:50	WG991317
Lithium	0.0817		0.0150	1	06/21/2017 13:50	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:50	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:52	WG991763
Arsenic	0.00223		0.00200	1	06/23/2017 01:52	WG991763
Barium	0.527		0.00500	1	06/23/2017 01:52	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:52	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:52	WG991763
Calcium	22.4		1.00	1	06/23/2017 01:52	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:52	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:52	WG991763
Lead	ND		0.00200	1	06/23/2017 01:52	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:52	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:52	WG991763

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1120		10.0	1	06/22/2017 21:29	WG991639

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.47	T8	1	06/20/2017 11:05	WG990802

Sample Narrative:

9040C L916925-06 WG990802: 7.47 at 13.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	181		10.0	10	06/27/2017 19:19	WG993012
Fluoride	1.75		1.00	10	06/27/2017 19:19	WG993012
Sulfate	147		50.0	10	06/27/2017 19:19	WG993012

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	06/22/2017 16:04	WG990485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.19		0.200	1	06/21/2017 13:53	WG991317
Lithium	0.0538		0.0150	1	06/21/2017 13:53	WG991317
Molybdenum	ND		0.00500	1	06/21/2017 13:53	WG991317

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	06/23/2017 01:56	WG991763
Arsenic	0.00715		0.00200	1	06/23/2017 01:56	WG991763
Barium	0.181		0.00500	1	06/23/2017 01:56	WG991763
Beryllium	ND		0.00200	1	06/23/2017 01:56	WG991763
Cadmium	ND		0.00100	1	06/23/2017 01:56	WG991763
Calcium	90.5		1.00	1	06/23/2017 01:56	WG991763
Chromium	ND		0.00200	1	06/23/2017 01:56	WG991763
Cobalt	ND		0.00200	1	06/23/2017 01:56	WG991763
Lead	ND		0.00200	1	06/23/2017 01:56	WG991763
Selenium	ND		0.00200	1	06/23/2017 01:56	WG991763
Thallium	ND		0.00200	1	06/23/2017 01:56	WG991763

Method Blank (MB)

(MB) R3228422-1 06/22/17 21:29

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

L916925-02 Original Sample (OS) • Duplicate (DUP)

(OS) L916925-02 06/22/17 21:29 • (DUP) R3228422-4 06/22/17 21:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2350	2310	1	1.72		5

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

(LCS) R3228422-2 06/22/17 21:29 • (LCSD) R3228422-3 06/22/17 21:29

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 %
Dissolved Solids	8800	8280	8660	94.1	98.4	85.0-115			4.49	5

L916861-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916861-07 06/20/17 11:05 • (DUP) WG990802-3 06/20/17 11:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.92	6.94	1	0.289	T8	1

L916943-16 Original Sample (OS) • Duplicate (DUP)

(OS) L916943-16 06/20/17 11:05 • (DUP) WG990802-4 06/20/17 11:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.36	5.37	1	0.186	T8	1

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

(LCS) WG990802-1 06/20/17 11:05 • (LCSD) WG990802-2 06/20/17 11:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.38	6.44	6.45	101	101	98.7-101			0.155	1

Method Blank (MB)

(MB) R3228642-1 06/24/17 05:57

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

L916829-23 Original Sample (OS) • Duplicate (DUP)

(OS) L916829-23 06/24/17 12:46 • (DUP) R3228642-4 06/24/17 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	63.1	62.8	1	0		15
Fluoride	0.259	0.262	1	1		15
Sulfate	93.4	93.4	1	0		15

L916923-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916923-07 06/24/17 20:28 • (DUP) R3228642-8 06/24/17 20:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.6	22.3	1	1		15
Fluoride	0.489	0.495	1	1		15
Sulfate	15.6	15.5	1	0		15

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

(LCS) R3228642-2 06/24/17 06:10 • (LCSD) R3228642-3 06/24/17 06:23

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 %
Chloride	40.0	39.5	39.6	99	99	80-120			0	15
Fluoride	8.00	8.13	8.12	102	102	80-120			0	15
Sulfate	40.0	38.8	38.8	97	97	80-120			0	15

L916829-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L916829-08 06/24/17 17:15 • (MS) R3228642-5 06/24/17 17:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.635	5.52	98	1	80-120	
Sulfate	50.0	0.556	46.4	92	1	80-120	

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/24/17 19:24 • (MS) R3228642-6 06/24/17 19:37 • (MSD) R3228642-7 06/24/17 19:50

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 %
Fluoride	5.00	1.63	6.74	6.62	102	100	1	80-120			2	15
Sulfate	50.0	ND	51.4	50.4	96	94	1	80-120			2	15

Method Blank (MB)

(MB) R3228764-1 06/24/17 10:07

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

L916498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L916498-01 06/24/17 12:55 • (DUP) R3228764-4 06/24/17 13:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7.02	7.04	1	0		15
Fluoride	0.343	0.358	1	4		15

L916942-08 Original Sample (OS) • Duplicate (DUP)

(OS) L916942-08 06/24/17 19:29 • (DUP) R3228764-6 06/24/17 19:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	32.7	32.8	1	0		15
Fluoride	U	0.000	1	0		15

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

(LCS) R3228764-2 06/24/17 10:17 • (LCSD) R3228764-3 06/24/17 10:27

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 %
Chloride	40.0	39.2	39.3	98	98	80-120			0	15
Fluoride	8.00	8.04	8.05	101	101	80-120			0	15

L916443-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L916443-03 06/24/17 13:55 • (MS) R3228764-5 06/24/17 18:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	15.6	64.7	98	1	80-120	
Fluoride	5.00	0.611	5.51	98	1	80-120	

Method Blank (MB)

(MB) R3229363-1 06/27/17 16:20

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

L916411-01 Original Sample (OS) • Duplicate (DUP)

(OS) L916411-01 06/27/17 17:59 • (DUP) R3229363-5 06/27/17 18:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	78.4	78.3	1	0		15
Sulfate	91.7	97.3	1	6		15

L916953-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916953-07 06/27/17 20:09 • (DUP) R3229363-7 06/27/17 20:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	23.5	22.3	1	5		15

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

(LCS) R3229363-2 06/27/17 16:29 • (LCSD) R3229363-3 06/27/17 17:49

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	38.9	39.2	97	98	80-120			1	15
Fluoride	8.00	8.22	8.29	103	104	80-120			1	15
Sulfate	40.0	39.2	39.5	98	99	80-120			1	15

L916953-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L916953-06 06/27/17 19:49 • (MS) R3229363-6 06/27/17 19:59

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Chloride	50.0	34.7	87.5	105	1	80-120	
Sulfate	50.0	5.68	58.0	105	1	80-120	

L917418-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L917418-15 06/27/17 22:38 • (MS) R3229363-8 06/27/17 23:08 • (MSD) R3229363-9 06/27/17 23:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	11.3	64.3	65.2	106	108	1	80-120			1	15
Fluoride	5.00	0.448	5.36	5.80	98	107	1	80-120			8	15
Sulfate	50.0	U	ND	ND	0	0	1	80-120	J6	J6	0	15

Method Blank (MB)

(MB) R3229401-1 06/27/17 12:39

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

L916901-07 Original Sample (OS) • Duplicate (DUP)

(OS) L916901-07 06/27/17 14:53 • (DUP) R3229401-4 06/27/17 15:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	U	54.4	10	1		15
Fluoride	U	0.287	10	6	J	15
Sulfate	309	307	10	1		15

L917179-01 Original Sample (OS) • Duplicate (DUP)

(OS) L917179-01 06/27/17 18:22 • (DUP) R3229401-7 06/27/17 18:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	8.13	8.10	1	0		15
Fluoride	0.110	0.118	1	7		15
Sulfate	23.7	23.7	1	0		15

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

(LCS) R3229401-2 06/27/17 12:54 • (LCSD) R3229401-3 06/27/17 13:09

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	39.1	39.2	98	98	80-120			0	15
Fluoride	8.00	8.05	8.05	101	101	80-120			0	15
Sulfate	40.0	39.0	39.0	97	97	80-120			0	15

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/27/17 15:38 • (MS) R3229401-5 06/27/17 15:53 • (MSD) R3229401-6 06/27/17 16:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Chloride	50.0	63.6	113	113	98	98	1	80-120	E	E	0	15
Fluoride	5.00	0.401	5.32	5.34	98	99	1	80-120			0	15

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/27/17 15:38 • (MS) R3229401-5 06/27/17 15:53 • (MSD) R3229401-6 06/27/17 16:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	31.1	81.4	81.4	101	101	1	80-120			0	15

L917410-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L917410-01 06/27/17 20:51 • (MS) R3229401-8 06/27/17 21:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	ND	5.08	101	1	80-120	
Sulfate	50.0	ND	52.4	101	1	80-120	

Method Blank (MB)

(MB) R3229658-1 06/28/17 06:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	0.316	J	0.0774	5.00

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

(LCS) R3229658-2 06/28/17 06:52 • (LCSD) R3229658-3 06/28/17 07:08

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 %
Sulfate	40.0	40.0	40.3	100	101	80-120			1	15

Method Blank (MB)

(MB) R3227969-1 06/22/17 15:34

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

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

(LCS) R3227969-2 06/22/17 15:37 • (LCSD) R3227969-3 06/22/17 15:39

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	%	%	%			%	%
Mercury	0.00300	0.00274	0.00277	91	92	80-120			1	20

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/22/17 15:41 • (MS) R3227969-4 06/22/17 15:43 • (MSD) R3227969-5 06/22/17 15:53

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	%	%		%			%	%
Mercury	0.00300	ND	0.00278	0.00269	93	90	1	75-125			4	20

Method Blank (MB)

(MB) R3227461-1 06/21/17 12:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3227461-2 06/21/17 12:30 • (LCSD) R3227461-3 06/21/17 12:33

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	%	%	%			%	%
Boron	1.00	0.961	0.960	96	96	80-120			0	20
Lithium	1.00	1.00	1.00	100	100	80-120			0	20
Molybdenum	1.00	1.00	1.01	100	101	80-120			1	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/21/17 12:36 • (MS) R3227461-5 06/21/17 12:41 • (MSD) R3227461-6 06/21/17 12:44

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	%	%		%			%	%
Boron	1.00	1.85	2.79	2.78	95	93	1	75-125			0	20
Lithium	1.00	0.0778	1.11	1.10	103	103	1	75-125			1	20
Molybdenum	1.00	ND	1.02	1.01	102	101	1	75-125			1	20

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/21/17 13:39 • (MS) R3227461-7 06/21/17 13:42 • (MSD) R3227461-8 06/21/17 13:44

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	%	%		%			%	%
Boron	1.00	0.942	1.92	1.90	98	96	1	75-125			1	20
Lithium	1.00	0.0409	1.08	1.08	104	104	1	75-125			0	20
Molybdenum	1.00	ND	1.04	1.04	104	104	1	75-125			0	20

Method Blank (MB)

(MB) R3228037-1 06/22/17 20:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	0.0737	J	0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3228037-2 06/22/17 21:02 • (LCSD) R3228037-3 06/22/17 21:06

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	0.0524	0.0513	105	103	80-120			2	20
Arsenic	0.0500	0.0488	0.0476	98	95	80-120			2	20
Barium	0.0500	0.0480	0.0459	96	92	80-120			4	20
Beryllium	0.0500	0.0486	0.0463	97	93	80-120			5	20
Cadmium	0.0500	0.0549	0.0531	110	106	80-120			3	20
Calcium	5.00	5.03	4.77	101	95	80-120			5	20
Chromium	0.0500	0.0518	0.0506	104	101	80-120			2	20
Cobalt	0.0500	0.0527	0.0519	105	104	80-120			2	20
Lead	0.0500	0.0511	0.0489	102	98	80-120			4	20
Selenium	0.0500	0.0510	0.0508	102	102	80-120			0	20
Thallium	0.0500	0.0505	0.0486	101	97	80-120			4	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/22/17 21:09 • (MS) R3228037-5 06/22/17 21:16 • (MSD) R3228037-6 06/22/17 21:20

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	ND	0.0551	0.0559	110	112	1	75-125			1	20
Arsenic	0.0500	ND	0.0491	0.0478	97	95	1	75-125			3	20
Barium	0.0500	0.123	0.171	0.169	96	92	1	75-125			1	20
Beryllium	0.0500	ND	0.0481	0.0480	96	96	1	75-125			0	20
Cadmium	0.0500	ND	0.0540	0.0546	108	109	1	75-125			1	20

L916923-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916923-04 06/22/17 21:09 • (MS) R3228037-5 06/22/17 21:16 • (MSD) R3228037-6 06/22/17 21:20

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	5.00	22.0	26.2	24.7	85	55	1	75-125		V	6	20
Chromium	0.0500	ND	0.0519	0.0496	104	99	1	75-125			4	20
Cobalt	0.0500	ND	0.0520	0.0501	104	100	1	75-125			4	20
Lead	0.0500	ND	0.0500	0.0500	100	100	1	75-125			0	20
Selenium	0.0500	ND	0.0525	0.0505	105	101	1	75-125			4	20
Thallium	0.0500	ND	0.0499	0.0492	100	98	1	75-125			1	20

L916925-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L916925-03 06/23/17 01:59 • (MS) R3228037-7 06/23/17 02:03 • (MSD) R3228037-8 06/23/17 02:06

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	ND	0.0556	0.0565	111	113	1	75-125			2	20
Arsenic	0.0500	0.00528	0.0535	0.0527	96	95	1	75-125			1	20
Barium	0.0500	0.306	0.355	0.356	98	99	1	75-125			0	20
Beryllium	0.0500	ND	0.0476	0.0485	95	97	1	75-125			2	20
Cadmium	0.0500	ND	0.0490	0.0503	98	101	1	75-125			3	20
Calcium	5.00	55.5	59.5	58.3	81	57	1	75-125		V	2	20
Chromium	0.0500	ND	0.0493	0.0489	99	98	1	75-125			1	20
Cobalt	0.0500	ND	0.0500	0.0492	99	97	1	75-125			2	20
Lead	0.0500	ND	0.0490	0.0494	97	98	1	75-125			1	20
Selenium	0.0500	ND	0.0501	0.0500	100	100	1	75-125			0	20
Thallium	0.0500	ND	0.0485	0.0493	97	99	1	75-125			2	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
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
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [2]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

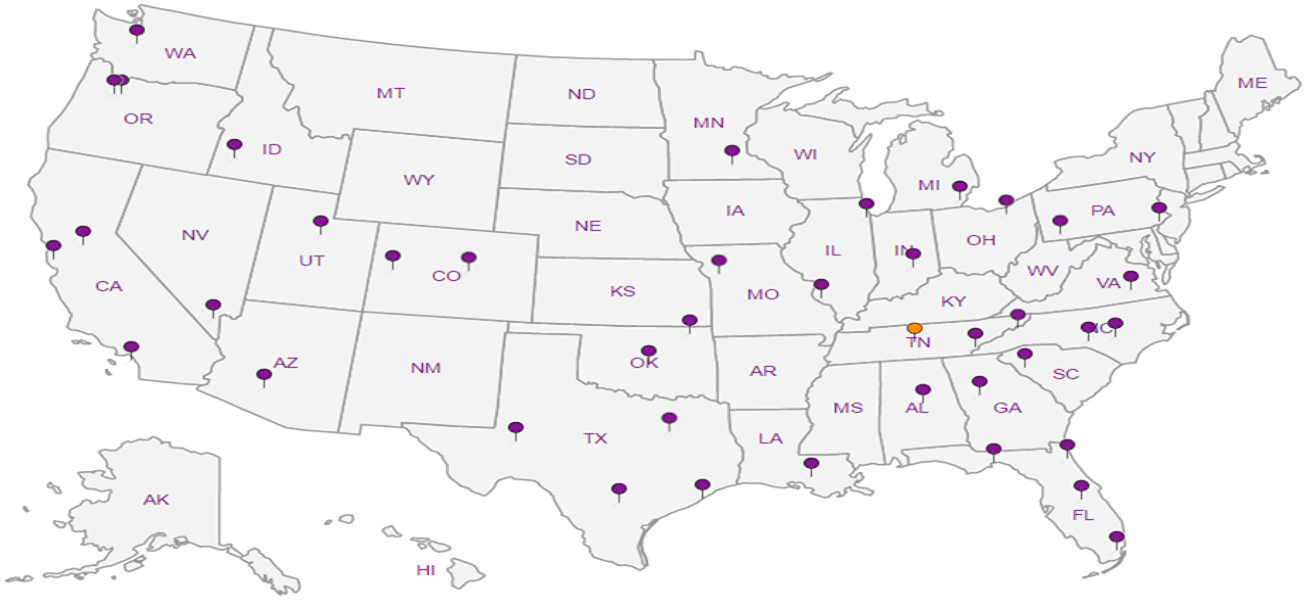
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA-LAP,LLC	100789
DOD	1461.01
USDA	S-67674

[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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Guyn

Site/Facility ID # Task 100

P.O. # no PO number

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-702	Grab	GW		6/15/17	0905	3	X	X	X		-01
MW-13		GW			1045	3	X	X	X		-02
MW-10		GW			1230	3	X	X	X		-03
MW-10-MS		GW			1230	3	X	X	X		-03
MW-10-MSD		GW			1230	3	X	X	X		-04
MW-11		GW			1540	3	X	X	X		-05
MW-7		GW			1725	3	X	X	X		-06
MW-6		GW			1640	3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

Chain of Custody Page ___ of ___

ESC LABORATORY 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 # L916925

B027

Acctnum: URSKC
Template: T114093
Prelogin: P605330
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

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

Please indicate sample ID for the MS/MSD. MW-10 for MS/MSD

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6-16-17	14:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/16/17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 7.1 °C Bottles Received: 24

Date: 6-17-17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jared Morrison
December 16, 2022

ATTACHMENT 1-8

August 2017 Sampling Event Laboratory Report

ANALYTICAL REPORT

September 15, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L928818
Samples Received:	08/11/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

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.

TABLE OF CONTENTS

MW-708 L928818-01 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 13:30 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 05:46	08/15/17 05:46	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:33	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:07	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:12	LAT

TW-1 L928818-02 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 13:55 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 06:01	08/15/17 06:01	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:36	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:10	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:15	LAT

MW-707B L928818-03 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 14:20 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 06:46	08/15/17 06:46	SAM
Wet Chemistry by Method 9056A	WG1008934	20	08/15/17 07:00	08/15/17 07:00	SAM
Wet Chemistry by Method 9056A	WG1010028	100	08/16/17 21:04	08/16/17 21:04	DR
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:38	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:13	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:19	LAT

MW-701 L928818-04 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 14:55 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 07:15	08/15/17 07:15	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:45	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:21	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:22	LAT

MW-704 L928818-05 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 15:55 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 07:30	08/15/17 07:30	SAM
Wet Chemistry by Method 9056A	WG1010028	5	08/16/17 21:14	08/16/17 21:14	DR
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:47	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:24	CCE

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

MW-704 L928818-05 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 15:55 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:26	LAT

MW-13 L928818-06 GW

Collected by: Terry Andrews | Collected date/time: 08/08/17 17:30 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 07:45	08/15/17 07:45	SAM
Wet Chemistry by Method 9056A	WG1008934	20	08/15/17 08:00	08/15/17 08:00	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:49	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:26	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:30	LAT

MW-702 L928818-07 GW

Collected by: Terry Andrews | Collected date/time: 08/09/17 09:05 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 02:43	08/16/17 02:43	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:51	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:29	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:33	LAT

MW-706 L928818-08 GW

Collected by: Terry Andrews | Collected date/time: 08/09/17 10:00 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 02:56	08/16/17 02:56	SAM
Wet Chemistry by Method 9056A	WG1009574	5	08/16/17 03:35	08/16/17 03:35	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:54	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:32	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:37	LAT

MW-705 L928818-09 GW

Collected by: Terry Andrews | Collected date/time: 08/09/17 11:25 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 03:48	08/16/17 03:48	SAM
Wet Chemistry by Method 9056A	WG1009574	5	08/16/17 04:01	08/16/17 04:01	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:56	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:35	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:40	LAT

MW-950 L928818-10 GW

Collected by: Terry Andrews
Collected date/time: 08/09/17 11:25
Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 04:14	08/16/17 04:14	SAM
Wet Chemistry by Method 9056A	WG1009574	5	08/16/17 04:27	08/16/17 04:27	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:58	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:37	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:44	LAT

MW-6 L928818-11 GW

Collected by: Terry Andrews
Collected date/time: 08/09/17 13:45
Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 04:40	08/16/17 04:40	SAM
Wet Chemistry by Method 9056A	WG1009574	5	08/16/17 04:53	08/16/17 04:53	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:01	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:40	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:56	LAT

MW-7 L928818-12 GW

Collected by: Terry Andrews
Collected date/time: 08/09/17 14:50
Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 05:06	08/16/17 05:06	SAM
Wet Chemistry by Method 9056A	WG1010526	5	08/17/17 13:26	08/17/17 13:26	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:03	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:43	CCE
Metals (ICPMS) by Method 6020	WG1010236	1	08/16/17 14:33	08/17/17 19:59	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	649		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.43	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-01 WG1008763: 7.43 at 15.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.1		1.00	1	08/15/2017 05:46	WG1008934
Fluoride	0.705		0.100	1	08/15/2017 05:46	WG1008934
Sulfate	9.36		5.00	1	08/15/2017 05:46	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:33	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.44		0.200	1	08/16/2017 13:07	WG1008963
Lithium	0.0822		0.0150	1	08/16/2017 13:07	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:07	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:12	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:12	WG1010236
Barium	0.229		0.00500	1	08/17/2017 19:12	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:12	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:12	WG1010236
Calcium	31.7		1.00	1	08/17/2017 19:12	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:12	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:12	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:12	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:12	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:12	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1010		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-02 WG1008763: 7.62 at 13.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.5		1.00	1	08/15/2017 06:01	WG1008934
Fluoride	0.461		0.100	1	08/15/2017 06:01	WG1008934
Sulfate	63.9		5.00	1	08/15/2017 06:01	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:36	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.60		0.200	1	08/16/2017 13:10	WG1008963
Lithium	0.155		0.0150	1	08/16/2017 13:10	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:10	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:15	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:15	WG1010236
Barium	0.0737		0.00500	1	08/17/2017 19:15	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:15	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:15	WG1010236
Calcium	35.1		1.00	1	08/17/2017 19:15	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:15	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:15	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:15	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:15	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:15	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	7640		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.99	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-03 WG1008763: 6.99 at 14.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	193		20.0	20	08/15/2017 07:00	WG1008934
Fluoride	0.402		0.100	1	08/15/2017 06:46	WG1008934
Sulfate	4790		500	100	08/16/2017 21:04	WG1010028

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:38	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.02		0.200	1	08/16/2017 13:13	WG1008963
Lithium	0.993		0.0150	1	08/16/2017 13:13	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:13	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:19	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:19	WG1010236
Barium	0.0134		0.00500	1	08/17/2017 19:19	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:19	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:19	WG1010236
Calcium	378		1.00	1	08/17/2017 19:19	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:19	WG1010236
Cobalt	0.00492		0.00200	1	08/17/2017 19:19	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:19	WG1010236
Selenium	0.00223		0.00200	1	08/17/2017 19:19	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:19	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	613		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-04 WG1008763: 7.67 at 14.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	53.5		1.00	1	08/15/2017 07:15	WG1008934
Fluoride	0.857		0.100	1	08/15/2017 07:15	WG1008934
Sulfate	80.8		5.00	1	08/15/2017 07:15	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:45	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.07		0.200	1	08/16/2017 13:21	WG1008963
Lithium	0.0451		0.0150	1	08/16/2017 13:21	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:21	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:22	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:22	WG1010236
Barium	0.190		0.00500	1	08/17/2017 19:22	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:22	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:22	WG1010236
Calcium	36.3		1.00	1	08/17/2017 19:22	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:22	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:22	WG1010236
Lead	0.00209		0.00200	1	08/17/2017 19:22	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:22	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:22	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1190		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.60	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-05 WG1008763: 7.60 at 15.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	82.1		1.00	1	08/15/2017 07:30	WG1008934
Fluoride	0.783		0.100	1	08/15/2017 07:30	WG1008934
Sulfate	189		25.0	5	08/16/2017 21:14	WG1010028

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:47	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.09		0.200	1	08/16/2017 13:24	WG1008963
Lithium	0.109		0.0150	1	08/16/2017 13:24	WG1008963
Molybdenum	0.00876		0.00500	1	08/16/2017 13:24	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00423		0.00200	1	08/17/2017 19:26	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:26	WG1010236
Barium	0.0799		0.00500	1	08/17/2017 19:26	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:26	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:26	WG1010236
Calcium	30.6		1.00	1	08/17/2017 19:26	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:26	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:26	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:26	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:26	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:26	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2380		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.00	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-06 WG1008763: 7.00 at 15.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	16.2		1.00	1	08/15/2017 07:45	WG1008934
Fluoride	0.139		0.100	1	08/15/2017 07:45	WG1008934
Sulfate	1410		100	20	08/15/2017 08:00	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:49	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.422		0.200	1	08/16/2017 13:26	WG1008963
Lithium	0.0620		0.0150	1	08/16/2017 13:26	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:26	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:30	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:30	WG1010236
Barium	0.0159		0.00500	1	08/17/2017 19:30	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:30	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:30	WG1010236
Calcium	319		1.00	1	08/17/2017 19:30	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:30	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:30	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:30	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:30	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:30	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	692		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.97	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-07 WG1008763: 7.97 at 15.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.1		1.00	1	08/16/2017 02:43	WG1009574
Fluoride	1.41		0.100	1	08/16/2017 02:43	WG1009574
Sulfate	ND		5.00	1	08/16/2017 02:43	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:51	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.87		0.200	1	08/16/2017 13:29	WG1008963
Lithium	0.0970		0.0150	1	08/16/2017 13:29	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:29	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:33	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:33	WG1010236
Barium	0.403		0.00500	1	08/17/2017 19:33	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:33	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:33	WG1010236
Calcium	20.3		1.00	1	08/17/2017 19:33	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:33	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:33	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:33	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:33	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:33	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1320		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-08 WG1008763: 7.56 at 15.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	282		5.00	5	08/16/2017 03:35	WG1009574
Fluoride	1.14		0.100	1	08/16/2017 02:56	WG1009574
Sulfate	ND		5.00	1	08/16/2017 02:56	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:54	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.18		0.200	1	08/16/2017 13:32	WG1008963
Lithium	0.152		0.0150	1	08/16/2017 13:32	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:32	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:37	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:37	WG1010236
Barium	0.280		0.00500	1	08/17/2017 19:37	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:37	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:37	WG1010236
Calcium	31.5		1.00	1	08/17/2017 19:37	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:37	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:37	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:37	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:37	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:37	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1040		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.48	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-09 WG1008763: 7.48 at 16.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	139		5.00	5	08/16/2017 04:01	WG1009574
Fluoride	0.920		0.100	1	08/16/2017 03:48	WG1009574
Sulfate	43.5		5.00	1	08/16/2017 03:48	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:56	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.21		0.200	1	08/16/2017 13:35	WG1008963
Lithium	0.134		0.0150	1	08/16/2017 13:35	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:35	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:40	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:40	WG1010236
Barium	0.0938		0.00500	1	08/17/2017 19:40	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:40	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:40	WG1010236
Calcium	38.7		1.00	1	08/17/2017 19:40	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:40	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:40	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:40	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:40	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:40	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1060		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.53	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-10 WG1008763: 7.53 at 15.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	140		5.00	5	08/16/2017 04:27	WG1009574
Fluoride	0.923		0.100	1	08/16/2017 04:14	WG1009574
Sulfate	43.7		5.00	1	08/16/2017 04:14	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:58	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.24		0.200	1	08/16/2017 13:37	WG1008963
Lithium	0.135		0.0150	1	08/16/2017 13:37	WG1008963
Molybdenum	0.0125		0.00500	1	08/16/2017 13:37	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:44	WG1010236
Arsenic	ND		0.00200	1	08/17/2017 19:44	WG1010236
Barium	0.0910		0.00500	1	08/17/2017 19:44	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:44	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:44	WG1010236
Calcium	40.3		1.00	1	08/17/2017 19:44	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:44	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:44	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:44	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:44	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:44	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1280		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.26	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-11 WG1008763: 7.26 at 16.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	210		5.00	5	08/16/2017 04:53	WG1009574
Fluoride	0.473		0.100	1	08/16/2017 04:40	WG1009574
Sulfate	170		25.0	5	08/16/2017 04:53	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:01	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.21		0.200	1	08/16/2017 13:40	WG1008963
Lithium	0.0570		0.0150	1	08/16/2017 13:40	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:40	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:56	WG1010236
Arsenic	0.00480		0.00200	1	08/17/2017 19:56	WG1010236
Barium	0.178		0.00500	1	08/17/2017 19:56	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:56	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:56	WG1010236
Calcium	102		1.00	1	08/17/2017 19:56	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:56	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:56	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:56	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:56	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:56	WG1010236

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	968		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.87	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928818-12 WG1008763: 7.87 at 16.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	111		5.00	5	08/17/2017 13:26	WG1010526
Fluoride	1.20		0.100	1	08/16/2017 05:06	WG1009574
Sulfate	ND		5.00	1	08/16/2017 05:06	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:03	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.65		0.200	1	08/16/2017 13:43	WG1008963
Lithium	0.0842		0.0150	1	08/16/2017 13:43	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:43	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/17/2017 19:59	WG1010236
Arsenic	0.00301		0.00200	1	08/17/2017 19:59	WG1010236
Barium	0.565		0.00500	1	08/17/2017 19:59	WG1010236
Beryllium	ND		0.00200	1	08/17/2017 19:59	WG1010236
Cadmium	ND		0.00100	1	08/17/2017 19:59	WG1010236
Calcium	25.2		1.00	1	08/17/2017 19:59	WG1010236
Chromium	ND		0.00200	1	08/17/2017 19:59	WG1010236
Cobalt	ND		0.00200	1	08/17/2017 19:59	WG1010236
Lead	ND		0.00200	1	08/17/2017 19:59	WG1010236
Selenium	ND		0.00200	1	08/17/2017 19:59	WG1010236
Thallium	ND		0.00200	1	08/17/2017 19:59	WG1010236

Method Blank (MB)

(MB) R3241732-1 08/12/17 10:49

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

L928818-03 Original Sample (OS) • Duplicate (DUP)

(OS) L928818-03 08/12/17 10:49 • (DUP) R3241732-4 08/12/17 10:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	7640	7590	1	0.657		5

L928843-05 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-05 08/12/17 10:49 • (DUP) R3241732-5 08/12/17 10:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2150	2130	1	0.935		5

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

(LCS) R3241732-2 08/12/17 10:49 • (LCSD) R3241732-3 08/12/17 10:49

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	%	%	%			%	%
Dissolved Solids	8800	8440	8500	95.9	96.6	85.0-115			0.708	5

Method Blank (MB)

(MB) R3242446-1 08/15/17 15:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	4.00	J	2.82	10.0

L928793-08 Original Sample (OS) • Duplicate (DUP)

(OS) L928793-08 08/15/17 15:14 • (DUP) R3242446-4 08/15/17 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	509	513	1	0.783		5

L928877-04 Original Sample (OS) • Duplicate (DUP)

(OS) L928877-04 08/15/17 15:14 • (DUP) R3242446-5 08/15/17 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	4.00	0.000	1	0.000	B	5

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

(LCS) R3242446-2 08/15/17 15:14 • (LCSD) R3242446-3 08/15/17 15:14

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	8570	8700	97.4	98.9	85.0-115			1.51	5

L928818-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928818-01 08/11/17 16:36 • (DUP) WG1008763-3 08/11/17 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.43	7.43	1	0.000	T8	1

Sample Narrative:
OS: 7.43 at 15.1c
DUP: 7.43 at 15.1c

L928843-08 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-08 08/11/17 16:36 • (DUP) WG1008763-4 08/11/17 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.77	7.77	1	0.000	T8	1

Sample Narrative:
OS: 7.77 at 16.9c
DUP: 7.77 at 17.1c

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

(LCS) WG1008763-1 08/11/17 16:36 • (LCSD) WG1008763-2 08/11/17 16:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	9.19	9.17	9.17	99.8	99.8	98.4-102			0.000	1

Sample Narrative:
LCS: 9.17 at 20.2c
LCSD: 9.17 at 20.1c

Method Blank (MB)

(MB) R3241342-1 08/14/17 23:55

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

L928740-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928740-01 08/15/17 02:32 • (DUP) R3241342-4 08/15/17 02:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	21.6	21.7	1	1		15
Fluoride	0.556	0.625	1	12		15
Sulfate	13.6	13.6	1	0		15

L928843-04 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-04 08/15/17 08:45 • (DUP) R3241342-6 08/15/17 09:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35.6	35.5	1	0		15
Fluoride	1.09	1.09	1	0		15
Sulfate	ND	0.000	1	0		15

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

(LCS) R3241342-2 08/15/17 00:10 • (LCSD) R3241342-3 08/15/17 00:25

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 %
Chloride	40.0	39.5	39.4	99	99	80-120			0	15
Fluoride	8.00	7.96	7.97	100	100	80-120			0	15
Sulfate	40.0	39.8	39.8	100	100	80-120			0	15

L928740-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L928740-01 08/15/17 02:32 • (MS) R3241342-5 08/15/17 03:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	21.6	63.4	84	1	80-120	
Fluoride	5.00	0.556	4.92	87	1	80-120	
Sulfate	50.0	13.6	55.5	84	1	80-120	

L928843-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-04 08/15/17 08:45 • (MS) R3241342-7 08/15/17 09:45 • (MSD) R3241342-8 08/15/17 09:59

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 %
Chloride	50.0	35.6	81.6	81.6	92	92	1	80-120			0	15
Fluoride	5.00	1.09	5.77	5.78	94	94	1	80-120			0	15
Sulfate	50.0	ND	45.6	45.6	91	91	1	80-120			0	15

Method Blank (MB)

(MB) R3241562-1 08/15/17 06:40

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

L928781-06 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-06 08/15/17 22:26 • (DUP) R3241562-4 08/15/17 22:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	ND	0.0698	1	0		15
Sulfate	16.0	15.9	1	1		15

L928781-27 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-27 08/16/17 00:21 • (DUP) R3241562-6 08/16/17 01:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	19.8	20.2	1	2		15
Fluoride	ND	0.0938	1	0		15
Sulfate	18.5	18.7	1	1		15

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

(LCS) R3241562-2 08/15/17 06:53 • (LCSD) R3241562-3 08/15/17 07:06

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 %
Chloride	40.0	39.5	39.7	99	99	80-120			0	15
Fluoride	8.00	8.22	8.28	103	103	80-120			1	15
Sulfate	40.0	39.1	39.8	98	100	80-120			2	15

L928781-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-14 08/15/17 23:17 • (MS) R3241562-5 08/15/17 23:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	20.2	63.3	86	1	80-120	
Fluoride	5.00	ND	4.43	87	1	80-120	

L928781-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-14 08/15/17 23:17 • (MS) R3241562-5 08/15/17 23:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	12.4	56.4	88	1	80-120	

L928781-27 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928781-27 08/16/17 00:21 • (MS) R3241562-7 08/16/17 01:13 • (MSD) R3241562-8 08/16/17 01:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	19.8	67.9	68.2	96	97	1	80-120			0	15
Fluoride	5.00	ND	4.96	5.07	98	100	1	80-120			2	15
Sulfate	50.0	18.5	67.0	67.0	97	97	1	80-120			0	15

Method Blank (MB)

(MB) R3241918-1 08/16/17 18:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.0774	5.00

L928781-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-02 08/16/17 19:15 • (DUP) R3241918-4 08/16/17 19:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	43.4	44.1	1	2		15

L928843-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-02 08/16/17 21:24 • (DUP) R3241918-6 08/16/17 21:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	115	111	5	3		15

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

(LCS) R3241918-2 08/16/17 18:25 • (LCSD) R3241918-3 08/16/17 18:35

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 %
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-04 08/16/17 19:35 • (MS) R3241918-5 08/16/17 19:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	6.36	57.6	102	1	80-120	

L929091-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929091-06 08/16/17 23:24 • (MS) R3241918-7 08/16/17 23:34 • (MSD) R3241918-8 08/16/17 23:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	33.3	81.6	81.7	97	97	1	80-120			0	15

Method Blank (MB)

(MB) R3242343-1 08/17/17 08:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.147	J	0.0519	1.00

L929226-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929226-01 08/17/17 14:35 • (DUP) R3242343-6 08/17/17 14:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11.8	11.8	1	0		15

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

(LCS) R3242343-2 08/17/17 08:45 • (LCSD) R3242343-3 08/17/17 08:55

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 %
Chloride	40.0	39.9	39.8	100	99	80-120			0	15

L929226-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929226-01 08/17/17 14:35 • (MS) R3242343-7 08/17/17 15:15 • (MSD) R3242343-8 08/17/17 15:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	11.8	63.0	63.3	103	103	1	80-120			1	15

Method Blank (MB)

(MB) R3241076-1 08/14/17 14:19

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

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

(LCS) R3241076-2 08/14/17 14:22 • (LCSD) R3241076-3 08/14/17 14:24

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	0.00286	0.00276	95	92	80-120			3	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/14/17 14:26 • (MS) R3241076-4 08/14/17 14:29 • (MSD) R3241076-5 08/14/17 14:31

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	0.00286	0.00272	95	91	1	75-125			5	20

Method Blank (MB)

(MB) R3241739-1 08/16/17 12:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3241739-2 08/16/17 12:51 • (LCSD) R3241739-3 08/16/17 12:54

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 %
Boron	1.00	0.991	0.968	99	97	80-120			2	20
Lithium	1.00	1.07	1.05	107	105	80-120			2	20
Molybdenum	1.00	0.992	0.991	99	99	80-120			0	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/16/17 12:57 • (MS) R3241739-5 08/16/17 13:02 • (MSD) R3241739-6 08/16/17 13:04

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 %
Boron	1.00	1.90	2.84	2.84	93	93	1	75-125			0	20
Lithium	1.00	0.0830	1.17	1.15	109	107	1	75-125			2	20
Molybdenum	1.00	ND	0.989	0.976	99	98	1	75-125			1	20

Method Blank (MB)

(MB) R3242244-1 08/17/17 17:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3242244-2 08/17/17 17:52 • (LCSD) R3242244-3 08/17/17 17:56

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	0.0489	0.0482	98	96	80-120			1	20
Arsenic	0.0500	0.0492	0.0481	98	96	80-120			2	20
Barium	0.0500	0.0469	0.0455	94	91	80-120			3	20
Beryllium	0.0500	0.0453	0.0433	91	87	80-120			5	20
Cadmium	0.0500	0.0519	0.0513	104	103	80-120			1	20
Calcium	5.00	4.89	4.83	98	97	80-120			1	20
Chromium	0.0500	0.0509	0.0498	102	100	80-120			2	20
Cobalt	0.0500	0.0519	0.0510	104	102	80-120			2	20
Lead	0.0500	0.0484	0.0477	97	95	80-120			1	20
Selenium	0.0500	0.0511	0.0517	102	103	80-120			1	20
Thallium	0.0500	0.0496	0.0493	99	99	80-120			1	20

L928632-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928632-05 08/17/17 17:59 • (MS) R3242244-5 08/17/17 18:06 • (MSD) R3242244-6 08/17/17 18:10

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	U	0.0499	0.0491	100	98	1	75-125			2	20
Arsenic	0.0500	U	0.0482	0.0483	96	97	1	75-125			0	20
Barium	0.0500	U	0.0460	0.0462	92	92	1	75-125			0	20
Beryllium	0.0500	U	0.0432	0.0420	86	84	1	75-125			3	20
Cadmium	0.0500	U	0.0520	0.0518	104	104	1	75-125			0	20

L928632-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928632-05 08/17/17 17:59 • (MS) R3242244-5 08/17/17 18:06 • (MSD) R3242244-6 08/17/17 18:10

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	5.00	0.0591	4.99	4.82	99	95	1	75-125			3	20
Chromium	0.0500	U	0.0500	0.0498	100	100	1	75-125			0	20
Cobalt	0.0500	U	0.0506	0.0510	101	102	1	75-125			1	20
Lead	0.0500	U	0.0477	0.0475	95	95	1	75-125			1	20
Selenium	0.0500	U	0.0521	0.0524	104	105	1	75-125			1	20
Thallium	0.0500	U	0.0497	0.0493	99	99	1	75-125			1	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.

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.
T8	Sample(s) received past/too close to holding time expiration.

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
Conneticut	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 [1 4]	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		

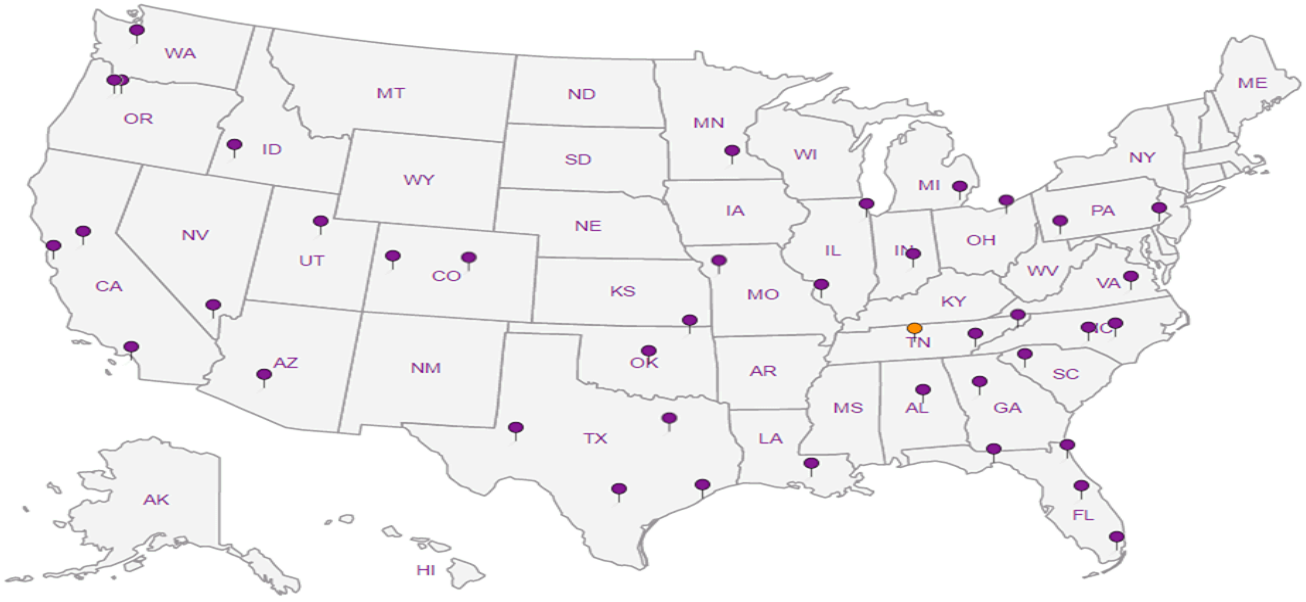
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
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Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Nathan Curry Terry Brown

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L928818
A083

Acctnum: URSKC
Template: T114093
Prelogin: P611823
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-708	G	GW		8/8/17	1330	3	X	X	X		-01
TW-1		GW			1355	3	X	X	X		-02
MW-707B		GW			1420	3	X	X	X		-03
MW-701		GW			1455	3	X	X	X		-04
MW-704		GW			1555	3	X	X	X		-05
MW-13		GW			1730	3	X	X	X		-06
MW-702		GW		8/9/17	0905	3	X	X	X		-07
MW-706		GW			1000	3	X	X	X		-08
MW-705		GW			1125	3	X	X	X		-09
MW-950		GW			1125	3	X	X	X		-10

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

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

Please indicate sample ID for the MS/MSD.

pH ___ Temp ___

Flow ___ Other ___

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

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)	Date:	Time:	Received by: (Signature)
	8/9/17	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.1° °C Bottles Received: TP50

Date: 8-11-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC

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

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

L# L928818

Collected by (print): Nam Ocm / Terry Arden

Site/Facility ID #

P.O. # no PO number

Table #

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Acctnum: URSKC
Template: T114093
Prelogin: P611823
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-6	G	GW	NA	8/9/17	1345	3	X	X	X		-11
MW-7	G	GW	NA	8/9/17	1450	3	X	X	X		-12
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

ESCKC

pH ______ Temp ______
Flow ______ Other ______

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	8/9/17	1500	[signature]	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Relinquished by : (Signature) [signature]	Date: 8/10/17	Time: 1700	Received by: (Signature)	Temp: 2.1°C Bottles Received: TDS 36
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 8-11-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

August 22, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L928843
Samples Received:	08/11/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

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.

TABLE OF CONTENTS

MW-801 L928843-01 GW

Collected by: Jim Dillion | Collected date/time: 08/09/17 10:40 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009574	1	08/16/17 05:18	08/16/17 05:18	SAM
Wet Chemistry by Method 9056A	WG1009574	5	08/16/17 05:31	08/16/17 05:31	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:05	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 13:46	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:07	LAT

MW-904 L928843-02 GW

Collected by: Jim Dillion | Collected date/time: 08/07/17 14:00 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 08:15	08/15/17 08:15	SAM
Wet Chemistry by Method 9056A	WG1010028	5	08/16/17 21:24	08/16/17 21:24	DR
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:14	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:26	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:11	LAT

MW-951 L928843-03 GW

Collected by: Jim Dillion | Collected date/time: 08/08/17 16:50 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 08:30	08/15/17 08:30	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:17	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:29	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:22	LAT
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/21/17 16:22	LAT

MW-802 L928843-04 GW

Collected by: Jim Dillion | Collected date/time: 08/07/17 16:20 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 08:45	08/15/17 08:45	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:19	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:31	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:25	LAT
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/21/17 16:26	LAT

MW-805 L928843-05 GW

Collected by: Jim Dillion | Collected date/time: 08/08/17 12:20 | Received date/time: 08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008934	1	08/15/17 10:14	08/15/17 10:14	SAM
Wet Chemistry by Method 9056A	WG1008934	10	08/15/17 10:29	08/15/17 10:29	SAM

MW-805 L928843-05 GW

Collected by	Collected date/time	Received date/time
Jim Dillion	08/08/17 12:20	08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:21	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:34	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:29	LAT
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/21/17 16:41	LAT

MW-804 L928843-06 GW

Collected by	Collected date/time	Received date/time
Jim Dillion	08/08/17 16:26	08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008831	1	08/12/17 10:21	08/12/17 10:49	EG
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1008936	1	08/15/17 13:06	08/15/17 13:06	DR
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:23	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:37	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:32	LAT
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/21/17 16:47	LAT

MW-803 L928843-07 GW

Collected by	Collected date/time	Received date/time
Jim Dillion	08/09/17 16:05	08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009575	1	08/15/17 23:52	08/15/17 23:52	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 15:26	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 15:39	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 18:36	LAT
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/21/17 16:51	LAT

MW-601 L928843-08 GW

Collected by	Collected date/time	Received date/time
Jim Dillion	08/09/17 13:15	08/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1008926	1	08/15/17 13:22	08/15/17 15:14	MMF
Wet Chemistry by Method 9040C	WG1008763	1	08/11/17 16:36	08/11/17 16:36	GB
Wet Chemistry by Method 9056A	WG1009575	1	08/16/17 00:21	08/16/17 00:21	SAM
Wet Chemistry by Method 9056A	WG1009575	5	08/16/17 00:36	08/16/17 00:36	SAM
Mercury by Method 7470A	WG1009306	1	08/14/17 00:33	08/14/17 14:26	ABL
Metals (ICP) by Method 6010B	WG1008963	1	08/16/17 09:31	08/16/17 12:57	CCE
Metals (ICPMS) by Method 6020	WG1010647	1	08/18/17 07:21	08/19/17 17:15	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.57	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-01 WG1008763: 7.57 at 16.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	116		5.00	5	08/16/2017 05:31	WG1009574
Fluoride	1.05		0.100	1	08/16/2017 05:18	WG1009574
Sulfate	ND		5.00	1	08/16/2017 05:18	WG1009574

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:05	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.34		0.200	1	08/16/2017 13:46	WG1008963
Lithium	0.114		0.0150	1	08/16/2017 13:46	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 13:46	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:07	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:07	WG1010647
Barium	0.562		0.00500	1	08/19/2017 18:07	WG1010647
Beryllium	ND		0.00200	1	08/19/2017 18:07	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:07	WG1010647
Calcium	30.9		1.00	1	08/19/2017 18:07	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:07	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:07	WG1010647
Lead	0.00326		0.00200	1	08/19/2017 18:07	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:07	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:07	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	728		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.43	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-02 WG1008763: 7.43 at 16.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.0		1.00	1	08/15/2017 08:15	WG1008934
Fluoride	0.432		0.100	1	08/15/2017 08:15	WG1008934
Sulfate	115		25.0	5	08/16/2017 21:24	WG1010028

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:14	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.21		0.200	1	08/16/2017 15:26	WG1008963
Lithium	0.0521		0.0150	1	08/16/2017 15:26	WG1008963
Molybdenum	0.00962		0.00500	1	08/16/2017 15:26	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:11	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:11	WG1010647
Barium	0.0951		0.00500	1	08/19/2017 18:11	WG1010647
Beryllium	ND		0.00200	1	08/19/2017 18:11	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:11	WG1010647
Calcium	74.1		1.00	1	08/19/2017 18:11	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:11	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:11	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:11	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:11	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:11	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	527		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.24	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-03 WG1008763: 7.24 at 15.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.2		1.00	1	08/15/2017 08:30	WG1008934
Fluoride	0.481		0.100	1	08/15/2017 08:30	WG1008934
Sulfate	21.2		5.00	1	08/15/2017 08:30	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:17	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.61		0.200	1	08/16/2017 15:29	WG1008963
Lithium	0.0444		0.0150	1	08/16/2017 15:29	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 15:29	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:22	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:22	WG1010647
Barium	0.140		0.00500	1	08/19/2017 18:22	WG1010647
Beryllium	ND		0.00200	1	08/21/2017 16:22	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:22	WG1010647
Calcium	61.8		1.00	1	08/19/2017 18:22	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:22	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:22	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:22	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:22	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:22	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	653		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.51	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-04 WG1008763: 7.51 at 16.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	35.6		1.00	1	08/15/2017 08:45	WG1008934
Fluoride	1.09		0.100	1	08/15/2017 08:45	WG1008934
Sulfate	ND		5.00	1	08/15/2017 08:45	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:19	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.50		0.200	1	08/16/2017 15:31	WG1008963
Lithium	0.0999		0.0150	1	08/16/2017 15:31	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 15:31	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:25	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:25	WG1010647
Barium	0.855		0.00500	1	08/19/2017 18:25	WG1010647
Beryllium	ND		0.00200	1	08/21/2017 16:26	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:25	WG1010647
Calcium	32.4		1.00	1	08/19/2017 18:25	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:25	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:25	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:25	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:25	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:25	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2150		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.55	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-05 WG1008763: 6.55 at 16.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	470		10.0	10	08/15/2017 10:29	WG1008934
Fluoride	0.143		0.100	1	08/15/2017 10:14	WG1008934
Sulfate	737		50.0	10	08/15/2017 10:29	WG1008934

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:21	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.518		0.200	1	08/16/2017 15:34	WG1008963
Lithium	0.0272		0.0150	1	08/16/2017 15:34	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 15:34	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:29	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:29	WG1010647
Barium	0.0327		0.00500	1	08/19/2017 18:29	WG1010647
Beryllium	ND		0.00200	1	08/21/2017 16:41	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:29	WG1010647
Calcium	414		1.00	1	08/19/2017 18:29	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:29	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:29	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:29	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:29	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:29	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	548		10.0	1	08/12/2017 10:49	WG1008831

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.21	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-06 WG1008763: 7.21 at 16.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.3		1.00	1	08/15/2017 13:06	WG1008936
Fluoride	0.476		0.100	1	08/15/2017 13:06	WG1008936
Sulfate	20.7		5.00	1	08/15/2017 13:06	WG1008936

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:23	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.61		0.200	1	08/16/2017 15:37	WG1008963
Lithium	0.0444		0.0150	1	08/16/2017 15:37	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 15:37	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:32	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:32	WG1010647
Barium	0.143		0.00500	1	08/19/2017 18:32	WG1010647
Beryllium	ND		0.00200	1	08/21/2017 16:47	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:32	WG1010647
Calcium	63.8		1.00	1	08/19/2017 18:32	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:32	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:32	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:32	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:32	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:32	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	709		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-07 WG1008763: 7.56 at 16.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.5		1.00	1	08/15/2017 23:52	WG1009575
Fluoride	0.693		0.100	1	08/15/2017 23:52	WG1009575
Sulfate	23.2		5.00	1	08/15/2017 23:52	WG1009575

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 15:26	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.12		0.200	1	08/16/2017 15:39	WG1008963
Lithium	0.0898		0.0150	1	08/16/2017 15:39	WG1008963
Molybdenum	0.00521		0.00500	1	08/16/2017 15:39	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 18:36	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 18:36	WG1010647
Barium	0.234		0.00500	1	08/19/2017 18:36	WG1010647
Beryllium	ND		0.00200	1	08/21/2017 16:51	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 18:36	WG1010647
Calcium	46.1		1.00	1	08/19/2017 18:36	WG1010647
Chromium	ND		0.00200	1	08/19/2017 18:36	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 18:36	WG1010647
Lead	ND		0.00200	1	08/19/2017 18:36	WG1010647
Selenium	ND		0.00200	1	08/19/2017 18:36	WG1010647
Thallium	ND		0.00200	1	08/19/2017 18:36	WG1010647

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1040		10.0	1	08/15/2017 15:14	WG1008926

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77	T8	1	08/11/2017 16:36	WG1008763

Sample Narrative:

L928843-08 WG1008763: 7.77 at 16.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	168		5.00	5	08/16/2017 00:36	WG1009575
Fluoride	1.80		0.100	1	08/16/2017 00:21	WG1009575
Sulfate	ND		5.00	1	08/16/2017 00:21	WG1009575

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 14:26	WG1009306

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.90		0.200	1	08/16/2017 12:57	WG1008963
Lithium	0.0830		0.0150	1	08/16/2017 12:57	WG1008963
Molybdenum	ND		0.00500	1	08/16/2017 12:57	WG1008963

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 17:15	WG1010647
Arsenic	ND		0.00200	1	08/19/2017 17:15	WG1010647
Barium	0.125		0.00500	1	08/19/2017 17:15	WG1010647
Beryllium	ND		0.00200	1	08/19/2017 17:15	WG1010647
Cadmium	ND		0.00100	1	08/19/2017 17:15	WG1010647
Calcium	20.9		1.00	1	08/19/2017 17:15	WG1010647
Chromium	ND		0.00200	1	08/19/2017 17:15	WG1010647
Cobalt	ND		0.00200	1	08/19/2017 17:15	WG1010647
Lead	ND		0.00200	1	08/19/2017 17:15	WG1010647
Selenium	ND		0.00200	1	08/19/2017 17:15	WG1010647
Thallium	ND		0.00200	1	08/19/2017 17:15	WG1010647

Method Blank (MB)

(MB) R3241732-1 08/12/17 10:49

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

L928818-03 Original Sample (OS) • Duplicate (DUP)

(OS) L928818-03 08/12/17 10:49 • (DUP) R3241732-4 08/12/17 10:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	7640	7590	1	0.657		5

L928843-05 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-05 08/12/17 10:49 • (DUP) R3241732-5 08/12/17 10:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2150	2130	1	0.935		5

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

(LCS) R3241732-2 08/12/17 10:49 • (LCSD) R3241732-3 08/12/17 10:49

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	%	%	%			%	%
Dissolved Solids	8800	8440	8500	95.9	96.6	85.0-115			0.708	5

Method Blank (MB)

(MB) R3242446-1 08/15/17 15:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	4.00	J	2.82	10.0

L928793-08 Original Sample (OS) • Duplicate (DUP)

(OS) L928793-08 08/15/17 15:14 • (DUP) R3242446-4 08/15/17 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	509	513	1	0.783		5

L928877-04 Original Sample (OS) • Duplicate (DUP)

(OS) L928877-04 08/15/17 15:14 • (DUP) R3242446-5 08/15/17 15:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	4.00	0.000	1	0.000	B	5

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

(LCS) R3242446-2 08/15/17 15:14 • (LCSD) R3242446-3 08/15/17 15:14

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	8570	8700	97.4	98.9	85.0-115			1.51	5

L928818-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928818-01 08/11/17 16:36 • (DUP) WG1008763-3 08/11/17 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.43	7.43	1	0.000	T8	1

Sample Narrative:

OS: 7.43 at 15.1c

DUP: 7.43 at 15.1c

L928843-08 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-08 08/11/17 16:36 • (DUP) WG1008763-4 08/11/17 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.77	7.77	1	0.000	T8	1

Sample Narrative:

OS: 7.77 at 16.9c

DUP: 7.77 at 17.1c

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

(LCS) WG1008763-1 08/11/17 16:36 • (LCSD) WG1008763-2 08/11/17 16:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	9.19	9.17	9.17	99.8	99.8	98.4-102			0.000	1

Sample Narrative:

LCS: 9.17 at 20.2c

LCSD: 9.17 at 20.1c

Method Blank (MB)

(MB) R3241342-1 08/14/17 23:55

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

L928740-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928740-01 08/15/17 02:32 • (DUP) R3241342-4 08/15/17 02:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	21.6	21.7	1	1		15
Fluoride	0.556	0.625	1	12		15
Sulfate	13.6	13.6	1	0		15

L928843-04 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-04 08/15/17 08:45 • (DUP) R3241342-6 08/15/17 09:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35.6	35.5	1	0		15
Fluoride	1.09	1.09	1	0		15
Sulfate	ND	0.000	1	0		15

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

(LCS) R3241342-2 08/15/17 00:10 • (LCSD) R3241342-3 08/15/17 00:25

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 %
Chloride	40.0	39.5	39.4	99	99	80-120			0	15
Fluoride	8.00	7.96	7.97	100	100	80-120			0	15
Sulfate	40.0	39.8	39.8	100	100	80-120			0	15

L928740-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L928740-01 08/15/17 02:32 • (MS) R3241342-5 08/15/17 03:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	21.6	63.4	84	1	80-120	
Fluoride	5.00	0.556	4.92	87	1	80-120	
Sulfate	50.0	13.6	55.5	84	1	80-120	

L928843-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-04 08/15/17 08:45 • (MS) R3241342-7 08/15/17 09:45 • (MSD) R3241342-8 08/15/17 09:59

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 %
Chloride	50.0	35.6	81.6	81.6	92	92	1	80-120			0	15
Fluoride	5.00	1.09	5.77	5.78	94	94	1	80-120			0	15
Sulfate	50.0	ND	45.6	45.6	91	91	1	80-120			0	15

Method Blank (MB)

(MB) R3241509-1 08/15/17 10:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.121	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L928614-06 Original Sample (OS) • Duplicate (DUP)

(OS) L928614-06 08/15/17 12:26 • (DUP) R3241509-4 08/15/17 12:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	20.4	20.5	1	0		15
Fluoride	0.745	0.747	1	0		15
Sulfate	19.4	19.5	1	0		15

L928933-05 Original Sample (OS) • Duplicate (DUP)

(OS) L928933-05 08/15/17 14:06 • (DUP) R3241509-6 08/15/17 14:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.85	3.80	1	1		15
Fluoride	0.0507	0.0547	1	8	J	15
Sulfate	0.757	0.774	1	2	J	15

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

(LCS) R3241509-2 08/15/17 10:48 • (LCSD) R3241509-3 08/15/17 10:58

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 %
Chloride	40.0	39.8	39.8	99	99	80-120			0	15
Fluoride	8.00	8.00	8.00	100	100	80-120			0	15
Sulfate	40.0	40.1	40.2	100	100	80-120			0	15

L928781-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-03 08/15/17 12:46 • (MS) R3241509-5 08/15/17 12:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	56.3	105	97	1	80-120	E
Fluoride	5.00	ND	4.99	100	1	80-120	
Sulfate	50.0	12.2	62.0	100	1	80-120	

L928991-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928991-07 08/15/17 17:34 • (MS) R3241509-7 08/15/17 17:44 • (MSD) R3241509-8 08/15/17 17:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	45.5	94.0	93.7	97	96	1	80-120			0	15
Fluoride	5.00	0.171	5.25	5.24	102	101	1	80-120			0	15
Sulfate	50.0	35.8	84.0	83.9	96	96	1	80-120			0	15

Method Blank (MB)

(MB) R3241562-1 08/15/17 06:40

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

L928781-06 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-06 08/15/17 22:26 • (DUP) R3241562-4 08/15/17 22:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	ND	0.0698	1	0		15
Sulfate	16.0	15.9	1	1		15

L928781-27 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-27 08/16/17 00:21 • (DUP) R3241562-6 08/16/17 01:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	19.8	20.2	1	2		15
Fluoride	ND	0.0938	1	0		15
Sulfate	18.5	18.7	1	1		15

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

(LCS) R3241562-2 08/15/17 06:53 • (LCSD) R3241562-3 08/15/17 07:06

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 %
Chloride	40.0	39.5	39.7	99	99	80-120			0	15
Fluoride	8.00	8.22	8.28	103	103	80-120			1	15
Sulfate	40.0	39.1	39.8	98	100	80-120			2	15

L928781-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-14 08/15/17 23:17 • (MS) R3241562-5 08/15/17 23:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	20.2	63.3	86	1	80-120	
Fluoride	5.00	ND	4.43	87	1	80-120	

L928781-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-14 08/15/17 23:17 • (MS) R3241562-5 08/15/17 23:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	12.4	56.4	88	1	80-120	

L928781-27 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928781-27 08/16/17 00:21 • (MS) R3241562-7 08/16/17 01:13 • (MSD) R3241562-8 08/16/17 01:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	19.8	67.9	68.2	96	97	1	80-120			0	15
Fluoride	5.00	ND	4.96	5.07	98	100	1	80-120			2	15
Sulfate	50.0	18.5	67.0	67.0	97	97	1	80-120			0	15

Method Blank (MB)

(MB) R3241597-1 08/15/17 21:56

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

L928843-07 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-07 08/15/17 23:52 • (DUP) R3241597-4 08/16/17 00:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	49.5	49.6	1	0		15
Fluoride	0.693	0.674	1	3		15
Sulfate	23.2	23.1	1	0		15

L929212-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929212-01 08/16/17 07:04 • (DUP) R3241597-7 08/16/17 07:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.2	12.3	1	0		15
Fluoride	0.660	0.784	1	17	J3	15
Sulfate	11.5	11.5	1	0		15

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

(LCS) R3241597-2 08/15/17 22:10 • (LCSD) R3241597-3 08/15/17 22:25

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 %
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	8.02	8.01	100	100	80-120			0	15
Sulfate	40.0	39.9	39.9	100	100	80-120			0	15

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/16/17 00:21 • (MS) R3241597-5 08/16/17 00:51 • (MSD) R3241597-6 08/16/17 01:06

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 %
Fluoride	5.00	1.80	6.42	6.40	92	92	1	80-120			0	15
Sulfate	50.0	ND	49.3	49.0	92	91	1	80-120			1	15

L929212-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L929212-01 08/16/17 07:04 • (MS) R3241597-8 08/16/17 08:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	12.2	56.1	88	1	80-120	
Fluoride	5.00	0.660	5.22	91	1	80-120	
Sulfate	50.0	11.5	54.9	87	1	80-120	

Method Blank (MB)

(MB) R3241918-1 08/16/17 18:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.0774	5.00

L928781-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-02 08/16/17 19:15 • (DUP) R3241918-4 08/16/17 19:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	43.4	44.1	1	2		15

L928843-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-02 08/16/17 21:24 • (DUP) R3241918-6 08/16/17 21:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	115	111	5	3		15

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

(LCS) R3241918-2 08/16/17 18:25 • (LCSD) R3241918-3 08/16/17 18:35

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 %
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-04 08/16/17 19:35 • (MS) R3241918-5 08/16/17 19:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	6.36	57.6	102	1	80-120	

L929091-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929091-06 08/16/17 23:24 • (MS) R3241918-7 08/16/17 23:34 • (MSD) R3241918-8 08/16/17 23:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	33.3	81.6	81.7	97	97	1	80-120			0	15

Method Blank (MB)

(MB) R3241076-1 08/14/17 14:19

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

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

(LCS) R3241076-2 08/14/17 14:22 • (LCSD) R3241076-3 08/14/17 14:24

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	0.00286	0.00276	95	92	80-120			3	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/14/17 14:26 • (MS) R3241076-4 08/14/17 14:29 • (MSD) R3241076-5 08/14/17 14:31

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	0.00286	0.00272	95	91	1	75-125			5	20

Method Blank (MB)

(MB) R3241739-1 08/16/17 12:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3241739-2 08/16/17 12:51 • (LCSD) R3241739-3 08/16/17 12:54

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 %
Boron	1.00	0.991	0.968	99	97	80-120			2	20
Lithium	1.00	1.07	1.05	107	105	80-120			2	20
Molybdenum	1.00	0.992	0.991	99	99	80-120			0	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/16/17 12:57 • (MS) R3241739-5 08/16/17 13:02 • (MSD) R3241739-6 08/16/17 13:04

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 %
Boron	1.00	1.90	2.84	2.84	93	93	1	75-125			0	20
Lithium	1.00	0.0830	1.17	1.15	109	107	1	75-125			2	20
Molybdenum	1.00	ND	0.989	0.976	99	98	1	75-125			1	20

Method Blank (MB)

(MB) R3242865-1 08/19/17 17:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3242865-2 08/19/17 17:08 • (LCSD) R3242865-3 08/19/17 17:11

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	0.0507	0.0500	101	100	80-120			1	20
Arsenic	0.0500	0.0491	0.0487	98	97	80-120			1	20
Barium	0.0500	0.0472	0.0472	94	94	80-120			0	20
Beryllium	0.0500	0.0469	0.0454	94	91	80-120			3	20
Cadmium	0.0500	0.0513	0.0513	103	103	80-120			0	20
Calcium	5.00	4.96	4.82	99	96	80-120			3	20
Chromium	0.0500	0.0497	0.0492	99	98	80-120			1	20
Cobalt	0.0500	0.0513	0.0505	103	101	80-120			2	20
Lead	0.0500	0.0499	0.0488	100	98	80-120			2	20
Selenium	0.0500	0.0526	0.0496	105	99	80-120			6	20
Thallium	0.0500	0.0503	0.0497	101	99	80-120			1	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/19/17 17:15 • (MS) R3242865-5 08/19/17 17:22 • (MSD) R3242865-6 08/19/17 17:26

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	ND	0.0517	0.0516	103	103	1	75-125			0	20
Arsenic	0.0500	ND	0.0481	0.0475	96	95	1	75-125			1	20
Barium	0.0500	0.125	0.171	0.173	92	95	1	75-125			1	20
Beryllium	0.0500	ND	0.0441	0.0433	88	87	1	75-125			2	20
Cadmium	0.0500	ND	0.0507	0.0505	101	101	1	75-125			0	20

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/19/17 17:15 • (MS) R3242865-5 08/19/17 17:22 • (MSD) R3242865-6 08/19/17 17:26

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	5.00	20.9	25.0	24.8	83	77	1	75-125			1	20
Chromium	0.0500	ND	0.0490	0.0481	96	95	1	75-125			2	20
Cobalt	0.0500	ND	0.0489	0.0485	98	97	1	75-125			1	20
Lead	0.0500	ND	0.0486	0.0481	97	96	1	75-125			1	20
Selenium	0.0500	ND	0.0529	0.0531	106	106	1	75-125			1	20
Thallium	0.0500	ND	0.0489	0.0485	98	97	1	75-125			1	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.

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
Conneticut	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 [1 4]	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		

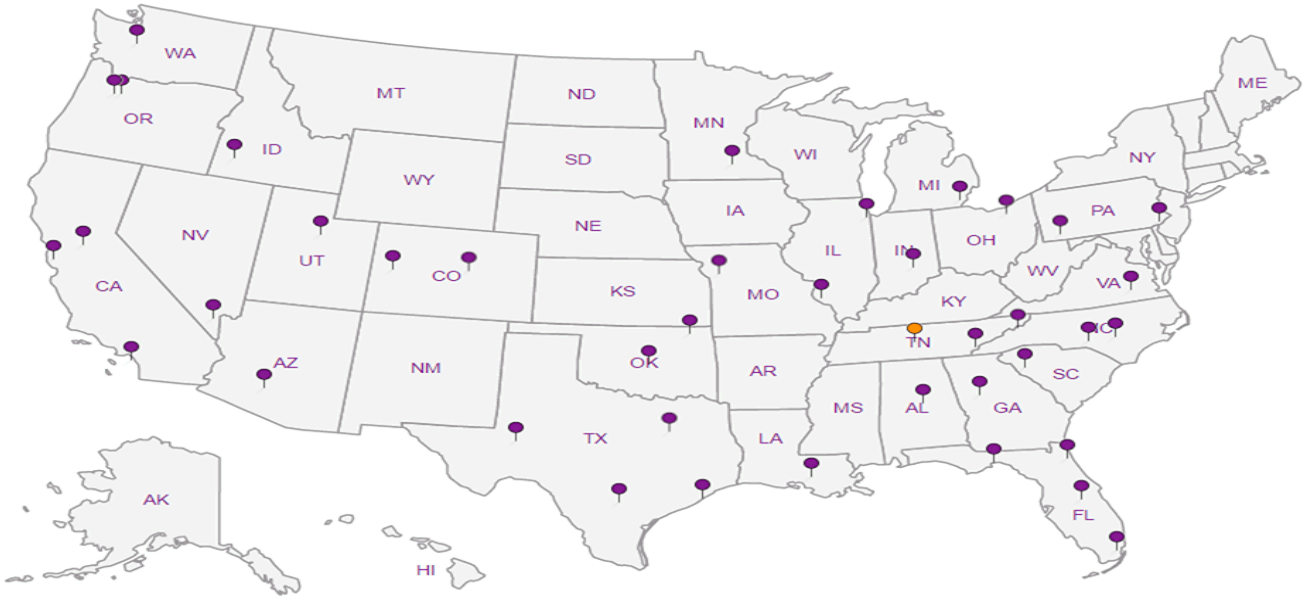
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

~~2380 McGee Suite 200~~
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres							Remarks	Sample # (lab only)
MW-801	Grab	GW	N/A	8-9-17	10:40	3	X	X	X								-01
MW-904	Grab	GW		8-7-17	14:00	3	X	X	X								-02
MW-951	Grab	GW		8-8-17	16:50	3	X	X	X								-03
MW-802	Grab	GW		8-7-17	16:20	3	X	X	X								-04
MW-805	Grab	GW		8-8-17	~~11:40~~	3	X	X	X	12:20							-05
MW-804	Grab	GW		8-8-17	16:26	3	X	X	X								-06
MW-803	Grab	GW		8-8-17	16:05	3	X	X	X								-07
~~MW-802~~	~~Grab~~	~~GW~~		~~8-7-17~~	~~16:20~~	~~3~~	~~X~~	~~X~~	~~X~~								~~dup~~
MW-601	Grab	GW		8-9-17	13:15	3	X	X	X								-08
MW-601 MS	Grab	GW		8-9-17	13:15	3	X	X	X								-08

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

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

ESCKC

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8-9-17	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/17	1100	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 2.1° °C Bottles Received: 40 TO 30

Date: 8/11/17 Time: 845

If preservation required by Login: Date/Time

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

Chain of Custody Page 1 of 2

ESC LABORATORY 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 # ~~L928303~~ L928843
A082
L928843

Acctnum: URSKC
Template: T112860
Prelogin: P594561
TSR: 206 - Jeff Carr
PB:
Shipped Via:

AECOM - Kansas City, MO
2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Mueckler + Dillon Moran

Site/Facility ID #

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres							Remarks	Sample # (lab only)
MW-601 MSD	Grab	GW	N/A	8-9-17	13:15	3	X	X	X								-08
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								
		GW				3	X	X	X								

Chain of Custody Page 2 of 2

ESC LABORATORY 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# L928033 L928043

Table #

Acctnum: URSKC

Template: T112860

Prelogin: P594561

TSR: 206 - Jeff Carr

PB:

Shipped Via:

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

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

ESCKC

pH ____ Temp ____

Flow ____ Other ____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	8-9-17	15:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1°C Bottles Received: TDSO 30	If preservation required by Login: Date/Time
	8/10/17	700			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8-11-17 Time: 895	Hold: / Condition: NCF / OK

ANALYTICAL REPORT

August 22, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L929079
Samples Received:	08/12/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Alla Skaskevych
2380 McGee Suite 200
Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

MW-11 L929079-01 GW

Collected by: Nathan Gwyn
Collected date/time: 08/10/17 09:50
Received date/time: 08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 14:16	08/16/17 14:16	DR
Wet Chemistry by Method 9056A	WG1009577	5	08/16/17 14:26	08/16/17 14:26	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:11	EL
Metals (ICP) by Method 6010B	WG1009834	1	08/18/17 11:34	08/18/17 16:46	ST
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/19/17 22:08	LAT
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/21/17 19:25	LAT

MW-10 L929079-02 GW

Collected by: Nathan Gwyn
Collected date/time: 08/10/17 11:00
Received date/time: 08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 14:36	08/16/17 14:36	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:04	EL
Metals (ICP) by Method 6010B	WG1009834	1	08/18/17 11:34	08/18/17 15:22	CCE
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/19/17 21:21	LAT
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/21/17 18:39	LAT

MW-703 L929079-03 GW

Collected by: Nathan Gwyn
Collected date/time: 08/10/17 14:15
Received date/time: 08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 15:26	08/16/17 15:26	DR
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 15:36	08/16/17 15:36	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:13	EL
Metals (ICP) by Method 6010B	WG1009834	1	08/18/17 11:34	08/18/17 16:50	ST
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/19/17 22:11	LAT
Metals (ICPMS) by Method 6020	WG1010810	1	08/17/17 17:26	08/21/17 19:29	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1020		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.39	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929079-01 WG1009197: 7.39 at 19.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	100		5.00	5	08/16/2017 14:26	WG1009577
Fluoride	0.582		0.100	1	08/16/2017 14:16	WG1009577
Sulfate	191		25.0	5	08/16/2017 14:26	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:11	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.965		0.200	1	08/18/2017 16:46	WG1009834
Lithium	0.0627		0.0150	1	08/18/2017 16:46	WG1009834
Molybdenum	ND		0.00500	1	08/18/2017 16:46	WG1009834

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/21/2017 19:25	WG1010810
Arsenic	ND		0.00200	1	08/19/2017 22:08	WG1010810
Barium	0.0350		0.00500	1	08/21/2017 19:25	WG1010810
Beryllium	ND		0.00200	1	08/21/2017 19:25	WG1010810
Cadmium	ND		0.00100	1	08/19/2017 22:08	WG1010810
Calcium	62.6		1.00	1	08/19/2017 22:08	WG1010810
Chromium	ND		0.00200	1	08/19/2017 22:08	WG1010810
Cobalt	ND		0.00200	1	08/19/2017 22:08	WG1010810
Lead	ND		0.00200	1	08/19/2017 22:08	WG1010810
Selenium	ND		0.00200	1	08/19/2017 22:08	WG1010810
Thallium	ND		0.00200	1	08/19/2017 22:08	WG1010810

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	615		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.35	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929079-02 WG1009197: 7.35 at 19.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	63.8		1.00	1	08/16/2017 14:36	WG1009577
Fluoride	0.417		0.100	1	08/16/2017 14:36	WG1009577
Sulfate	27.6		5.00	1	08/16/2017 14:36	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:04	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.921	O1	0.200	1	08/18/2017 15:22	WG1009834
Lithium	0.0408		0.0150	1	08/18/2017 15:22	WG1009834
Molybdenum	ND		0.00500	1	08/18/2017 15:22	WG1009834

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/19/2017 21:21	WG1010810
Arsenic	0.00946		0.00200	1	08/19/2017 21:21	WG1010810
Barium	0.309		0.00500	1	08/21/2017 18:39	WG1010810
Beryllium	ND		0.00200	1	08/21/2017 18:39	WG1010810
Cadmium	ND		0.00100	1	08/19/2017 21:21	WG1010810
Calcium	56.1	V	1.00	1	08/19/2017 21:21	WG1010810
Chromium	ND		0.00200	1	08/19/2017 21:21	WG1010810
Cobalt	ND		0.00200	1	08/19/2017 21:21	WG1010810
Lead	ND		0.00200	1	08/19/2017 21:21	WG1010810
Selenium	ND		0.00200	1	08/19/2017 21:21	WG1010810
Thallium	ND		0.00200	1	08/19/2017 21:21	WG1010810

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	982		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.36	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929079-03 WG1009197: 7.36 at 19.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.3		1.00	1	08/16/2017 15:36	WG1009577
Fluoride	1.58		0.100	1	08/16/2017 15:26	WG1009577
Sulfate	ND		5.00	1	08/16/2017 15:26	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:13	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.87		0.200	1	08/18/2017 16:50	WG1009834
Lithium	0.0684		0.0150	1	08/18/2017 16:50	WG1009834
Molybdenum	ND		0.00500	1	08/18/2017 16:50	WG1009834

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/21/2017 19:29	WG1010810
Arsenic	ND		0.00200	1	08/19/2017 22:11	WG1010810
Barium	0.251		0.00500	1	08/21/2017 19:29	WG1010810
Beryllium	ND		0.00200	1	08/21/2017 19:29	WG1010810
Cadmium	ND		0.00100	1	08/19/2017 22:11	WG1010810
Calcium	17.5		1.00	1	08/19/2017 22:11	WG1010810
Chromium	ND		0.00200	1	08/19/2017 22:11	WG1010810
Cobalt	ND		0.00200	1	08/19/2017 22:11	WG1010810
Lead	ND		0.00200	1	08/19/2017 22:11	WG1010810
Selenium	ND		0.00200	1	08/19/2017 22:11	WG1010810
Thallium	ND		0.00200	1	08/19/2017 22:11	WG1010810

Method Blank (MB)

(MB) R3242455-1 08/16/17 20:28

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

L929091-05 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-05 08/16/17 20:28 • (DUP) R3242455-4 08/16/17 20:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1900	1970	1	3.75		5

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

(LCS) R3242455-2 08/16/17 20:28 • (LCSD) R3242455-3 08/16/17 20:28

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	%	%	%			%	%
Dissolved Solids	8800	8560	8660	97.3	98.4	85.0-115			1.16	5

L928839-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928839-01 08/14/17 09:18 • (DUP) WG1009197-3 08/14/17 09:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.54	6.54	1	0.000	T8	1

Sample Narrative:

OS: 6.54 at 20.0c

DUP: 6.54 at 20.0c

L929091-03 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-03 08/14/17 09:18 • (DUP) WG1009197-4 08/14/17 09:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.99	7.00	1	0.143	T8	1

Sample Narrative:

OS: 6.99 at 19.5c

DUP: 7.00 at 19.5c

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

(LCS) WG1009197-1 08/14/17 09:18 • (LCSD) WG1009197-2 08/14/17 09:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	9.19	9.08	9.10	98.8	99.0	98.4-102			0.220	1

Sample Narrative:

LCS: 9.08 at 19.7c

LCSD: 9.10 at 19.8c

Method Blank (MB)

(MB) R3241882-1 08/16/17 08:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.134	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L928806-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928806-01 08/16/17 13:36 • (DUP) R3241882-5 08/16/17 13:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15.1	15.1	1	0		15
Fluoride	0.557	0.555	1	0		15
Sulfate	21.8	21.9	1	0		15

L929091-04 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-04 08/16/17 16:06 • (DUP) R3241882-8 08/16/17 16:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.38	4.33	1	1		15
Fluoride	0.239	0.239	1	0		15
Sulfate	44.0	44.0	1	0		15

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

(LCS) R3241882-2 08/16/17 09:06 • (LCSD) R3241882-3 08/16/17 09:16

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 %
Chloride	40.0	39.8	39.8	100	100	80-120			0	15
Fluoride	8.00	8.03	8.03	100	100	80-120			0	15
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-33 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-33 08/16/17 12:37 • (MS) R3241882-4 08/16/17 12:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	76.0	124	96	1	80-120	E
Fluoride	5.00	0.176	5.11	99	1	80-120	
Sulfate	50.0	79.2	125	91	1	80-120	E

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/16/17 14:36 • (MS) R3241882-6 08/16/17 14:46 • (MSD) R3241882-7 08/16/17 15:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	63.8	112	112	95	97	1	80-120	E	E	1	15
Fluoride	5.00	0.417	5.49	5.61	102	104	1	80-120			2	15
Sulfate	50.0	27.6	76.3	77.2	97	99	1	80-120			1	15

Method Blank (MB)

(MB) R3241159-1 08/14/17 21:52

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

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

(LCS) R3241159-2 08/14/17 21:59 • (LCSD) R3241159-3 08/14/17 22:01

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	%	%	%			%	%
Mercury	0.00300	0.00258	0.00253	86	84	80-120			2	20

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/14/17 22:04 • (MS) R3241159-4 08/14/17 22:06 • (MSD) R3241159-5 08/14/17 22:08

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	%	%		%			%	%
Mercury	0.00300	ND	0.00266	0.00260	89	87	1	75-125			3	20

Method Blank (MB)

(MB) R3242509-7 08/18/17 15:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3242509-8 08/18/17 15:15 • (LCSD) R3242509-9 08/18/17 15:18

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 %
Boron	1.00	0.941	0.927	94	93	80-120			2	20
Lithium	1.00	0.957	0.957	96	96	80-120			0	20
Molybdenum	1.00	1.00	1.01	100	101	80-120			1	20

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/18/17 15:22 • (MS) R3242509-11 08/18/17 15:28 • (MSD) R3242509-12 08/18/17 15:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.921	1.88	1.85	96	93	1	75-125			1	20
Lithium	1.00	0.0408	1.03	1.03	99	98	1	75-125			0	20
Molybdenum	1.00	ND	1.03	1.03	103	103	1	75-125			1	20

Method Blank (MB)

(MB) R3242867-1 08/19/17 21:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

Method Blank (MB)

(MB) R3243156-1 08/21/17 18:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200

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

(LCS) R3242867-2 08/19/17 21:14 • (LCSD) R3242867-3 08/19/17 21:18

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 %
Antimony	0.0500	0.0487	0.0484	97	97	80-120			1	20
Arsenic	0.0500	0.0487	0.0484	97	97	80-120			1	20
Cadmium	0.0500	0.0509	0.0515	102	103	80-120			1	20
Calcium	5.00	4.75	4.74	95	95	80-120			0	20
Chromium	0.0500	0.0492	0.0496	98	99	80-120			1	20
Cobalt	0.0500	0.0510	0.0514	102	103	80-120			1	20
Lead	0.0500	0.0478	0.0480	96	96	80-120			0	20
Selenium	0.0500	0.0525	0.0499	105	100	80-120			5	20
Thallium	0.0500	0.0487	0.0487	97	97	80-120			0	20

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

(LCS) R3243156-2 08/21/17 18:32 • (LCSD) R3243156-3 08/21/17 18:35

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	0.0500	0.0458	0.0463	92	93	80-120			1	20
Beryllium	0.0500	0.0449	0.0438	90	88	80-120			2	20

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/19/17 21:21 • (MS) R3242867-5 08/19/17 21:29 • (MSD) R3242867-6 08/19/17 21:32

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	ND	0.0487	0.0494	97	99	1	75-125			1	20
Arsenic	0.0500	0.00946	0.0577	0.0573	96	96	1	75-125			1	20
Cadmium	0.0500	ND	0.0501	0.0508	100	102	1	75-125			1	20
Calcium	5.00	56.1	60.4	59.2	87	62	1	75-125		V	2	20
Chromium	0.0500	ND	0.0483	0.0486	97	97	1	75-125			1	20
Cobalt	0.0500	ND	0.0490	0.0495	98	99	1	75-125			1	20
Lead	0.0500	ND	0.0472	0.0477	94	95	1	75-125			1	20
Selenium	0.0500	ND	0.0526	0.0512	105	102	1	75-125			3	20
Thallium	0.0500	ND	0.0485	0.0486	97	97	1	75-125			0	20

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/21/17 18:39 • (MS) R3243156-5 08/21/17 18:46 • (MSD) R3243156-6 08/21/17 18:50

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	0.0500	0.309	0.352	0.353	87	89	1	75-125			0	20
Beryllium	0.0500	ND	0.0440	0.0437	88	87	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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.
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
Conneticut	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 [1 4]	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		

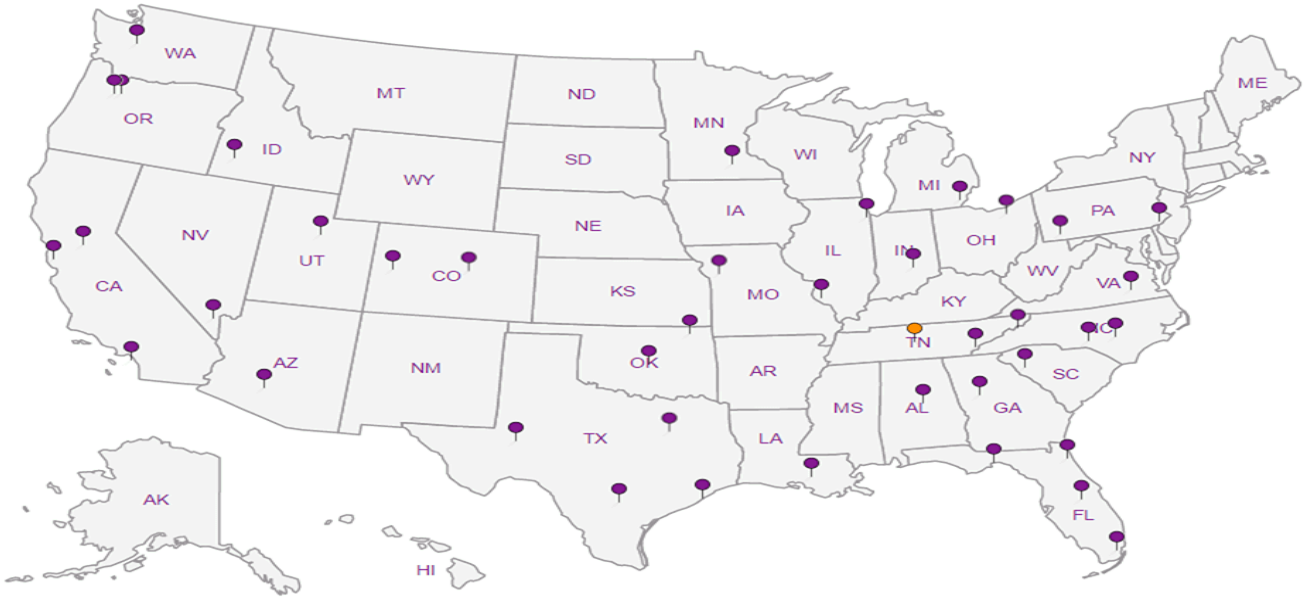
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Nathan Gwyn

Site/Facility ID #

P.O. # no PO number

Collected by (signature): Terry Andrews

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 ___

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# L929079
F161

Acctnum: URSKC
Template: T114093
Prelogin: P611823
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnt:s	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-11	G	GW	NA	8/10/17	0950	3	X	X	X		-01
MW-10	G	GW			1100	3	X	X	X		02
MW-10 MS	G	GW			1100	3	X	X	X		02
MW-10 MSD	G	GW			1100	3	X	X	X		02
MW-703	G	GW			1415	3	X	X	X		03
		GW				3	X	X	X		

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 7215 4520 2440

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Nathan Gwyn	8/10/17	1430	ESCKC
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.7 °C Bottles Received: 15

Date: 8-12-17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

August 24, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L929091
Samples Received:	08/12/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

Entire Report Reviewed By:

Jeff Carr
Technical Service Representative

TABLE OF CONTENTS

MW-905 L929091-01 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/09/17 17:15	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009789	1	08/15/17 17:14	08/15/17 17:36	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009575	1	08/16/17 05:49	08/16/17 05:49	SAM
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:15	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:12	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 06:39	LAT

MW-15 L929091-02 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/10/17 13:50	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 15:46	08/16/17 15:46	DR
Wet Chemistry by Method 9056A	WG1010526	5	08/17/17 14:26	08/17/17 14:26	SAM
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:17	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:21	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 06:42	LAT

MW-602 L929091-03 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/10/17 14:20	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009197	1	08/14/17 09:18	08/14/17 09:18	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 15:56	08/16/17 15:56	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:20	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:25	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 06:46	LAT

MW-14R L929091-04 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/10/17 14:50	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009198	1	08/14/17 08:33	08/14/17 08:33	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 16:06	08/16/17 16:06	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:41	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:28	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 07:04	LAT

MW-903 L929091-05 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/10/17 15:45	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1009798	1	08/16/17 20:16	08/16/17 20:28	EG
Wet Chemistry by Method 9040C	WG1009198	1	08/14/17 08:33	08/14/17 08:33	TH
Wet Chemistry by Method 9056A	WG1009577	1	08/16/17 16:26	08/16/17 16:26	DR
Wet Chemistry by Method 9056A	WG1009577	10	08/16/17 16:36	08/16/17 16:36	DR
Mercury by Method 7470A	WG1012159	1	08/22/17 08:26	08/22/17 12:22	TRB
Metals (ICP) by Method 6010B	WG1012182	1	08/23/17 10:18	08/23/17 15:54	ST
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 07:08	LAT

MW-902 L929091-06 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/11/17 10:35	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1010261	1	08/16/17 16:19	08/16/17 16:35	EG
Wet Chemistry by Method 9040C	WG1009198	1	08/14/17 08:33	08/14/17 08:33	TH
Wet Chemistry by Method 9056A	WG1010028	1	08/16/17 23:24	08/16/17 23:24	DR
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:43	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:31	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 07:11	LAT

MW-901 L929091-07 GW

Collected by	Collected date/time	Received date/time
JM / DM	08/11/17 10:55	08/12/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1010261	1	08/16/17 16:19	08/16/17 16:35	EG
Wet Chemistry by Method 9040C	WG1009198	1	08/14/17 08:33	08/14/17 08:33	TH
Wet Chemistry by Method 9056A	WG1010029	1	08/16/17 23:09	08/16/17 23:09	SAM
Mercury by Method 7470A	WG1009309	1	08/14/17 08:46	08/14/17 22:45	EL
Metals (ICP) by Method 6010B	WG1008646	1	08/14/17 17:54	08/15/17 03:35	CCE
Metals (ICPMS) by Method 6020	WG1011487	1	08/19/17 13:33	08/23/17 07:15	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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	608		10.0	1	08/15/2017 17:36	WG1009789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929091-01 WG1009197: 7.67 at 19.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.1		1.00	1	08/16/2017 05:49	WG1009575
Fluoride	0.582		0.100	1	08/16/2017 05:49	WG1009575
Sulfate	27.0		5.00	1	08/16/2017 05:49	WG1009575

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:15	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.95		0.200	1	08/15/2017 03:12	WG1008646
Lithium	0.0647		0.0150	1	08/15/2017 03:12	WG1008646
Molybdenum	ND		0.00500	1	08/15/2017 03:12	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 06:39	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 06:39	WG1011487
Barium	0.106		0.00500	1	08/23/2017 06:39	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 06:39	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 06:39	WG1011487
Calcium	48.9		1.00	1	08/23/2017 06:39	WG1011487
Chromium	ND		0.00200	1	08/23/2017 06:39	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 06:39	WG1011487
Lead	ND		0.00200	1	08/23/2017 06:39	WG1011487
Selenium	ND		0.00200	1	08/23/2017 06:39	WG1011487
Thallium	ND		0.00200	1	08/23/2017 06:39	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	775		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.16	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929091-02 WG1009197: 7.16 at 19.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.4		1.00	1	08/16/2017 15:46	WG1009577
Fluoride	0.280		0.100	1	08/16/2017 15:46	WG1009577
Sulfate	228		25.0	5	08/17/2017 14:26	WG1010526

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:17	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.251	B	0.200	1	08/15/2017 03:21	WG1008646
Lithium	ND		0.0150	1	08/15/2017 03:21	WG1008646
Molybdenum	0.00876		0.00500	1	08/15/2017 03:21	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 06:42	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 06:42	WG1011487
Barium	0.0515		0.00500	1	08/23/2017 06:42	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 06:42	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 06:42	WG1011487
Calcium	102		1.00	1	08/23/2017 06:42	WG1011487
Chromium	ND		0.00200	1	08/23/2017 06:42	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 06:42	WG1011487
Lead	ND		0.00200	1	08/23/2017 06:42	WG1011487
Selenium	ND		0.00200	1	08/23/2017 06:42	WG1011487
Thallium	ND		0.00200	1	08/23/2017 06:42	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	604		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.99	T8	1	08/14/2017 09:18	WG1009197

Sample Narrative:

L929091-03 WG1009197: 6.99 at 19.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.8		1.00	1	08/16/2017 15:56	WG1009577
Fluoride	1.36		0.100	1	08/16/2017 15:56	WG1009577
Sulfate	24.8		5.00	1	08/16/2017 15:56	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:20	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.45		0.200	1	08/15/2017 03:25	WG1008646
Lithium	0.0662		0.0150	1	08/15/2017 03:25	WG1008646
Molybdenum	ND		0.00500	1	08/15/2017 03:25	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 06:46	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 06:46	WG1011487
Barium	0.0883		0.00500	1	08/23/2017 06:46	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 06:46	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 06:46	WG1011487
Calcium	23.3		1.00	1	08/23/2017 06:46	WG1011487
Chromium	ND		0.00200	1	08/23/2017 06:46	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 06:46	WG1011487
Lead	ND		0.00200	1	08/23/2017 06:46	WG1011487
Selenium	ND		0.00200	1	08/23/2017 06:46	WG1011487
Thallium	ND		0.00200	1	08/23/2017 06:46	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	521		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.44	T8	1	08/14/2017 08:33	WG1009198

Sample Narrative:

L929091-04 WG1009198: 7.44 at 19.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.38		1.00	1	08/16/2017 16:06	WG1009577
Fluoride	0.239		0.100	1	08/16/2017 16:06	WG1009577
Sulfate	44.0		5.00	1	08/16/2017 16:06	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:41	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.537	B	0.200	1	08/15/2017 03:28	WG1008646
Lithium	0.0372		0.0150	1	08/15/2017 03:28	WG1008646
Molybdenum	ND		0.00500	1	08/15/2017 03:28	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 07:04	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 07:04	WG1011487
Barium	0.0394		0.00500	1	08/23/2017 07:04	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 07:04	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 07:04	WG1011487
Calcium	58.0		1.00	1	08/23/2017 07:04	WG1011487
Chromium	ND		0.00200	1	08/23/2017 07:04	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 07:04	WG1011487
Lead	ND		0.00200	1	08/23/2017 07:04	WG1011487
Selenium	ND		0.00200	1	08/23/2017 07:04	WG1011487
Thallium	ND		0.00200	1	08/23/2017 07:04	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1900		10.0	1	08/16/2017 20:28	WG1009798

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.84	T8	1	08/14/2017 08:33	WG1009198

Sample Narrative:

L929091-05 WG1009198: 6.84 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.1		1.00	1	08/16/2017 16:26	WG1009577
Fluoride	0.114		0.100	1	08/16/2017 16:26	WG1009577
Sulfate	954		50.0	10	08/16/2017 16:36	WG1009577

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/22/2017 12:22	WG1012159

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.521		0.200	1	08/23/2017 15:54	WG1012182
Lithium	0.0517		0.0150	1	08/23/2017 15:54	WG1012182
Molybdenum	ND		0.00500	1	08/23/2017 15:54	WG1012182

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 07:08	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 07:08	WG1011487
Barium	0.0140		0.00500	1	08/23/2017 07:08	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 07:08	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 07:08	WG1011487
Calcium	330		1.00	1	08/23/2017 07:08	WG1011487
Chromium	ND		0.00200	1	08/23/2017 07:08	WG1011487
Cobalt	0.00214		0.00200	1	08/23/2017 07:08	WG1011487
Lead	ND		0.00200	1	08/23/2017 07:08	WG1011487
Selenium	ND		0.00200	1	08/23/2017 07:08	WG1011487
Thallium	ND		0.00200	1	08/23/2017 07:08	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	522		10.0	1	08/16/2017 16:35	WG1010261

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45	T8	1	08/14/2017 08:33	WG1009198

Sample Narrative:

L929091-06 WG1009198: 7.45 at 18.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.1		1.00	1	08/16/2017 23:24	WG1010028
Fluoride	0.530		0.100	1	08/16/2017 23:24	WG1010028
Sulfate	33.3		5.00	1	08/16/2017 23:24	WG1010028

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:43	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.31		0.200	1	08/15/2017 03:31	WG1008646
Lithium	0.0369		0.0150	1	08/15/2017 03:31	WG1008646
Molybdenum	ND		0.00500	1	08/15/2017 03:31	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 07:11	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 07:11	WG1011487
Barium	0.106		0.00500	1	08/23/2017 07:11	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 07:11	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 07:11	WG1011487
Calcium	66.4		1.00	1	08/23/2017 07:11	WG1011487
Chromium	ND		0.00200	1	08/23/2017 07:11	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 07:11	WG1011487
Lead	ND		0.00200	1	08/23/2017 07:11	WG1011487
Selenium	ND		0.00200	1	08/23/2017 07:11	WG1011487
Thallium	ND		0.00200	1	08/23/2017 07:11	WG1011487

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	510		10.0	1	08/16/2017 16:35	WG1010261

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.34	T8	1	08/14/2017 08:33	WG1009198

Sample Narrative:

L929091-07 WG1009198: 7.34 at 18.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.6		1.00	1	08/16/2017 23:09	WG1010029
Fluoride	0.511		0.100	1	08/16/2017 23:09	WG1010029
Sulfate	15.1		5.00	1	08/16/2017 23:09	WG1010029

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	08/14/2017 22:45	WG1009309

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.22		0.200	1	08/15/2017 03:35	WG1008646
Lithium	0.0567		0.0150	1	08/15/2017 03:35	WG1008646
Molybdenum	ND		0.00500	1	08/15/2017 03:35	WG1008646

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	08/23/2017 07:15	WG1011487
Arsenic	ND		0.00200	1	08/23/2017 07:15	WG1011487
Barium	0.182		0.00500	1	08/23/2017 07:15	WG1011487
Beryllium	ND		0.00200	1	08/23/2017 07:15	WG1011487
Cadmium	ND		0.00100	1	08/23/2017 07:15	WG1011487
Calcium	56.0		1.00	1	08/23/2017 07:15	WG1011487
Chromium	ND		0.00200	1	08/23/2017 07:15	WG1011487
Cobalt	ND		0.00200	1	08/23/2017 07:15	WG1011487
Lead	ND		0.00200	1	08/23/2017 07:15	WG1011487
Selenium	ND		0.00200	1	08/23/2017 07:15	WG1011487
Thallium	ND		0.00200	1	08/23/2017 07:15	WG1011487

Method Blank (MB)

(MB) R3241751-1 08/15/17 17:36

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

L929091-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-01 08/15/17 17:36 • (DUP) R3241751-4 08/15/17 17:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	608	620	1	1.95		5

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

(LCS) R3241751-2 08/15/17 17:36 • (LCSD) R3241751-3 08/15/17 17:36

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	8610	8500	97.8	96.6	85.0-115			1.29	5

Method Blank (MB)

(MB) R3242455-1 08/16/17 20:28

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

L929091-05 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-05 08/16/17 20:28 • (DUP) R3242455-4 08/16/17 20:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	1900	1970	1	3.75		5

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

(LCS) R3242455-2 08/16/17 20:28 • (LCSD) R3242455-3 08/16/17 20:28

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	%	%	%			%	%
Dissolved Solids	8800	8560	8660	97.3	98.4	85.0-115			1.16	5

Method Blank (MB)

(MB) R3242184-1 08/16/17 16:35

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

L929091-07 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-07 08/16/17 16:35 • (DUP) R3242184-4 08/16/17 16:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	510	490	1	4.00		5

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

(LCS) R3242184-2 08/16/17 16:35 • (LCSD) R3242184-3 08/16/17 16:35

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	%	%	%			%	%
Dissolved Solids	8800	8350	8470	94.9	96.3	85.0-115			1.43	5

L928839-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928839-01 08/14/17 09:18 • (DUP) WG1009197-3 08/14/17 09:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.54	6.54	1	0.000	T8	1

Sample Narrative:
OS: 6.54 at 20.0c
DUP: 6.54 at 20.0c

L929091-03 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-03 08/14/17 09:18 • (DUP) WG1009197-4 08/14/17 09:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.99	7.00	1	0.143	T8	1

Sample Narrative:
OS: 6.99 at 19.5c
DUP: 7.00 at 19.5c

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

(LCS) WG1009197-1 08/14/17 09:18 • (LCSD) WG1009197-2 08/14/17 09:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	9.19	9.08	9.10	98.8	99.0	98.4-102			0.220	1

Sample Narrative:
LCS: 9.08 at 19.7c
LCSD: 9.10 at 19.8c

L928851-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928851-02 08/14/17 08:33 • (DUP) WG1009198-3 08/14/17 08:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.65	6.64	1	0.150	T8	1

Sample Narrative:

OS: 6.65 at 19.4c

DUP: 6.64 at 19.3c

L929191-02 Original Sample (OS) • Duplicate (DUP)

(OS) L929191-02 08/14/17 08:33 • (DUP) WG1009198-4 08/14/17 08:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.38	7.39	1	0.135	T8	1

Sample Narrative:

OS: 7.38 at 19.1c

DUP: 7.39 at 19.1c

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

(LCS) WG1009198-1 08/14/17 08:33 • (LCSD) WG1009198-2 08/14/17 08:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	9.19	9.08	9.09	98.8	98.9	98.4-102			0.110	1

Sample Narrative:

LCS: 9.08 at 19.1c

LCSD: 9.09 at 19.1c

Method Blank (MB)

(MB) R3241597-1 08/15/17 21:56

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

L928843-07 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-07 08/15/17 23:52 • (DUP) R3241597-4 08/16/17 00:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	49.5	49.6	1	0		15
Fluoride	0.693	0.674	1	3		15
Sulfate	23.2	23.1	1	0		15

L929212-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929212-01 08/16/17 07:04 • (DUP) R3241597-7 08/16/17 07:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.2	12.3	1	0		15
Fluoride	0.660	0.784	1	17	J3	15
Sulfate	11.5	11.5	1	0		15

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

(LCS) R3241597-2 08/15/17 22:10 • (LCSD) R3241597-3 08/15/17 22:25

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 %
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	8.02	8.01	100	100	80-120			0	15
Sulfate	40.0	39.9	39.9	100	100	80-120			0	15

L928843-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928843-08 08/16/17 00:21 • (MS) R3241597-5 08/16/17 00:51 • (MSD) R3241597-6 08/16/17 01:06

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 %
Fluoride	5.00	1.80	6.42	6.40	92	92	1	80-120			0	15
Sulfate	50.0	ND	49.3	49.0	92	91	1	80-120			1	15

L929212-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L929212-01 08/16/17 07:04 • (MS) R3241597-8 08/16/17 08:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	12.2	56.1	88	1	80-120	
Fluoride	5.00	0.660	5.22	91	1	80-120	
Sulfate	50.0	11.5	54.9	87	1	80-120	

Method Blank (MB)

(MB) R3241882-1 08/16/17 08:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.134	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L928806-01 Original Sample (OS) • Duplicate (DUP)

(OS) L928806-01 08/16/17 13:36 • (DUP) R3241882-5 08/16/17 13:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15.1	15.1	1	0		15
Fluoride	0.557	0.555	1	0		15
Sulfate	21.8	21.9	1	0		15

L929091-04 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-04 08/16/17 16:06 • (DUP) R3241882-8 08/16/17 16:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.38	4.33	1	1		15
Fluoride	0.239	0.239	1	0		15
Sulfate	44.0	44.0	1	0		15

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

(LCS) R3241882-2 08/16/17 09:06 • (LCSD) R3241882-3 08/16/17 09:16

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 %
Chloride	40.0	39.8	39.8	100	100	80-120			0	15
Fluoride	8.00	8.03	8.03	100	100	80-120			0	15
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-33 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-33 08/16/17 12:37 • (MS) R3241882-4 08/16/17 12:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	76.0	124	96	1	80-120	E
Fluoride	5.00	0.176	5.11	99	1	80-120	
Sulfate	50.0	79.2	125	91	1	80-120	E

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/16/17 14:36 • (MS) R3241882-6 08/16/17 14:46 • (MSD) R3241882-7 08/16/17 15:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	63.8	112	112	95	97	1	80-120	E	E	1	15
Fluoride	5.00	0.417	5.49	5.61	102	104	1	80-120			2	15
Sulfate	50.0	27.6	76.3	77.2	97	99	1	80-120			1	15

Method Blank (MB)

(MB) R3241918-1 08/16/17 18:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.16	J	0.0519	1.00
Fluoride	U		0.0099	0.100
Sulfate	U		0.0774	5.00

L928781-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-02 08/16/17 19:15 • (DUP) R3241918-4 08/16/17 19:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	33.7	35.9	1	6		15
Fluoride	0.213	0.249	1	16	P1	15
Sulfate	43.4	44.1	1	2		15

L928843-02 Original Sample (OS) • Duplicate (DUP)

(OS) L928843-02 08/16/17 21:24 • (DUP) R3241918-6 08/16/17 21:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	37.2	36.1	5	3		15
Fluoride	ND	0.428	5	2	J	15
Sulfate	115	111	5	3		15

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

(LCS) R3241918-2 08/16/17 18:25 • (LCSD) R3241918-3 08/16/17 18:35

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 %
Chloride	40.0	39.9	39.9	100	100	80-120			0	15
Fluoride	8.00	8.03	8.04	100	100	80-120			0	15
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-04 08/16/17 19:35 • (MS) R3241918-5 08/16/17 19:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	43.7	95.6	104	1	80-120	
Fluoride	5.00	ND	5.17	103	1	80-120	
Sulfate	50.0	6.36	57.6	102	1	80-120	

L929091-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929091-06 08/16/17 23:24 • (MS) R3241918-7 08/16/17 23:34 • (MSD) R3241918-8 08/16/17 23:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	34.1	83.3	83.4	98	98	1	80-120			0	15
Fluoride	5.00	0.530	5.63	5.63	102	102	1	80-120			0	15
Sulfate	50.0	33.3	81.6	81.7	97	97	1	80-120			0	15

Method Blank (MB)

(MB) R3241972-1 08/16/17 20:59

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

L929091-07 Original Sample (OS) • Duplicate (DUP)

(OS) L929091-07 08/16/17 23:09 • (DUP) R3241972-4 08/16/17 23:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.6	22.5	1	0		15
Fluoride	0.511	0.531	1	4		15
Sulfate	15.1	15.1	1	0		15

L929136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929136-01 08/17/17 01:54 • (DUP) R3241972-5 08/17/17 02:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2.69	2.63	1	3		15
Sulfate	37.8	37.8	1	0		15

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

(LCS) R3241972-2 08/16/17 21:14 • (LCSD) R3241972-3 08/16/17 21:29

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 %
Chloride	40.0	39.7	39.7	99	99	80-120			0	15
Fluoride	8.00	8.07	8.03	101	100	80-120			1	15
Sulfate	40.0	40.2	39.9	100	100	80-120			1	15

L929136-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L929136-01 08/17/17 01:54 • (MS) R3241972-6 08/17/17 02:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	2.69	47.6	90	1	80-120	
Sulfate	50.0	37.8	81.4	87	1	80-120	

L929172-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929172-08 08/17/17 03:54 • (MS) R3241972-7 08/17/17 04:09 • (MSD) R3241972-8 08/17/17 04:24

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 %
Chloride	50.0	0.0552	48.5	48.8	97	97	1	80-120			1	15
Fluoride	5.00	U	5.59	5.13	112	103	1	80-120			9	15

Method Blank (MB)

(MB) R3242343-1 08/17/17 08:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L928781-29 Original Sample (OS) • Duplicate (DUP)

(OS) L928781-29 08/17/17 11:56 • (DUP) R3242343-4 08/17/17 12:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	5.96	5.96	1	0		15

L929226-01 Original Sample (OS) • Duplicate (DUP)

(OS) L929226-01 08/17/17 14:35 • (DUP) R3242343-6 08/17/17 14:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	31.1	31.1	1	0		15

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

(LCS) R3242343-2 08/17/17 08:45 • (LCSD) R3242343-3 08/17/17 08:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Sulfate	40.0	40.2	40.2	100	100	80-120			0	15

L928781-31 Original Sample (OS) • Matrix Spike (MS)

(OS) L928781-31 08/17/17 12:26 • (MS) R3242343-5 08/17/17 12:36

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	28.7	77.8	98	1	80-120	

L929226-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929226-01 08/17/17 14:35 • (MS) R3242343-7 08/17/17 15:15 • (MSD) R3242343-8 08/17/17 15:25

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	%	%		%			%	%
Sulfate	50.0	31.1	79.8	80.1	98	98	1	80-120			0	15

Method Blank (MB)

(MB) R3241159-1 08/14/17 21:52

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

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

(LCS) R3241159-2 08/14/17 21:59 • (LCSD) R3241159-3 08/14/17 22:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00258	0.00253	86	84	80-120			2	20

L929079-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929079-02 08/14/17 22:04 • (MS) R3241159-4 08/14/17 22:06 • (MSD) R3241159-5 08/14/17 22:08

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	0.00266	0.00260	89	87	1	75-125			3	20

Method Blank (MB)

(MB) R3243318-1 08/22/17 11:57

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

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

(LCS) R3243318-2 08/22/17 11:59 • (LCSD) R3243318-3 08/22/17 12:06

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	0.00285	0.00280	95	93	80-120			2	20

L930223-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L930223-08 08/22/17 12:08 • (MS) R3243318-4 08/22/17 12:11 • (MSD) R3243318-5 08/22/17 12:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00289	0.00260	96	87	1	75-125			11	20

L930223-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L930223-11 08/22/17 12:15 • (MS) R3243318-6 08/22/17 12:18 • (MSD) R3243318-7 08/22/17 12:20

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	U	0.00284	0.00293	95	98	1	75-125			3	20

Method Blank (MB)

(MB) R3241191-1 08/15/17 02:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	0.0706	J	0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3241191-2 08/15/17 02:05 • (LCSD) R3241191-3 08/15/17 02:08

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 %
Boron	1.00	1.10	1.03	110	103	80-120			6	20
Lithium	1.00	1.05	1.05	105	105	80-120			0	20
Molybdenum	1.00	1.04	1.03	104	103	80-120			1	20

L928373-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L928373-01 08/15/17 02:11 • (MS) R3241191-5 08/15/17 02:18 • (MSD) R3241191-6 08/15/17 02:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.409	1.42	1.41	101	100	1	75-125			1	20
Lithium	1.00	ND	1.12	1.12	111	111	1	75-125			0	20
Molybdenum	1.00	ND	1.05	1.05	105	105	1	75-125			0	20

Method Blank (MB)

(MB) R3243908-1 08/23/17 18:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3243908-2 08/23/17 18:08 • (LCSD) R3243908-3 08/23/17 18:11

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 %
Boron	1.00	0.973	0.953	97	95	80-120			2	20
Lithium	1.00	1.02	1.00	102	100	80-120			2	20
Molybdenum	1.00	1.04	1.04	104	104	80-120			0	20

L929711-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929711-04 08/23/17 18:15 • (MS) R3243908-5 08/23/17 18:21 • (MSD) R3243908-6 08/23/17 18:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.04	1.05	95	95	1	75-125			1	20
Lithium	1.00	ND	1.02	1.01	101	100	1	75-125			1	20
Molybdenum	1.00	ND	1.04	1.03	104	103	1	75-125			0	20

Method Blank (MB)

(MB) R3242965-1 08/21/17 11:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

Method Blank (MB)

(MB) R3243556-1 08/23/17 06:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Beryllium	U		0.00012	0.00200

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

(LCS) R3242965-2 08/21/17 11:14 • (LCSD) R3242965-3 08/21/17 11:17

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	0.0498	0.0494	100	99	80-120			1	20
Arsenic	0.0500	0.0513	0.0495	103	99	80-120			3	20
Barium	0.0500	0.0467	0.0435	93	87	80-120			7	20
Cadmium	0.0500	0.0547	0.0516	109	103	80-120			6	20
Calcium	5.00	4.92	4.78	98	96	80-120			3	20
Chromium	0.0500	0.0524	0.0508	105	102	80-120			3	20
Cobalt	0.0500	0.0536	0.0525	107	105	80-120			2	20
Lead	0.0500	0.0485	0.0464	97	93	80-120			4	20
Selenium	0.0500	0.0531	0.0509	106	102	80-120			4	20
Thallium	0.0500	0.0480	0.0462	96	92	80-120			4	20

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

(LCS) R3243556-2 08/23/17 06:17 • (LCSD) R3243556-3 08/23/17 06:20

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 %
Beryllium	0.0500	0.0433	0.0416	87	83	80-120			4	20

L929552-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929552-02 08/21/17 11:21 • (MS) R3242965-5 08/21/17 11:28 • (MSD) R3242965-6 08/21/17 11:31

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	U	0.0508	0.0496	102	99	1	75-125			2	20
Arsenic	0.0500	0.00106	0.0501	0.0498	98	97	1	75-125			1	20
Barium	0.0500	0.143	0.187	0.185	89	85	1	75-125			1	20
Cadmium	0.0500	U	0.0530	0.0539	106	108	1	75-125			2	20
Calcium	5.00	105	108	111	66	125	1	75-125	V		3	20
Chromium	0.0500	U	0.0510	0.0498	102	100	1	75-125			2	20
Cobalt	0.0500	U	0.0512	0.0508	102	102	1	75-125			1	20
Lead	0.0500	U	0.0480	0.0484	96	97	1	75-125			1	20
Selenium	0.0500	0.000559	0.0530	0.0527	105	104	1	75-125			0	20
Thallium	0.0500	U	0.0476	0.0478	95	96	1	75-125			0	20

L929552-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L929552-02 08/23/17 06:24 • (MS) R3243556-5 08/23/17 06:31 • (MSD) R3243556-6 08/23/17 06:35

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 %
Beryllium	0.0500	U	0.0430	0.0434	86	87	1	75-125			1	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
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
Conneticut	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 [1 4]	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		

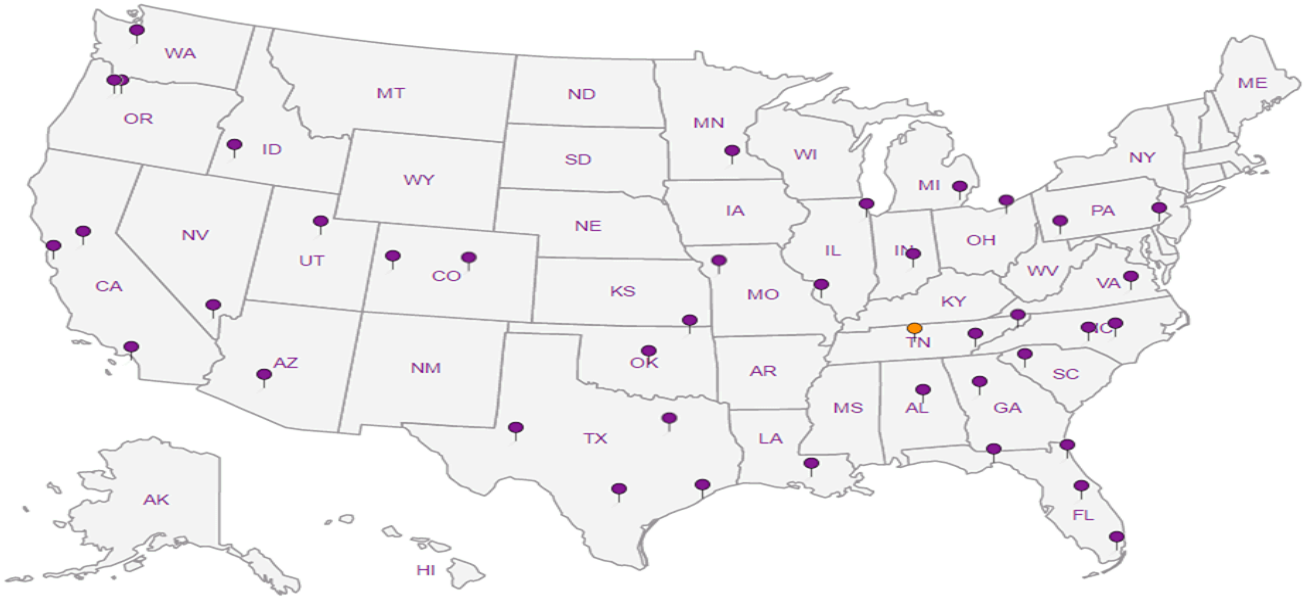
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID #

P.O. # no PO number

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

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CLD, F, SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	TDS, pH 500mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-905	Grab	GW	N/A	8-9-17	17:15	3	X	X	X		-01
MW-15	Grab	GW		8-10-17	13:50	3	X	X	X		02
MW-602	Grab	GW		8-10-17	14:20	3	X	X	X		03
MW-14R	Grab	GW		8-10-17	14:50	3	X	X	X		04
MW-903	Grab	GW		8-10-17	15:45	3	X	X	X		05
MW-902	Grab	GW		8-11-17	10:35	3	X	X	X		06
MW-901	Grab	GW		8-11-17	10:55	3	X	X	X		07
		GW									
		GW									
		GW									

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY 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# L929091
F160

Acctnum: URSKC
Template: T112860
Prelogin: P594561
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

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

ESCKC

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7215 4529 2440

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8-11-17	16:20	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.7 °C Bottles Received: 21

Date: 8-12-17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jeremy W. Watkins

ESC Lab Sciences
Non-Conformance Form

Login #: L929091	Client: URSKC	Date: 8/12/17	Evaluated by: Jeremy

Non-Conformance (check applicable items)

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

Login Comments: Metals for MW-903 not preserved. Total or Dissolved?

Client informed by:		Call	X	Email		Voice Mail		Date: 8/16/17	Time: 0843
TSR Initials: JC	Client Contact: A. Skaskevych								

Login Instructions: Total Metals.

Case Narrative

Lab No: 20170763

This report contains the analytical results for the 22 sample(s) received under chain of custody by ESC Lab Sciences on 8/11/2017 2:14:21 PM. These samples are associated with your 60482842 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

L928889

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170763-01**								
Client ID : **MW-708**								
Date Sampled : **8/8/2017 1:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.866 +/- 0.592	0.833	pCi/l				
Radium-226	SM 7500 Ra B M*	0.160 +/- 0.169	0.211	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.706 +/- 0.423	0.622	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-02**								
Client ID : **TW-1**								
Date Sampled : **8/8/2017 1:55:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.05 +/- 0.728	0.934	pCi/l				
Radium-226	SM 7500 Ra B M*	0.302 +/- 0.211	0.185	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.743 +/- 0.517	0.749	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-03**								
Client ID : **MW-707B**								
Date Sampled : **8/8/2017 2:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.310 +/- 0.591	0.753	pCi/l				
Radium-226	SM 7500 Ra B M*	0.211 +/- 0.186	0.212	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.099 +/- 0.405	0.541	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-04**								
Client ID : **MW-701**								
Date Sampled : **8/8/2017 2:55:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.29 +/- 0.701	1.27	pCi/l				
Radium-226	SM 7500 Ra B M*	0.178 +/- 0.220	0.309	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	2.11 +/- 0.481	0.957	pCi/l		09/01/17	09/08/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170763-05**								
Client ID : **MW-704**								
Date Sampled : **8/8/2017 3:55:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.17 +/- 0.756	1.14	pCi/l				
Radium-226	SM 7500 Ra B M*	0.221 +/- 0.276	0.382	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.945 +/- 0.480	0.755	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-06**								
Client ID : **MW-13**								
Date Sampled : **8/8/2017 5:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.075 +/- 0.614	0.927	pCi/l				
Radium-226	SM 7500 Ra B M*	0.075 +/- 0.147	0.248	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	-0.355 +/- 0.467	0.679	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-07**								
Client ID : **MW-702**								
Date Sampled : **8/9/2017 9:05:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.46 +/- 0.745	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.368 +/- 0.249	0.252	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	1.09 +/- 0.496	0.840	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-08**								
Client ID : **MW-706**								
Date Sampled : **8/9/2017 10:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.54 +/- 0.832	1.08	pCi/l				
Radium-226	SM 7500 Ra B M*	0.619 +/- 0.361	0.409	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.925 +/- 0.471	0.671	pCi/l		09/01/17	09/08/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170763-09**								
Client ID : **MW-705**								
Date Sampled : **8/9/2017 11:25:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.831 +/- 0.738	0.840	pCi/l				
Radium-226	SM 7500 Ra B M*	0.330 +/- 0.241	0.280	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.501 +/- 0.497	0.560	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-10**								
Client ID : **MW-950**								
Date Sampled : **8/9/2017 11:25:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.53 +/- 0.621	0.675	pCi/l				
Radium-226	SM 7500 Ra B M*	0.266 +/- 0.199	0.185	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	1.26 +/- 0.422	0.490	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-11**								
Client ID : **MW-801**								
Date Sampled : **8/9/2017 10:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.972 +/- 0.700	0.819	pCi/l				
Radium-226	SM 7500 Ra B M*	0.536 +/- 0.266	0.253	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.436 +/- 0.434	0.566	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-12**								
Client ID : **MW-904**								
Date Sampled : **8/7/2017 2:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.155 +/- 0.668	0.894	pCi/l				
Radium-226	SM 7500 Ra B M*	0.155 +/- 0.144	0.149	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	-0.261 +/- 0.524	0.745	pCi/l		09/01/17	09/08/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170763-13**								
Client ID : **MW-951**								
Date Sampled : **8/8/2017 4:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.394 +/- 0.644	0.786	pCi/l				
Radium-226	SM 7500 Ra B M*	0.394 +/- 0.240	0.227	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	-0.040 +/- 0.404	0.559	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-14**								
Client ID : **MW-802**								
Date Sampled : **8/7/2017 4:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.22 +/- 0.815	0.915	pCi/l				
Radium-226	SM 7500 Ra B M*	0.641 +/- 0.306	0.192	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.580 +/- 0.509	0.723	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-15**								
Client ID : **MW-803**								
Date Sampled : **8/8/2017 4:05:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.84 +/- 0.882	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.759 +/- 0.339	0.292	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	1.08 +/- 0.543	0.728	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-16**								
Client ID : **MW-805**								
Date Sampled : **8/8/2017 12:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.175 +/- 0.775	1.16	pCi/l				
Radium-226	SM 7500 Ra B M*	0.175 +/- 0.272	0.405	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	-0.444 +/- 0.503	0.750	pCi/l		09/01/17	09/08/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170763-17**								
Client ID : **MW-804**								
Date Sampled : **8/8/2017 4:26:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.19 +/- 0.754	0.983	pCi/l				
Radium-226	SM 7500 Ra B M*	0.241 +/- 0.238	0.304	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.949 +/- 0.516	0.679	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-18**								
Client ID : **MW-601**								
Date Sampled : **8/9/2017 1:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.847 +/- 0.675	0.818	pCi/l				
Radium-226	SM 7500 Ra B M*	0.279 +/- 0.260	0.268	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	0.568 +/- 0.415	0.550	pCi/l		09/01/17	09/08/17	JR
Lab ID : **20170763-19**								
Client ID : **MW-601 MS**								
Date Sampled : **8/9/2017 1:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	112		% Rec		08/28/17	08/30/17	RE
Radium-228	EPA 904*	74.2		% Rec		09/01/17	09/08/17	JR
Lab ID : **20170763-20**								
Client ID : **MW-601 MSD**								
Date Sampled : **8/9/2017 1:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	0.8		RPD		08/28/17	08/30/17	RE
Radium-228	EPA 904*	2.5		RPD		09/01/17	09/08/17	JR
Lab ID : **20170763-21**								
Client ID : **MW-6**								
Date Sampled : **8/9/2017 1:45:00 PM**								
Matrix : **NPW**								

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Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Client	:	AECOM
Client Project	:	60482842
Lab Number	:	20170763
Date Reported	:	09/12/17
Date Received	:	08/11/17
Page Number	:	7 of 7

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Radiochemical Analyses								
Combined Radium		1.98 +/- 0.731	0.901	pCi/l				
Radium-226	SM 7500 Ra B M*	0.456 +/- 0.266	0.213	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	1.52 +/- 0.465	0.688	pCi/l		09/01/17	09/08/17	JR

Lab ID : **20170763-22**
Client ID : **MW-7**
Date Sampled : **8/9/2017 2:50:00 PM**
Matrix : **NPW**

Radiochemical Analyses								
Combined Radium		2.93 +/- 1.01	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	1.53 +/- 0.449	0.178	pCi/l		08/28/17	08/30/17	RE
Radium-228	EPA 904*	1.40 +/- 0.559	0.855	pCi/l		09/01/17	09/08/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.014	120.0			NC	0.928	112.0	112.0	0.8	R1273
Radium-228	0.474	99.0			NC	0.093	74.2	76.3	2.5	R3997

Lab Approval:

Ron Eidson
Director of Radiochemistry

*NELAC Certified Parameter BDL = Below Detection Limit

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Nam Bui, Terry Brdar

Site/Facility ID # TASK 100

P.O. # no PO number

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

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Chain of Custody Page 1 of 3

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

L# 928889

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P611820
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-708	G	NPW	NA	8/8/17	1330	2	X		
TW-1	G	NPW			1355	2	X		
MW-707B	G	NPW			1420	2	X		
MW-701	G	NPW			1455	2	X		
MW-704	G	NPW			1555	2	X		
MW-13	G	NPW			1730	2	X		
MW-702	G	NPW		8/9/17	0905	2	X		
MW-706	G	NPW			1000	2	X		
MW-705	G	NPW			1125	2	X		
MW-950	G	NPW			1125	2	X		

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESC KC

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	8/9/17	1500			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C	Bottles Received:
	8/10/17	1700			44
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				8/11/17	1414

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

2070763-1

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillen Moran

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3									
MW-801	Grab	NPW	N/A	8-9-17	10:40	2	X									
MW-904	Grab	NPW		8-7-17	14:00	2	X									
MW-951	Grab	NPW		8-8-17	16:50	2	X									
MW-802	Grab	NPW		8-7-17	16:20	2	X									
MW-803	Grab	NPW		8-8-17	16:05	2	X									
MW-805	Grab	NPW		8-8-17	~~11:40~~	2	X	12:20								
MW-804	Grab	NPW		8-8-17	16:26	2	X									
MW-601	Grab	NPW		8-9-17	13:15	2	X									
MW-601 MS	Grab	NPW		8-9-17	13:15	2	X									
MW-601 MSD	Grab	NPW		8-9-17	13:15	2	X									

COPY

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.
ESCKC

pH _____ Temp _____
Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	8-9-17	15:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	8/10/17	700		Amb 44	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				8/11/17 1404	

20170763-2

Chain of Custody Page 2 of 3

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

L# 928889

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P611820
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Remarks | Sample # (lab only)

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Nathan Gunn, Tom Baolm

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y ___

Chain of Custody Page ___ of ___

ESC

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

L# 928889

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P611820
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-6	G	NPW	NA	8/9/17	1345	2	X		
MW-7	G	NPW	NA	8/9/17	1450	2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		
		NPW				2	X		

COPY

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESC KC #sent to outreach

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: _NP _Y _N
COC Signed/Accurate: _Y _N
Bottles arrive intact: _Y _N
Correct bottles used: _Y _N
Sufficient volume sent: _Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		
[signature]	8/9/17	1500	[signature]	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by: (Signature) [signature]	Date: 8/10/17	Time: 1700	Received by: (Signature)	Temp: Amb °C	Bottles Received: 44
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 8/11/17	Time: 1414

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

2017763-P

SAMPLE LOGIN

Date Received: *8/11/2017 2:14:21* **Lab Number:** 20170763 **Due:** 9/11/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170763-01 B	MW-708	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-01 A	MW-708	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-02 A	TW-1	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-02 B	TW-1	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-03 A	MW-707B	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-03 B	MW-707B	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-04 A	MW-701	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-04 B	MW-701	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-05 A	MW-704	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-05 B	MW-704	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-06 A	MW-13	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-06 B	MW-13	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-07 B	MW-702	NPW	08/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-07 A	MW-702	NPW	08/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

09 8/11/17

20170763-08 A	MW-706	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-08 B	MW-706	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-09 A	MW-705	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-09 B	MW-705	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-10 A	MW-950	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-10 B	MW-950	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-11 A	MW-801	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-11 B	MW-801	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-12 B	MW-904	NPW	08/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-12 A	MW-904	NPW	08/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-13 A	MW-951	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-13 B	MW-951	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-14 A	MW-802	NPW	08/07/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-14 B	MW-802	NPW	08/07/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-15 A	MW-803	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-15 B	MW-803	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No
Radium-226			SM 7500 Ra B M*					
Radium-228			EPA 904*/9320*					
20170763-16 A	MW-805	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No
20170763-16 B	MW-805	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-17 A	MW-804	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☐	No	No
20170763-17 B	MW-804	NPW	08/08/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-18 B	MW-601	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-18 A	MW-601	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-19 A	MW-601 MS	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-19 B	MW-601 MS	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-20 A	MW-601 MSD	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☐	No	No
20170763-20 B	MW-601 MSD	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-21 A	MW-6	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-21 B	MW-6	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20170763-22 B	MW-7	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170763-22 A	MW-7	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☐	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

 # Coolers 3 **Custody Seals Broken** ☒ **Temperature:** 4.5 °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: _____ **DATE** 8/11/17

QA or Designee Review: Rumyana Thomas **DATE** 08/14/17

Sample Custodian Review: _____ **DATE** 8/11/17

Project Notes:

Case Narrative

Lab No: 20170764

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 8/14/2017 1:50:37 PM. These samples are associated with your 60482842 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

L929260

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170764-01**								
Client ID : **MW-905**								
Date Sampled : **8/9/2017 5:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.161 +/- 0.675	0.970	pCi/l				
Radium-226	SM 7500 Ra B M*	0.161 +/- 0.159	0.184	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	-0.078 +/- 0.516	0.786	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-02**								
Client ID : **MW-15**								
Date Sampled : **8/10/2017 1:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.184 +/- 0.713	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.168 +/- 0.165	0.201	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	0.016 +/- 0.548	0.841	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-03**								
Client ID : **MW-602**								
Date Sampled : **8/10/2017 2:20:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.000 +/- 0.627	0.912	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.008 +/- 0.151	0.313	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	-0.061 +/- 0.476	0.599	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-04**								
Client ID : **MW-14R**								
Date Sampled : **8/10/2017 2:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.54 +/- 0.837	1.13	pCi/l				
Radium-226	SM 7500 Ra B M*	0.413 +/- 0.310	0.380	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	1.13 +/- 0.527	0.749	pCi/l		08/30/17	09/06/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170764-05**								
Client ID : **MW-903**								
Date Sampled : **8/10/2017 3:45:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.01 +/- 0.615	0.948	pCi/l				
Radium-226	SM 7500 Ra B M*	0.070 +/- 0.137	0.231	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	0.941 +/- 0.478	0.717	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-06**								
Client ID : **MW-902**								
Date Sampled : **8/11/2017 10:35:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.50 +/- 0.709	0.827	pCi/l				
Radium-226	SM 7500 Ra B M*	0.459 +/- 0.294	0.288	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	1.04 +/- 0.415	0.539	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-07**								
Client ID : **MW-901**								
Date Sampled : **8/11/2017 10:55:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.641 +/- 0.815	0.960	pCi/l				
Radium-226	SM 7500 Ra B M*	0.641 +/- 0.321	0.226	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	-0.294 +/- 0.494	0.734	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-08**								
Client ID : **MW-11**								
Date Sampled : **8/10/2017 9:50:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.90 +/- 0.803	1.16	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.050 +/- 0.255	0.440	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	1.90 +/- 0.548	0.718	pCi/l		08/30/17	09/06/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170764-09**								
Client ID : **MW-10**								
Date Sampled : **8/10/2017 11:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.695 +/- 0.803	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.695 +/- 0.349	0.338	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	-0.248 +/- 0.454	0.677	pCi/l		08/30/17	09/06/17	JR
Lab ID : **20170764-10**								
Client ID : **MW-10MS**								
Date Sampled : **8/10/2017 11:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	116		% Rec		08/31/17	09/05/17	RE
Radium-228	EPA 904*	97.8		% Rec		08/30/17	09/06/17	JR
Lab ID : **20170764-11**								
Client ID : **MW-10MSD**								
Date Sampled : **8/10/2017 11:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	3.0		RPD		08/31/17	09/05/17	RE
Radium-228	EPA 904*	19.0		RPD		08/30/17	09/06/17	JR
Lab ID : **20170764-12**								
Client ID : **MW-703**								
Date Sampled : **8/10/2017 2:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.88 +/- 0.806	0.684	pCi/l				
Radium-226	SM 7500 Ra B M*	1.47 +/- 0.429	0.148	pCi/l		08/31/17	09/05/17	RE
Radium-228	EPA 904*	0.412 +/- 0.377	0.536	pCi/l		08/30/17	09/06/17	JR

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.012	119.0			29.6	0.768	116.0	113.0	3.0	R1275
Radium-228							103.0	101.0	1.4	R3996
Radium-228	0.184	112.0			NC	0.225	97.8	81.3	19.0	R3996

Lab Approval:

Ron Eidson
Director of Radiochemistry

OUTREACH LABORATORY, A Divsion of ESC Lab Sciences
Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012 - EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Brian Linnan

Email To: brian.linnan@aecom.com; robert.exceen@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Dillon Moran

Site/Facility ID # TASK 100

P.O. # no PO number

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

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226_RA-228 1L-HDPE-Add HNO3
MW-905	Grab	NPW	N/A	8-9-17	17:15	2	X
MW-15	Grab	NPW		8-10-17	13:50	2	X
MW-602	Grab	NPW		8-10-17	14:20	2	X
MW-14R	Grab	NPW		8-10-17	14:50	2	X
MW-903	Grab	NPW		8-10-17	15:45	2	X
MW-902	Grab	NPW		8-11-17	10:35	2	X
MW-901	Grab	NPW		8-11-17	10:55	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABS

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

L# 929260

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P594559

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESCKC

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__UPS __FedEx __Courier __

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	8-11-17	16:20	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp Ab °C Bottles Received: 24

Date: 8/14/17 Time: 1350

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

20170764

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:

Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Ch

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Nathan Berry Terry Andrews

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-11	G	NPW	NA	8/10/17	0950	2	X
MW-10	G	NPW	↓	↓	1100	2	X
MW-10 MS	G	NPW			1100	2	X
MW-10 MSD	G	NPW			1100	2	X
MW-703	G	NPW			1415	2	X
		NPW				2	X

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# 929260

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P611820
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESCKC

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
___ UPS ___ FedEx ___ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/10/17	1430	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: Amb °C Bottles Received: 24

Date: 8/11/17 Time: 1350

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

SAMPLE LOGIN

Date Received: *8/14/2017 1:50:37* **Lab Number:** **20170764** **Due:** **9/12/2017**

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170764-01 B	MW-905	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-01 A	MW-905	NPW	08/09/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-02 A	MW-15	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-02 B	MW-15	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-03 A	MW-602	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-03 B	MW-602	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-04 A	MW-14R	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-04 B	MW-14R	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-05 A	MW-903	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-05 B	MW-903	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	Yes	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-06 B	MW-902	NPW	08/11/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-06 A	MW-902	NPW	08/11/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-07 B	MW-901	NPW	08/11/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-07 A	MW-901	NPW	08/11/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170764-08 A	MW-11	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-08 B	MW-11	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-09 A	MW-10	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-09 B	MW-10	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-10 A	MW-10MS	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-10 B	MW-10MS	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-11 A	MW-10MSD	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-11 B	MW-10MSD	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170764-12 B	MW-703	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170764-12 A	MW-703	NPW	08/10/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø **Temperature:** 4.6 **C** **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 8/14/17

QA or Designee Review: _____ **DATE** 08/14/17

Sample Custodian Review: _____ **DATE** 8/14/17

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-9

October 2017 Sampling Event Laboratory Report

Case Narrative

Lab No: 20170954

This report contains the analytical results for the 14 sample(s) received under chain of custody by ESC Lab Sciences on 10/9/2017 12:50:47 PM. These samples are associated with your 60482842 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

L942866

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170954-01**								
Client ID : **MW-602**								
Date Sampled : **10/5/2017 10:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.77 +/- 0.693	1.193	pCi/l				
Radium-226	SM 7500 Ra B M*	-0.244 +/- 0.253	0.499	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	1.77 +/- 0.440	0.694	pCi/l		11/03/17	11/16/17	JR
Lab ID : **20170954-02**								
Client ID : **MW-602 MS**								
Date Sampled : **10/5/2017 10:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	116		% Rec		10/31/17	11/03/17	RE
Radium-228	EPA 904*	76.5		% Rec		11/03/17	11/16/17	JR
Lab ID : **20170954-03**								
Client ID : **MW-602 MSD**								
Date Sampled : **10/5/2017 10:45:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	9.5		RPD		10/31/17	11/03/17	RE
Radium-228	EPA 904*	0.3		RPD		11/03/17	11/16/17	JR
Lab ID : **20170954-04**								
Client ID : **MW-14R**								
Date Sampled : **10/5/2017 11:30:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.12 +/- 0.574	0.755	pCi/l				
Radium-226	SM 7500 Ra B M*	0.061 +/- 0.098	0.156	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	1.06 +/- 0.476	0.599	pCi/l		11/03/17	11/17/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170954-05**								
Client ID : **MW-804**								
Date Sampled : **10/5/2017 12:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.18 +/- 0.919	1.17	pCi/l				
Radium-226	SM 7500 Ra B M*	0.398 +/- 0.409	0.542	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	0.785 +/- 0.510	0.628	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-06**								
Client ID : **MW-951**								
Date Sampled : **10/5/2017 12:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.521 +/- 0.668	0.869	pCi/l				
Radium-226	SM 7500 Ra B M*	0.521 +/- 0.268	0.256	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	-0.196 +/- 0.400	0.613	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-07**								
Client ID : **MW-805**								
Date Sampled : **10/5/2017 12:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.123 +/- 0.652	0.875	pCi/l				
Radium-226	SM 7500 Ra B M*	0.123 +/- 0.158	0.224	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	-0.427 +/- 0.494	0.651	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-08**								
Client ID : **MW-904**								
Date Sampled : **10/5/2017 1:50:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.807 +/- 0.645	0.86	pCi/l				
Radium-226	SM 7500 Ra B M*	0.146 +/- 0.191	0.273	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	0.661 +/- 0.454	0.587	pCi/l		11/03/17	11/17/17	JR

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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170954-09**								
Client ID : **MW-601**								
Date Sampled : **10/6/2017 11:00:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.343 +/- 0.678	0.97	pCi/l				
Radium-226	SM 7500 Ra B M*	0.099 +/- 0.159	0.246	pCi/l		10/31/17	11/03/17	RE
Radium-228	EPA 904*	0.244 +/- 0.519	0.724	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-10**								
Client ID : **MW-11**								
Date Sampled : **10/5/2017 10:15:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.356 +/- 0.608	0.93	pCi/l				
Radium-226	SM 7500 Ra B M*	0.027 +/- 0.116	0.230	pCi/l		10/31/17	11/06/17	RE
Radium-228	EPA 904*	0.329 +/- 0.492	0.700	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-11**								
Client ID : **MW-703**								
Date Sampled : **10/5/2017 11:40:00 AM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		2.59 +/- 0.967	0.883	pCi/l				
Radium-226	SM 7500 Ra B M*	1.09 +/- 0.379	0.230	pCi/l		10/31/17	11/06/17	RE
Radium-228	EPA 904*	1.50 +/- 0.588	0.653	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-12**								
Client ID : **MW-13**								
Date Sampled : **10/5/2017 2:05:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		0.141 +/- 0.744	1.07	pCi/l				
Radium-226	SM 7500 Ra B M*	0.141 +/- 0.170	0.233	pCi/l		10/31/17	11/06/17	RE
Radium-228	EPA 904*	-1.17 +/- 0.574	0.834	pCi/l		11/03/17	11/17/17	JR

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170954-13**								
Client ID : **MW-7**								
Date Sampled : **10/5/2017 3:55:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		2.09 +/- 0.949	1.05	pCi/l				
Radium-226	SM 7500 Ra B M*	1.09 +/- 0.371	0.184	pCi/l		10/31/17	11/06/17	RE
Radium-228	EPA 904*	1.00 +/- 0.578	0.870	pCi/l		11/03/17	11/17/17	JR
Lab ID : **20170954-14**								
Client ID : **MW-6**								
Date Sampled : **10/5/2017 5:35:00 PM**								
Matrix : **NPW**								
Radiochemical Analyses								
Combined Radium		1.38 +/- 0.727	0.860	pCi/l				
Radium-226	SM 7500 Ra B M*	0.428 +/- 0.239	0.185	pCi/l		10/31/17	11/06/17	RE
Radium-228	EPA 904*	0.954 +/- 0.488	0.675	pCi/l		11/03/17	11/17/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	0.009	109.0			NC	0.516	116.0	105.0	9.5	R1293
Radium-228	0.394	89.5			NC	0.549	76.5	76.1	0.3	R4017

Lab Approval:

Ron Eidson
Director of Radiochemistry

*NELAC Certified Parameter BDL = Below Detection Limit

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Kelly Glenz

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature): Jim Muckler + Kelly Glenz

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

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# 942866

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P619968

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
MW-602	Grab	NPW	N/A	10-5-17	10:45	2	X		
MW-602 MS		NPW		10-5-17	10:45	2	X		
MW-602 MSD		NPW		10-5-17	10:45	2	X		
MW-14R		NPW		10-5-17	11:30	2	X		
MW-804		NPW		10-5-17	12:00	2	X		
MW-951		NPW		10-5-17	12:15	2	X		
MW-805		NPW		10-5-17	12:40	2	X		
MW-904		NPW		10-5-17	13:50	2	X		
MW-601		NPW		10-6-17	11:00	2	X		
		NPW				2	X		

COPY

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Jim Muckler	10-6-17	13:00		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 28
	10-6-17	1700		If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/6/17 Time: 1750
				Hold: Condition: NCF / OK

201709554

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:

Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Gury

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ORL-RA-226, RA-228 1L-HDPE-Add HNO3
MW-11	Grab	NPW		10/5/17	1015	2	X
MW-703		NPW			1140	2	X
MW-13		NPW			1405	2	X
MW-7		NPW			1535	2	X
MW-6		NPW			1735	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

Analysis / Container / Preservative

COPY

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# 94286C

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P619968

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks:Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	__NP __Y __N
COC Signed/Accurate:	__Y __N
Bottles arrive intact:	__Y __N
Correct bottles used:	__Y __N
Sufficient volume sent:	__Y __N
If Applicable	
VOA Zero Headspace:	__Y __N
Preservation Correct/Checked:	__Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	10/5/17	1930			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 28	
	10/6/17	1700			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/9/17 Time: 1250	Hold: / Condition: NCF / OK

20170954

SAMPLE LOGIN

Date Received: *10/9/2017 12:50:4* **Lab Number:** 20170954 **Due:** 11/6/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170954-01 B	MW-602	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-01 A	MW-602	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-02 A	MW-602 MS	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-02 B	MW-602 MS	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-03 A	MW-602 MSD	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-03 B	MW-602 MSD	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-04 A	MW-14R	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-04 B	MW-14R	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-05 A	MW-804	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-05 B	MW-804	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-06 A	MW-951	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-06 B	MW-951	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-07 B	MW-805	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-07 A	MW-805	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170954-08 B	MW-904	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-08 A	MW-904	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-09 A	MW-601	NPW	10/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-09 B	MW-601	NPW	10/06/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-10 A	MW-11	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-10 B	MW-11	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-11 A	MW-703	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-11 B	MW-703	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-12 A	MW-13	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-12 B	MW-13	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-13 A	MW-7	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-13 B	MW-7	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170954-14 B	MW-6	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170954-14 A	MW-6	NPW	10/05/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 2 **Custody Seals Broken** Ø **Temperature:** 4.5 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ☑ **Labels in Tact** ✓ **Radiation Survey Complete** N/A

Anomalies

Inspected By: _____ **DATE** 10/9/17

QA or Designee Review: Raymond Thomas **DATE** 10/09/17

Sample Custodian Review: _____ **DATE** 10/9/17

Project Notes:

ANALYTICAL REPORT

October 25, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L941895
Samples Received:	10/06/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

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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MW-950 L941895-01 GW

Collected by: SK/G | Collected date/time: 10/03/17 09:30 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 06:16	10/13/17 06:16	KCF
Wet Chemistry by Method 9056A	WG1030420	5	10/13/17 12:21	10/13/17 12:21	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:29	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:13	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:12	JPD

MW-705 L941895-02 GW

Collected by: SK/G | Collected date/time: 10/03/17 10:10 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 06:31	10/13/17 06:31	KCF
Wet Chemistry by Method 9056A	WG1030420	5	10/13/17 12:36	10/13/17 12:36	KCF
Mercury by Method 7470A	WG1031772	1	10/16/17 10:26	10/16/17 14:49	ABL
Metals (ICP) by Method 6010B	WG1031427	1	10/16/17 10:09	10/16/17 12:37	CCE
Metals (ICPMS) by Method 6020	WG1031499	1	10/15/17 14:24	10/17/17 15:42	JD

TW-1 L941895-03 GW

Collected by: SK/G | Collected date/time: 10/03/17 12:10 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 06:46	10/13/17 06:46	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:32	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:16	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:16	JPD

MW-702 L941895-04 GW

Collected by: SK/G | Collected date/time: 10/03/17 13:45 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 07:01	10/13/17 07:01	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:39	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:18	TRB
Metals (ICPMS) by Method 6020	WG1029561	1	10/12/17 15:27	10/14/17 20:02	JDG

MW-701 L941895-05 GW

Collected by: SK/G | Collected date/time: 10/03/17 15:00 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 07:16	10/13/17 07:16	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:41	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:37	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:19	JPD

MW-704 L941895-06 GW

Collected by: SK/G | Collected date/time: 10/03/17 16:05 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 07:30	10/13/17 07:30	KCF
Wet Chemistry by Method 9056A	WG1030420	5	10/13/17 12:51	10/13/17 12:51	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:43	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:40	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:37	JPD

MW-707B L941895-07 GW

Collected by: SK/G | Collected date/time: 10/03/17 17:00 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 07:45	10/13/17 07:45	KCF
Wet Chemistry by Method 9056A	WG1030420	100	10/13/17 13:06	10/13/17 13:06	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:45	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:43	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:41	JPD

MW-706 L941895-08 GW

Collected by: SK/G | Collected date/time: 10/04/17 09:20 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1031207	1	10/13/17 14:30	10/13/17 14:30	KCF
Wet Chemistry by Method 9056A	WG1031207	5	10/13/17 14:45	10/13/17 14:45	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:48	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:45	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:44	JPD

MW-708 L941895-09 GW

Collected by: SK/G | Collected date/time: 10/04/17 10:15 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030423	1	10/12/17 20:02	10/12/17 20:02	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:50	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:48	TRB
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 15:48	JPD

MW-10 L941895-10 GW

Collected by: SK/G | Collected date/time: 10/04/17 14:55 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028901	1	10/09/17 13:13	10/09/17 13:13	ER
Wet Chemistry by Method 9056A	WG1030423	1	10/12/17 20:27	10/12/17 20:27	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:20	EL
Metals (ICP) by Method 6010B	WG1029579	1	10/13/17 10:09	10/13/17 19:03	TRB

MW-10 L941895-10 GW

Collected by	Collected date/time	Received date/time
SK/G	10/04/17 14:55	10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICPMS) by Method 6020	WG1033468	1	10/19/17 16:38	10/20/17 14:33	JPD

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1010		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.71	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-01 WG1028901: 7.71 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	138		5.00	5	10/13/2017 12:21	WG1030420
Fluoride	1.04		0.100	1	10/13/2017 06:16	WG1030420
Sulfate	41.1		5.00	1	10/13/2017 06:16	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:29	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.27		0.200	1	10/13/2017 19:13	WG1029579
Lithium	0.131		0.0150	1	10/13/2017 19:13	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:13	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:12	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:12	WG1033468
Barium	0.0900		0.00500	1	10/20/2017 15:12	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:12	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:12	WG1033468
Calcium	36.6		1.00	1	10/20/2017 15:12	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:12	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:12	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:12	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:12	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:12	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1020		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.63	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-02 WG1028901: 7.63 at 17.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	138		5.00	5	10/13/2017 12:36	WG1030420
Fluoride	1.04		0.100	1	10/13/2017 06:31	WG1030420
Sulfate	41.3		5.00	1	10/13/2017 06:31	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/16/2017 14:49	WG1031772

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.13		0.200	1	10/16/2017 12:37	WG1031427
Lithium	0.115		0.0150	1	10/16/2017 12:37	WG1031427
Molybdenum	ND		0.00500	1	10/16/2017 12:37	WG1031427

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/17/2017 15:42	WG1031499
Arsenic	ND		0.00200	1	10/17/2017 15:42	WG1031499
Barium	0.0873		0.00500	1	10/17/2017 15:42	WG1031499
Beryllium	ND		0.00200	1	10/17/2017 15:42	WG1031499
Cadmium	ND		0.00100	1	10/17/2017 15:42	WG1031499
Calcium	36.1		1.00	1	10/17/2017 15:42	WG1031499
Chromium	ND		0.00200	1	10/17/2017 15:42	WG1031499
Cobalt	ND		0.00200	1	10/17/2017 15:42	WG1031499
Lead	ND		0.00200	1	10/17/2017 15:42	WG1031499
Selenium	ND		0.00200	1	10/17/2017 15:42	WG1031499
Thallium	ND		0.00200	1	10/17/2017 15:42	WG1031499

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-03 WG1028901: 7.65 at 16.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.9		1.00	1	10/13/2017 06:46	WG1030420
Fluoride	0.403		0.100	1	10/13/2017 06:46	WG1030420
Sulfate	59.0		5.00	1	10/13/2017 06:46	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:32	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.65		0.200	1	10/13/2017 19:16	WG1029579
Lithium	0.151		0.0150	1	10/13/2017 19:16	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:16	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:16	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:16	WG1033468
Barium	0.0829		0.00500	1	10/20/2017 15:16	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:16	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:16	WG1033468
Calcium	33.4		1.00	1	10/20/2017 15:16	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:16	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:16	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:16	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:16	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:16	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	680		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.04	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-04 WG1028901: 8.04 at 17.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.5		1.00	1	10/13/2017 07:01	WG1030420
Fluoride	1.53		0.100	1	10/13/2017 07:01	WG1030420
Sulfate	ND		5.00	1	10/13/2017 07:01	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:39	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.94		0.200	1	10/13/2017 19:18	WG1029579
Lithium	0.0735		0.0150	1	10/13/2017 19:18	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:18	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/14/2017 20:02	WG1029561
Arsenic	ND		0.00200	1	10/14/2017 20:02	WG1029561
Barium	0.408		0.00500	1	10/14/2017 20:02	WG1029561
Beryllium	ND		0.00200	1	10/14/2017 20:02	WG1029561
Cadmium	ND		0.00100	1	10/14/2017 20:02	WG1029561
Calcium	19.6		1.00	1	10/14/2017 20:02	WG1029561
Chromium	ND		0.00200	1	10/14/2017 20:02	WG1029561
Cobalt	ND		0.00200	1	10/14/2017 20:02	WG1029561
Lead	ND		0.00200	1	10/14/2017 20:02	WG1029561
Selenium	ND		0.00200	1	10/14/2017 20:02	WG1029561
Thallium	ND		0.00200	1	10/14/2017 20:02	WG1029561

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	595		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.76	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-05 WG1028901: 7.76 at 17.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	51.5		1.00	1	10/13/2017 07:16	WG1030420
Fluoride	0.798		0.100	1	10/13/2017 07:16	WG1030420
Sulfate	80.6		5.00	1	10/13/2017 07:16	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:41	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.09		0.200	1	10/13/2017 19:37	WG1029579
Lithium	0.0429		0.0150	1	10/13/2017 19:37	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:37	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:19	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:19	WG1033468
Barium	0.190		0.00500	1	10/20/2017 15:19	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:19	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:19	WG1033468
Calcium	36.1		1.00	1	10/20/2017 15:19	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:19	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:19	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:19	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:19	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:19	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1250		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.73	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-06 WG1028901: 7.73 at 18.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	85.0		1.00	1	10/13/2017 07:30	WG1030420
Fluoride	0.917		0.100	1	10/13/2017 07:30	WG1030420
Sulfate	168		25.0	5	10/13/2017 12:51	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:43	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.12		0.200	1	10/13/2017 19:40	WG1029579
Lithium	0.107		0.0150	1	10/13/2017 19:40	WG1029579
Molybdenum	0.00800		0.00500	1	10/13/2017 19:40	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	0.00521		0.00200	1	10/20/2017 15:37	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:37	WG1033468
Barium	0.0842		0.00500	1	10/20/2017 15:37	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:37	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:37	WG1033468
Calcium	30.3		1.00	1	10/20/2017 15:37	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:37	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:37	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:37	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:37	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:37	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	7690		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.06	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-07 WG1028901: 7.06 at 17.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	214		100	100	10/13/2017 13:06	WG1030420
Fluoride	0.391		0.100	1	10/13/2017 07:45	WG1030420
Sulfate	4800		500	100	10/13/2017 13:06	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:45	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.02		0.200	1	10/13/2017 19:43	WG1029579
Lithium	0.974		0.0150	1	10/13/2017 19:43	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:43	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:41	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:41	WG1033468
Barium	0.0244		0.00500	1	10/20/2017 15:41	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:41	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:41	WG1033468
Calcium	382		1.00	1	10/20/2017 15:41	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:41	WG1033468
Cobalt	0.00467		0.00200	1	10/20/2017 15:41	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:41	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:41	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:41	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1240		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.61	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-08 WG1028901: 7.61 at 17.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	276		5.00	5	10/13/2017 14:45	WG1031207
Fluoride	1.11		0.100	1	10/13/2017 14:30	WG1031207
Sulfate	ND		5.00	1	10/13/2017 14:30	WG1031207

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:48	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.23		0.200	1	10/13/2017 19:45	WG1029579
Lithium	0.146		0.0150	1	10/13/2017 19:45	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:45	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:44	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:44	WG1033468
Barium	0.296		0.00500	1	10/20/2017 15:44	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:44	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:44	WG1033468
Calcium	31.1		1.00	1	10/20/2017 15:44	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:44	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:44	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:44	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:44	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:44	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	645		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.67	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-09 WG1028901: 7.67 at 16.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.0		1.00	1	10/12/2017 20:02	WG1030423
Fluoride	0.642		0.100	1	10/12/2017 20:02	WG1030423
Sulfate	9.09		5.00	1	10/12/2017 20:02	WG1030423

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:50	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.49		0.200	1	10/13/2017 19:48	WG1029579
Lithium	0.0816		0.0150	1	10/13/2017 19:48	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:48	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 15:48	WG1033468
Arsenic	ND		0.00200	1	10/20/2017 15:48	WG1033468
Barium	0.277		0.00500	1	10/20/2017 15:48	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 15:48	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 15:48	WG1033468
Calcium	32.7		1.00	1	10/20/2017 15:48	WG1033468
Chromium	ND		0.00200	1	10/20/2017 15:48	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 15:48	WG1033468
Lead	ND		0.00200	1	10/20/2017 15:48	WG1033468
Selenium	ND		0.00200	1	10/20/2017 15:48	WG1033468
Thallium	ND		0.00200	1	10/20/2017 15:48	WG1033468

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	604		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.51	T8	1	10/09/2017 13:13	WG1028901

Sample Narrative:

L941895-10 WG1028901: 7.51 at 16.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	62.8	J6	1.00	1	10/12/2017 20:27	WG1030423
Fluoride	0.377		0.100	1	10/12/2017 20:27	WG1030423
Sulfate	25.5	J6	5.00	1	10/12/2017 20:27	WG1030423

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:20	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.991		0.200	1	10/13/2017 19:03	WG1029579
Lithium	0.0460		0.0150	1	10/13/2017 19:03	WG1029579
Molybdenum	ND		0.00500	1	10/13/2017 19:03	WG1029579

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 14:33	WG1033468
Arsenic	0.00508		0.00200	1	10/20/2017 14:33	WG1033468
Barium	0.289		0.00500	1	10/20/2017 14:33	WG1033468
Beryllium	ND		0.00200	1	10/20/2017 14:33	WG1033468
Cadmium	ND		0.00100	1	10/20/2017 14:33	WG1033468
Calcium	58.4	V	1.00	1	10/20/2017 14:33	WG1033468
Chromium	ND		0.00200	1	10/20/2017 14:33	WG1033468
Cobalt	ND		0.00200	1	10/20/2017 14:33	WG1033468
Lead	ND		0.00200	1	10/20/2017 14:33	WG1033468
Selenium	ND		0.00200	1	10/20/2017 14:33	WG1033468
Thallium	ND		0.00200	1	10/20/2017 14:33	WG1033468

Method Blank (MB)

(MB) R3256942-1 10/10/17 17:01

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

L941644-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941644-08 10/10/17 17:01 • (DUP) R3256942-4 10/10/17 17:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	7300	6960	1	4.77		5

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/10/17 17:01 • (DUP) R3256942-5 10/10/17 17:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	7690	7340	1	4.66		5

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

(LCS) R3256942-2 10/10/17 17:01 • (LCSD) R3256942-3 10/10/17 17:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8470	8540	96.3	97.0	85.0-115			0.823	5

Method Blank (MB)

(MB) R3257326-1 10/11/17 16:37

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

L941895-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-08 10/11/17 16:37 • (DUP) R3257326-4 10/11/17 16:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1240	1250	1	1.20		5

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

(LCS) R3257326-2 10/11/17 16:37 • (LCSD) R3257326-3 10/11/17 16:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8630	8640	98.1	98.2	85.0-115			0.116	5

L941758-02 Original Sample (OS) • Duplicate (DUP)

(OS) L941758-02 10/09/17 13:13 • (DUP) WG1028901-3 10/09/17 13:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.82	9.80	1	0.204	T8	1

Sample Narrative:

OS: 9.82 at 19.6c

DUP: 9.80 at 19.4c

L941905-11 Original Sample (OS) • Duplicate (DUP)

(OS) L941905-11 10/09/17 13:13 • (DUP) WG1028901-4 10/09/17 13:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.83	5.84	1	0.171	T8	1

Sample Narrative:

OS: 5.83 at 22.1c

DUP: 5.84 at 22.3c

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

(LCS) WG1028901-1 10/09/17 13:13 • (LCSD) WG1028901-2 10/09/17 13:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	5.96	6.06	6.06	102	102	98.3-102			0.000	1

Sample Narrative:

LCS: 6.06 at 23.1c

LCSD: 6.06 at 23.3c

Method Blank (MB)

(MB) R3257312-1 10/13/17 02:48

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

L941717-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941717-01 10/13/17 04:02 • (DUP) R3257312-4 10/13/17 04:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.38	2.80	1	19	P1	15
Fluoride	0.0388	0.0458	1	17	J P1	15
Sulfate	4.56	4.62	1	1	J	15

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/13/17 07:45 • (DUP) R3257312-6 10/13/17 08:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.391	0.407	1	4		15

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/13/17 13:06 • (DUP) R3257312-9 10/13/17 13:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	214	210	100	2		15
Sulfate	4800	4670	100	3		15

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

(LCS) R3257312-2 10/13/17 03:03 • (LCSD) R3257312-3 10/13/17 03:17

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 %
Chloride	40.0	39.4	39.3	98	98	80-120			0	15
Fluoride	8.00	7.94	7.94	99	99	80-120			0	15
Sulfate	40.0	39.6	39.5	99	99	80-120			0	15

L941717-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L941717-02 10/13/17 04:32 • (MS) R3257312-5 10/13/17 04:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	5.06	53.8	97	1	80-120	
Fluoride	5.00	0.0339	5.00	99	1	80-120	
Sulfate	50.0	5.34	54.2	98	1	80-120	

L941904-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941904-08 10/13/17 10:29 • (MS) R3257312-7 10/13/17 10:44 • (MSD) R3257312-8 10/13/17 10:59

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 %
Chloride	50.0	49.3	97.6	94.9	97	91	1	80-120			3	15
Fluoride	5.00	0.594	5.73	5.40	103	96	1	80-120			6	15
Sulfate	50.0	23.2	73.0	69.6	100	93	1	80-120			5	15

Method Blank (MB)

(MB) R3257136-1 10/12/17 18:31

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

L941895-09 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-09 10/12/17 20:02 • (DUP) R3257136-4 10/12/17 20:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	48.0	47.9	1	0		15
Fluoride	0.642	0.639	1	0		15
Sulfate	9.09	9.08	1	0		15

L941976-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941976-01 10/13/17 01:02 • (DUP) R3257136-7 10/13/17 01:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	0.222	1	147	J P1	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) R3257136-2 10/12/17 18:44 • (LCSD) R3257136-3 10/12/17 18:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.5	39.6	99	99	80-120			0	15
Fluoride	8.00	7.94	7.98	99	100	80-120			0	15
Sulfate	40.0	40.6	40.6	101	102	80-120			0	15

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/12/17 20:27 • (MS) R3257136-5 10/12/17 20:40 • (MSD) R3257136-6 10/12/17 20:53

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 %
Chloride	50.0	62.8	96.5	95.2	67	65	1	80-120	J6	J6	1	15
Fluoride	5.00	0.377	5.48	5.69	102	106	1	80-120			4	15
Sulfate	50.0	25.5	60.4	60.1	70	69	1	80-120	J6	J6	0	15

L941977-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L941977-03 10/13/17 02:06 • (MS) R3257136-8 10/13/17 02:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	86.8	135	96	1	80-120	E
Fluoride	5.00	0.212	5.06	97	1	80-120	

Method Blank (MB)

(MB) R3257473-1 10/13/17 06:54

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

L942140-09 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-09 10/13/17 16:00 • (DUP) R3257473-4 10/13/17 16:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.37	1.36	1	1		15
Sulfate	ND	0.000	1	0		15

L942140-11 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-11 10/13/17 17:29 • (DUP) R3257473-7 10/13/17 17:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.19	1.15	1	3		15
Sulfate	ND	0.000	1	200	P1	15

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

(LCS) R3257473-2 10/13/17 07:09 • (LCSD) R3257473-3 10/13/17 07:24

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 %
Chloride	40.0	39.2	39.2	98	98	80-120			0	15
Fluoride	8.00	7.97	7.98	100	100	80-120			0	15
Sulfate	40.0	38.7	38.7	97	97	80-120			0	15

L942140-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-09 10/13/17 16:00 • (MS) R3257473-5 10/13/17 16:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.37	6.54	103	1	80-120	
Sulfate	50.0	ND	49.4	99	1	80-120	

L942140-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-09 10/13/17 16:00 • (MS) R3257473-6 10/13/17 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.37	6.49	103	1	80-120	
Sulfate	50.0	ND	48.7	97	1	80-120	

L942140-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-11 10/13/17 17:29 • (MS) R3257473-8 10/13/17 18:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.19	6.27	102	1	80-120	
Sulfate	50.0	ND	49.1	98	1	80-120	

Method Blank (MB)

(MB) R3257018-1 10/12/17 15:13

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

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

(LCS) R3257018-2 10/12/17 15:16 • (LCSD) R3257018-3 10/12/17 15:18

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 %
Mercury	0.00300	0.00294	0.00289	98	96	80-120			2	20

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/12/17 15:20 • (MS) R3257018-4 10/12/17 15:23 • (MSD) R3257018-5 10/12/17 15:25

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	0.00312	0.00299	104	100	1	75-125			4	20

Method Blank (MB)

(MB) R3257813-1 10/16/17 14:28

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

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

(LCS) R3257813-2 10/16/17 14:30 • (LCSD) R3257813-3 10/16/17 14:33

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	0.00286	98	95	80-120			2	20

L943292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L943292-01 10/16/17 14:40 • (MS) R3257813-4 10/16/17 14:42 • (MSD) R3257813-5 10/16/17 14:44

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	0.00333	0.00326	111	109	1	75-125			2	20

Method Blank (MB)

(MB) R3257397-1 10/13/17 18:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3257397-2 10/13/17 18:58 • (LCSD) R3257397-3 10/13/17 19:00

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 %
Boron	1.00	1.02	1.03	102	103	80-120			1	20
Lithium	1.00	1.04	1.05	104	105	80-120			1	20
Molybdenum	1.00	1.05	1.07	105	107	80-120			1	20

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/13/17 19:03 • (MS) R3257397-5 10/13/17 19:08 • (MSD) R3257397-6 10/13/17 19:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.991	1.96	1.99	97	100	1	75-125			1	20
Lithium	1.00	0.0460	1.07	1.07	102	103	1	75-125			1	20
Molybdenum	1.00	ND	1.05	1.06	105	106	1	75-125			1	20

Method Blank (MB)

(MB) R3257761-1 10/16/17 12:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3257761-2 10/16/17 12:19 • (LCSD) R3257761-3 10/16/17 12:21

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 %
Boron	1.00	0.991	1.02	99	102	80-120			3	20
Lithium	1.00	1.00	1.00	100	100	80-120			0	20
Molybdenum	1.00	1.01	1.02	101	102	80-120			0	20

L942352-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942352-01 10/16/17 12:24 • (MS) R3257761-5 10/16/17 12:29 • (MSD) R3257761-6 10/16/17 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.06	1.08	102	104	1	75-125			3	20
Lithium	1.00	ND	0.989	1.01	99	101	1	75-125			2	20
Molybdenum	1.00	ND	1.01	1.02	101	102	1	75-125			2	20

Method Blank (MB)

(MB) R3257668-1 10/14/17 18:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	0.047	J	0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3257668-2 10/14/17 18:58 • (LCSD) R3257668-3 10/14/17 19:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0504	0.0505	101	101	80-120			0	20
Arsenic	0.0500	0.0503	0.0499	101	100	80-120			1	20
Barium	0.0500	0.0496	0.0489	99	98	80-120			1	20
Beryllium	0.0500	0.0445	0.0442	89	88	80-120			1	20
Cadmium	0.0500	0.0530	0.0526	106	105	80-120			1	20
Calcium	5.00	5.01	4.87	100	97	80-120			3	20
Chromium	0.0500	0.0513	0.0507	103	101	80-120			1	20
Cobalt	0.0500	0.0526	0.0518	105	104	80-120			2	20
Lead	0.0500	0.0499	0.0492	100	98	80-120			1	20
Selenium	0.0500	0.0492	0.0490	98	98	80-120			0	20
Thallium	0.0500	0.0496	0.0496	99	99	80-120			0	20

L941846-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941846-03 10/14/17 19:05 • (MS) R3257668-5 10/14/17 19:12 • (MSD) R3257668-6 10/14/17 19:15

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	ND	0.0500	0.0518	100	104	1	75-125			4	20
Arsenic	0.0500	0.0201	0.0681	0.0684	96	97	1	75-125			0	20
Barium	0.0500	0.295	0.337	0.337	83	85	1	75-125			0	20
Beryllium	0.0500	ND	0.0449	0.0453	90	91	1	75-125			1	20
Cadmium	0.0500	ND	0.0514	0.0535	103	107	1	75-125			4	20

L941846-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941846-03 10/14/17 19:05 • (MS) R3257668-5 10/14/17 19:12 • (MSD) R3257668-6 10/14/17 19:15

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	5.00	136	140	139	74	61	1	75-125	V	V	0	20
Chromium	0.0500	ND	0.0488	0.0497	98	99	1	75-125			2	20
Cobalt	0.0500	ND	0.0491	0.0503	98	101	1	75-125			2	20
Lead	0.0500	ND	0.0491	0.0495	98	98	1	75-125			1	20
Selenium	0.0500	ND	0.0498	0.0511	100	102	1	75-125			3	20
Thallium	0.0500	ND	0.0492	0.0505	98	101	1	75-125			3	20

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/14/17 19:19 • (MS) R3257668-7 10/14/17 19:23 • (MSD) R3257668-8 10/14/17 19:26

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	ND	0.0523	0.0523	105	105	1	75-125			0	20
Arsenic	0.0500	0.00495	0.0541	0.0542	98	99	1	75-125			0	20
Barium	0.0500	0.291	0.342	0.342	102	103	1	75-125			0	20
Beryllium	0.0500	ND	0.0453	0.0459	91	92	1	75-125			1	20
Cadmium	0.0500	ND	0.0526	0.0515	105	103	1	75-125			2	20
Calcium	5.00	58.7	63.4	62.7	92	80	1	75-125			1	20
Chromium	0.0500	ND	0.0499	0.0493	100	99	1	75-125			1	20
Cobalt	0.0500	ND	0.0500	0.0499	100	100	1	75-125			0	20
Lead	0.0500	ND	0.0494	0.0493	99	99	1	75-125			0	20
Selenium	0.0500	ND	0.0499	0.0495	100	99	1	75-125			1	20
Thallium	0.0500	ND	0.0499	0.0499	100	100	1	75-125			0	20

Method Blank (MB)

(MB) R3258262-1 10/17/17 14:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	0.001	J	0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3258262-2 10/17/17 14:21 • (LCSD) R3258262-3 10/17/17 14:24

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	0.0516	0.0505	103	101	80-120			2	20
Arsenic	0.0500	0.0489	0.0480	98	96	80-120			2	20
Barium	0.0500	0.0493	0.0500	99	100	80-120			2	20
Beryllium	0.0500	0.0465	0.0456	93	91	80-120			2	20
Cadmium	0.0500	0.0489	0.0481	98	96	80-120			2	20
Calcium	5.00	5.27	4.74	105	95	80-120			11	20
Chromium	0.0500	0.0489	0.0482	98	96	80-120			1	20
Cobalt	0.0500	0.0495	0.0491	99	98	80-120			1	20
Lead	0.0500	0.0479	0.0475	96	95	80-120			1	20
Selenium	0.0500	0.0497	0.0470	99	94	80-120			5	20
Thallium	0.0500	0.0483	0.0477	97	95	80-120			1	20

L941130-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941130-09 10/17/17 14:28 • (MS) R3258262-5 10/17/17 14:35 • (MSD) R3258262-6 10/17/17 14:38

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	ND	0.0527	0.0524	105	105	1	75-125			1	20
Arsenic	0.0500	ND	0.0485	0.0484	96	96	1	75-125			0	20
Barium	0.0500	0.00812	0.0575	0.0588	99	101	1	75-125			2	20
Beryllium	0.0500	ND	0.0460	0.0453	92	91	1	75-125			2	20
Cadmium	0.0500	ND	0.0506	0.0512	101	102	1	75-125			1	20

L941130-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941130-09 10/17/17 14:28 • (MS) R3258262-5 10/17/17 14:35 • (MSD) R3258262-6 10/17/17 14:38

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	5.00	311	308	309	0	0	1	75-125	V	V	0	20
Chromium	0.0500	ND	0.0478	0.0472	96	94	1	75-125			1	20
Cobalt	0.0500	ND	0.0481	0.0477	96	95	1	75-125			1	20
Lead	0.0500	ND	0.0478	0.0482	96	96	1	75-125			1	20
Selenium	0.0500	0.00606	0.0534	0.0543	95	96	1	75-125			2	20
Thallium	0.0500	ND	0.0478	0.0485	96	97	1	75-125			1	20

Method Blank (MB)

(MB) R3259323-1 10/20/17 14:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3259323-2 10/20/17 14:12 • (LCSD) R3259323-3 10/20/17 14:16

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	0.0500	0.0517	100	103	80-120			3	20
Arsenic	0.0500	0.0478	0.0497	96	99	80-120			4	20
Barium	0.0500	0.0476	0.0486	95	97	80-120			2	20
Beryllium	0.0500	0.0471	0.0474	94	95	80-120			1	20
Cadmium	0.0500	0.0488	0.0505	98	101	80-120			4	20
Calcium	5.00	4.86	4.99	97	100	80-120			3	20
Chromium	0.0500	0.0492	0.0509	98	102	80-120			3	20
Cobalt	0.0500	0.0500	0.0514	100	103	80-120			3	20
Lead	0.0500	0.0478	0.0491	96	98	80-120			3	20
Selenium	0.0500	0.0485	0.0485	97	97	80-120			0	20
Thallium	0.0500	0.0474	0.0497	95	99	80-120			5	20

L941846-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941846-03 10/20/17 14:19 • (MS) R3259323-5 10/20/17 14:26 • (MSD) R3259323-6 10/20/17 14:30

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	ND	0.0514	0.0503	103	101	1	75-125			2	20
Arsenic	0.0500	0.0182	0.0659	0.0663	96	96	1	75-125			1	20
Barium	0.0500	0.279	0.333	0.326	108	94	1	75-125			2	20
Beryllium	0.0500	ND	0.0470	0.0475	94	95	1	75-125			1	20
Cadmium	0.0500	ND	0.0496	0.0488	99	98	1	75-125			2	20

L941846-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941846-03 10/20/17 14:19 • (MS) R3259323-5 10/20/17 14:26 • (MSD) R3259323-6 10/20/17 14:30

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	5.00	134	139	137	102	77	1	75-125			1	20
Chromium	0.0500	ND	0.0483	0.0479	97	96	1	75-125			1	20
Cobalt	0.0500	ND	0.0479	0.0478	96	96	1	75-125			0	20
Lead	0.0500	ND	0.0478	0.0477	96	95	1	75-125			0	20
Selenium	0.0500	ND	0.0484	0.0482	97	96	1	75-125			0	20
Thallium	0.0500	ND	0.0485	0.0484	97	97	1	75-125			0	20

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/20/17 14:33 • (MS) R3259323-7 10/20/17 14:37 • (MSD) R3259323-8 10/20/17 14:40

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	ND	0.0523	0.0522	105	104	1	75-125			0	20
Arsenic	0.0500	0.00508	0.0536	0.0536	97	97	1	75-125			0	20
Barium	0.0500	0.289	0.336	0.333	93	87	1	75-125			1	20
Beryllium	0.0500	ND	0.0476	0.0493	95	99	1	75-125			4	20
Cadmium	0.0500	ND	0.0496	0.0496	99	99	1	75-125			0	20
Calcium	5.00	58.4	62.7	62.0	86	72	1	75-125		V	1	20
Chromium	0.0500	ND	0.0481	0.0485	96	97	1	75-125			1	20
Cobalt	0.0500	ND	0.0481	0.0486	96	97	1	75-125			1	20
Lead	0.0500	ND	0.0482	0.0490	96	98	1	75-125			2	20
Selenium	0.0500	ND	0.0491	0.0495	98	99	1	75-125			1	20
Thallium	0.0500	ND	0.0486	0.0490	97	98	1	75-125			1	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.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
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
Conneticut	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 [1 4]	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		

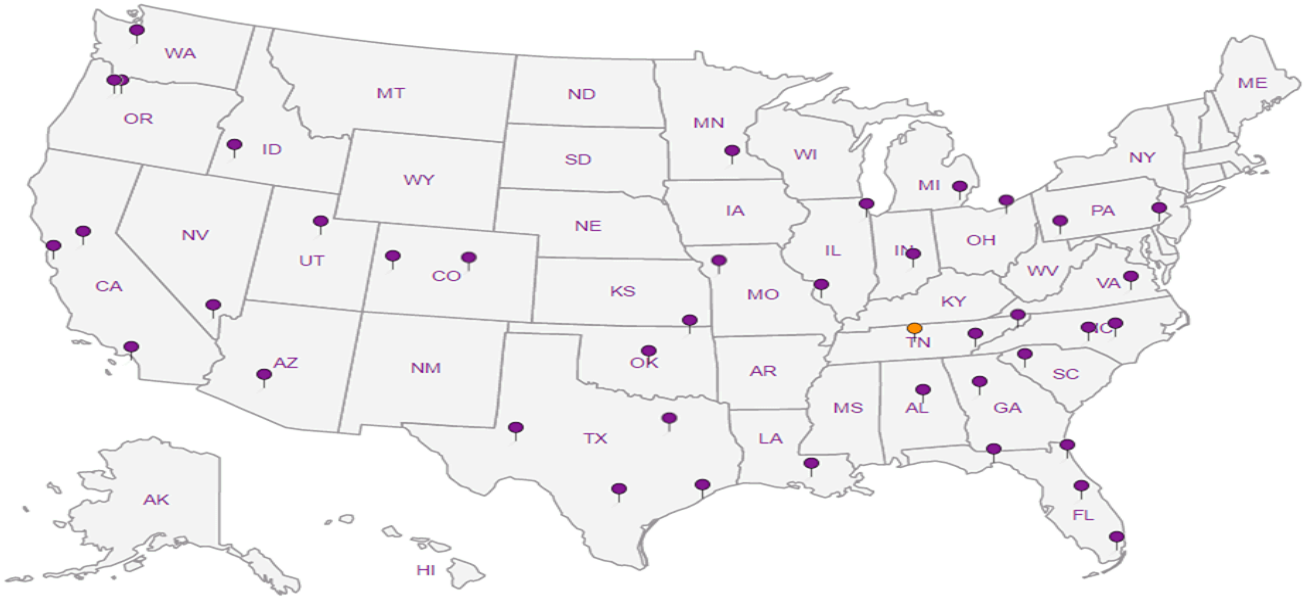
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Gwyn

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature)

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

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3							Remarks	Sample # (lab only)
									L2								
MW-950	Grab	GW		10/3/17	0930	3	X	X	X								-01
MW-705		GW			1010	3	X	X	X								-02
TW-1		GW			1210	3	X	X	X								-03
MW-702		GW			1345	3	X	X	X								-04
MW-701		GW			1500	3	X	X	X								-05
MW-704		GW			1605	3	X	X	X								-06
MW-707b		GW			1700	3	X	X	X								-07
MW-706		GW		10/4	0920	3	X	X	X								-08
MW-708		GW			1015	3	X	X	X								-09
MW-10		GW			1455	3	X	X	X								-10

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

ESCKC

Tracking # —

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/4/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/5/17	1300	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Chris Ward

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.9 °C Bottles Received: 36

Date: 10/6/17 Time: 1013

If preservation required by Login: Date/Time

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

Chain of Custody Page ___ of ___

ESC

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

L# 941895

D117

Acctnum: URSKC
Template: T114093
Prelogin: P619969
TSR: 206 - Jeff Carr
PB:
Shipped Via:

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Gwyn

Collected by (signature):

Immediately Packed on ice N ___ Y X

Site/Facility ID # TASK 100

P.O. # no PO number

Quote #

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

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3
MW-10-MS	Grab	GW		10/4/17	1455	3	X	X	X
MW-10-MSD	↓	GW		↓	1455	3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X
		GW				3	X	X	X

Chain of Custody Page ___ of ___

ESC

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

L# 941895

Table #

Acctnum: URSKC

Template: T114093

Prelogin: P619969

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks | Sample # (lab only)

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

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

Please indicate sample ID for the MS/MSD.

ESC KC

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: ___NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/4/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/5/17	1300	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.9 °C Bottles Received: 36

Date: 10/6/17 Time: 1013

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

October 20, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L941904
Samples Received:	10/06/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Alla Skaskevych
2380 McGee Suite 200
Kansas City, MO 64108

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.

TABLE OF CONTENTS

MW-15 L941904-01 GW

Collected by: JM/KG | Collected date/time: 10/03/17 14:30 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 08:45	10/13/17 08:45	KCF
Wet Chemistry by Method 9056A	WG1030420	5	10/13/17 13:36	10/13/17 13:36	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:52	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 00:37	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:20	JPD

MW-903 L941904-02 GW

Collected by: JM/KG | Collected date/time: 10/03/17 15:00 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 09:00	10/13/17 09:00	KCF
Wet Chemistry by Method 9056A	WG1030420	20	10/13/17 13:51	10/13/17 13:51	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:55	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 00:40	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:24	JPD

MW-902 L941904-03 GW

Collected by: JM/KG | Collected date/time: 10/03/17 15:40 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 09:15	10/13/17 09:15	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:57	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 00:50	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:35	JPD

MW-901 L941904-04 GW

Collected by: JM/KG | Collected date/time: 10/03/17 16:15 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 09:30	10/13/17 09:30	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 15:59	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 00:53	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:38	JPD

MW-905 L941904-05 GW

Collected by: JM/KG | Collected date/time: 10/03/17 16:40 | Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029248	1	10/10/17 16:08	10/10/17 17:01	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 09:45	10/13/17 09:45	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 16:08	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 00:57	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:42	JPD

MW-801 L941904-06 GW

Collected by: JM/KG
Collected date/time: 10/04/17 13:25
Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 10:00	10/13/17 10:00	KCF
Wet Chemistry by Method 9056A	WG1030420	5	10/13/17 14:06	10/13/17 14:06	KCF
Mercury by Method 7470A	WG1031772	1	10/16/17 10:26	10/16/17 14:51	ABL
Metals (ICP) by Method 6010B	WG1031427	1	10/16/17 10:09	10/16/17 12:39	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:45	JPD

MW-802 L941904-07 GW

Collected by: JM/KG
Collected date/time: 10/04/17 14:15
Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 10:15	10/13/17 10:15	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 16:10	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 01:00	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:49	JPD

MW-803 L941904-08 GW

Collected by: JM/KG
Collected date/time: 10/04/17 14:45
Received date/time: 10/06/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1029931	1	10/11/17 15:34	10/11/17 16:37	BS
Wet Chemistry by Method 9040C	WG1028903	1	10/07/17 12:46	10/07/17 12:46	GB
Wet Chemistry by Method 9056A	WG1030420	1	10/13/17 10:29	10/13/17 10:29	KCF
Mercury by Method 7470A	WG1030069	1	10/11/17 13:58	10/12/17 16:13	EL
Metals (ICP) by Method 6010B	WG1029577	1	10/12/17 14:04	10/13/17 01:03	CCE
Metals (ICPMS) by Method 6020	WG1029564	1	10/13/17 15:57	10/19/17 15:52	JPD

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	815		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.22	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-01 WG1028903: 7.22 at 20.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.5		1.00	1	10/13/2017 08:45	WG1030420
Fluoride	0.244		0.100	1	10/13/2017 08:45	WG1030420
Sulfate	222		25.0	5	10/13/2017 13:36	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:52	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.225		0.200	1	10/13/2017 00:37	WG1029577
Lithium	0.0209		0.0150	1	10/13/2017 00:37	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 00:37	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:20	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:20	WG1029564
Barium	0.0541		0.00500	1	10/19/2017 15:20	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:20	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:20	WG1029564
Calcium	108		1.00	1	10/19/2017 15:20	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:20	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:20	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:20	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:20	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:20	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2070		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.90	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-02 WG1028903: 6.90 at 21.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.3		1.00	1	10/13/2017 09:00	WG1030420
Fluoride	ND		0.100	1	10/13/2017 09:00	WG1030420
Sulfate	1010		100	20	10/13/2017 13:51	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:55	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.416		0.200	1	10/13/2017 00:40	WG1029577
Lithium	0.0506		0.0150	1	10/13/2017 00:40	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 00:40	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:24	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:24	WG1029564
Barium	0.0146		0.00500	1	10/19/2017 15:24	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:24	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:24	WG1029564
Calcium	344		1.00	1	10/19/2017 15:24	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:24	WG1029564
Cobalt	0.00241		0.00200	1	10/19/2017 15:24	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:24	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:24	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:24	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	541		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.29	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-03 WG1028903: 7.29 at 20.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.6		1.00	1	10/13/2017 09:15	WG1030420
Fluoride	0.466		0.100	1	10/13/2017 09:15	WG1030420
Sulfate	36.5		5.00	1	10/13/2017 09:15	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:57	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.26		0.200	1	10/13/2017 00:50	WG1029577
Lithium	0.0389		0.0150	1	10/13/2017 00:50	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 00:50	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:35	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:35	WG1029564
Barium	0.114		0.00500	1	10/19/2017 15:35	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:35	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:35	WG1029564
Calcium	69.2		1.00	1	10/19/2017 15:35	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:35	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:35	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:35	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:35	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:35	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	544		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.32	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-04 WG1028903: 7.32 at 20.7c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	22.9		1.00	1	10/13/2017 09:30	WG1030420
Fluoride	0.483		0.100	1	10/13/2017 09:30	WG1030420
Sulfate	14.9		5.00	1	10/13/2017 09:30	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:59	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.19		0.200	1	10/13/2017 00:53	WG1029577
Lithium	0.0519		0.0150	1	10/13/2017 00:53	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 00:53	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:38	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:38	WG1029564
Barium	0.192		0.00500	1	10/19/2017 15:38	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:38	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:38	WG1029564
Calcium	58.2		1.00	1	10/19/2017 15:38	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:38	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:38	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:38	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:38	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:38	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	662		10.0	1	10/10/2017 17:01	WG1029248

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.41	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-05 WG1028903: 7.41 at 21.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	53.6		1.00	1	10/13/2017 09:45	WG1030420
Fluoride	0.569		0.100	1	10/13/2017 09:45	WG1030420
Sulfate	26.6		5.00	1	10/13/2017 09:45	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 16:08	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.89		0.200	1	10/13/2017 00:57	WG1029577
Lithium	0.0715		0.0150	1	10/13/2017 00:57	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 00:57	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:42	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:42	WG1029564
Barium	0.126		0.00500	1	10/19/2017 15:42	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:42	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:42	WG1029564
Calcium	52.3		1.00	1	10/19/2017 15:42	WG1029564
Chromium	0.00428		0.00200	1	10/19/2017 15:42	WG1029564
Cobalt	0.00257		0.00200	1	10/19/2017 15:42	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:42	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:42	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:42	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	916		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.65	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-06 WG1028903: 7.65 at 20.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	118		5.00	5	10/13/2017 14:06	WG1030420
Fluoride	1.16		0.100	1	10/13/2017 10:00	WG1030420
Sulfate	ND		5.00	1	10/13/2017 10:00	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/16/2017 14:51	WG1031772

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.30		0.200	1	10/16/2017 12:39	WG1031427
Lithium	0.0981		0.0150	1	10/16/2017 12:39	WG1031427
Molybdenum	ND		0.00500	1	10/16/2017 12:39	WG1031427

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:45	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:45	WG1029564
Barium	0.588		0.00500	1	10/19/2017 15:45	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:45	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:45	WG1029564
Calcium	31.4		1.00	1	10/19/2017 15:45	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:45	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:45	WG1029564
Lead	0.00708		0.00200	1	10/19/2017 15:45	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:45	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:45	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	684		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.68	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-07 WG1028903: 7.68 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.4		1.00	1	10/13/2017 10:15	WG1030420
Fluoride	1.07		0.100	1	10/13/2017 10:15	WG1030420
Sulfate	ND		5.00	1	10/13/2017 10:15	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 16:10	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.48		0.200	1	10/13/2017 01:00	WG1029577
Lithium	0.0890		0.0150	1	10/13/2017 01:00	WG1029577
Molybdenum	ND		0.00500	1	10/13/2017 01:00	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:49	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:49	WG1029564
Barium	0.883		0.00500	1	10/19/2017 15:49	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:49	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:49	WG1029564
Calcium	34.1		1.00	1	10/19/2017 15:49	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:49	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:49	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:49	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:49	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:49	WG1029564

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	625		10.0	1	10/11/2017 16:37	WG1029931

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.64	T8	1	10/07/2017 12:46	WG1028903

Sample Narrative:

L941904-08 WG1028903: 7.64 at 19.9c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.3		1.00	1	10/13/2017 10:29	WG1030420
Fluoride	0.594		0.100	1	10/13/2017 10:29	WG1030420
Sulfate	23.2		5.00	1	10/13/2017 10:29	WG1030420

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 16:13	WG1030069

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.07		0.200	1	10/13/2017 01:03	WG1029577
Lithium	0.0909		0.0150	1	10/13/2017 01:03	WG1029577
Molybdenum	0.00549		0.00500	1	10/13/2017 01:03	WG1029577

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/19/2017 15:52	WG1029564
Arsenic	ND		0.00200	1	10/19/2017 15:52	WG1029564
Barium	0.240		0.00500	1	10/19/2017 15:52	WG1029564
Beryllium	ND		0.00200	1	10/19/2017 15:52	WG1029564
Cadmium	ND		0.00100	1	10/19/2017 15:52	WG1029564
Calcium	46.1		1.00	1	10/19/2017 15:52	WG1029564
Chromium	ND		0.00200	1	10/19/2017 15:52	WG1029564
Cobalt	ND		0.00200	1	10/19/2017 15:52	WG1029564
Lead	ND		0.00200	1	10/19/2017 15:52	WG1029564
Selenium	ND		0.00200	1	10/19/2017 15:52	WG1029564
Thallium	ND		0.00200	1	10/19/2017 15:52	WG1029564

Method Blank (MB)

(MB) R3256942-1 10/10/17 17:01

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

L941644-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941644-08 10/10/17 17:01 • (DUP) R3256942-4 10/10/17 17:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	7300	6960	1	4.77		5

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/10/17 17:01 • (DUP) R3256942-5 10/10/17 17:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	7690	7340	1	4.66		5

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

(LCS) R3256942-2 10/10/17 17:01 • (LCSD) R3256942-3 10/10/17 17:01

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	%	%	%			%	%
Dissolved Solids	8800	8470	8540	96.3	97.0	85.0-115			0.823	5

Method Blank (MB)

(MB) R3257326-1 10/11/17 16:37

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

L941895-08 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-08 10/11/17 16:37 • (DUP) R3257326-4 10/11/17 16:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1240	1250	1	1.20		5

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

(LCS) R3257326-2 10/11/17 16:37 • (LCSD) R3257326-3 10/11/17 16:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800	8630	8640	98.1	98.2	85.0-115			0.116	5

L941514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941514-01 10/07/17 12:46 • (DUP) WG1028903-3 10/07/17 12:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.80	6.80	1	0.000	T8	1

Sample Narrative:

OS: 6.80 at 16.1c

DUP: 6.80 at 16.4c

L941919-04 Original Sample (OS) • Duplicate (DUP)

(OS) L941919-04 10/07/17 12:46 • (DUP) WG1028903-4 10/07/17 12:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.15	7.15	1	0.000	T8	1

Sample Narrative:

OS: 7.15 at 20.2c

DUP: 7.15 at 20.4c

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

(LCS) WG1028903-1 10/07/17 12:46 • (LCSD) WG1028903-2 10/07/17 12:46

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	10.0	10.0	10.0	100	100	98.3-102			0.000	1

Sample Narrative:

LCS: 10.00 at 19.9c

LCSD: 10.00 at 19.8c

Method Blank (MB)

(MB) R3257312-1 10/13/17 02:48

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

L941717-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941717-01 10/13/17 04:02 • (DUP) R3257312-4 10/13/17 04:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.38	2.80	1	19	P1	15
Fluoride	0.0388	0.0458	1	17	J P1	15
Sulfate	4.56	4.62	1	1	J	15

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/13/17 07:45 • (DUP) R3257312-6 10/13/17 08:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.391	0.407	1	4		15

L941895-07 Original Sample (OS) • Duplicate (DUP)

(OS) L941895-07 10/13/17 13:06 • (DUP) R3257312-9 10/13/17 13:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	214	210	100	2		15
Sulfate	4800	4670	100	3		15

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

(LCS) R3257312-2 10/13/17 03:03 • (LCSD) R3257312-3 10/13/17 03:17

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 %
Chloride	40.0	39.4	39.3	98	98	80-120			0	15
Fluoride	8.00	7.94	7.94	99	99	80-120			0	15
Sulfate	40.0	39.6	39.5	99	99	80-120			0	15

L941717-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L941717-02 10/13/17 04:32 • (MS) R3257312-5 10/13/17 04:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	5.06	53.8	97	1	80-120	
Fluoride	5.00	0.0339	5.00	99	1	80-120	
Sulfate	50.0	5.34	54.2	98	1	80-120	

L941904-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941904-08 10/13/17 10:29 • (MS) R3257312-7 10/13/17 10:44 • (MSD) R3257312-8 10/13/17 10:59

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 %
Chloride	50.0	49.3	97.6	94.9	97	91	1	80-120			3	15
Fluoride	5.00	0.594	5.73	5.40	103	96	1	80-120			6	15
Sulfate	50.0	23.2	73.0	69.6	100	93	1	80-120			5	15

Method Blank (MB)

(MB) R3257018-1 10/12/17 15:13

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

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

(LCS) R3257018-2 10/12/17 15:16 • (LCSD) R3257018-3 10/12/17 15:18

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 %
Mercury	0.00300	0.00294	0.00289	98	96	80-120			2	20

L941895-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941895-10 10/12/17 15:20 • (MS) R3257018-4 10/12/17 15:23 • (MSD) R3257018-5 10/12/17 15:25

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	0.00312	0.00299	104	100	1	75-125			4	20

Method Blank (MB)

(MB) R3257813-1 10/16/17 14:28

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

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

(LCS) R3257813-2 10/16/17 14:30 • (LCSD) R3257813-3 10/16/17 14:33

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	0.00286	98	95	80-120			2	20

L943292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L943292-01 10/16/17 14:40 • (MS) R3257813-4 10/16/17 14:42 • (MSD) R3257813-5 10/16/17 14:44

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	0.00333	0.00326	111	109	1	75-125			2	20

Method Blank (MB)

(MB) R3257061-1 10/12/17 23:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3257061-2 10/12/17 23:35 • (LCSD) R3257061-3 10/12/17 23:38

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 %
Boron	1.00	0.976	0.993	98	99	80-120			2	20
Lithium	1.00	0.954	0.969	95	97	80-120			2	20
Molybdenum	1.00	1.02	1.02	102	102	80-120			0	20

L941846-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941846-03 10/12/17 23:41 • (MS) R3257061-5 10/12/17 23:48 • (MSD) R3257061-6 10/12/17 23:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.13	1.11	99	98	1	75-125			1	20
Lithium	1.00	0.0371	1.02	1.01	98	97	1	75-125			1	20
Molybdenum	1.00	ND	1.03	1.03	103	103	1	75-125			0	20

Method Blank (MB)

(MB) R3257761-1 10/16/17 12:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3257761-2 10/16/17 12:19 • (LCSD) R3257761-3 10/16/17 12:21

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 %
Boron	1.00	0.991	1.02	99	102	80-120			3	20
Lithium	1.00	1.00	1.00	100	100	80-120			0	20
Molybdenum	1.00	1.01	1.02	101	102	80-120			0	20

L942352-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942352-01 10/16/17 12:24 • (MS) R3257761-5 10/16/17 12:29 • (MSD) R3257761-6 10/16/17 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.06	1.08	102	104	1	75-125			3	20
Lithium	1.00	ND	0.989	1.01	99	101	1	75-125			2	20
Molybdenum	1.00	ND	1.01	1.02	101	102	1	75-125			2	20

Method Blank (MB)

(MB) R3258923-1 10/19/17 14:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	U		0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3258923-2 10/19/17 14:59 • (LCSD) R3258923-3 10/19/17 15:03

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	0.0499	0.0498	100	100	80-120			0	20
Arsenic	0.0500	0.0492	0.0488	98	98	80-120			1	20
Barium	0.0500	0.0466	0.0451	93	90	80-120			3	20
Beryllium	0.0500	0.0449	0.0446	90	89	80-120			1	20
Cadmium	0.0500	0.0515	0.0518	103	104	80-120			1	20
Calcium	5.00	4.89	4.90	98	98	80-120			0	20
Chromium	0.0500	0.0498	0.0499	100	100	80-120			0	20
Cobalt	0.0500	0.0511	0.0512	102	102	80-120			0	20
Lead	0.0500	0.0496	0.0497	99	99	80-120			0	20
Selenium	0.0500	0.0496	0.0505	99	101	80-120			2	20
Thallium	0.0500	0.0485	0.0483	97	97	80-120			0	20

L941955-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941955-02 10/19/17 15:06 • (MS) R3258923-5 10/19/17 15:13 • (MSD) R3258923-6 10/19/17 15:17

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	U	0.0514	0.0512	103	102	1	75-125			0	20
Arsenic	0.0500	0.00165	0.0506	0.0494	98	96	1	75-125			2	20
Barium	0.0500	0.0915	0.137	0.137	92	92	1	75-125			0	20
Beryllium	0.0500	U	0.0445	0.0453	89	91	1	75-125			2	20
Cadmium	0.0500	U	0.0512	0.0516	102	103	1	75-125			1	20

L941955-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941955-02 10/19/17 15:06 • (MS) R3258923-5 10/19/17 15:13 • (MSD) R3258923-6 10/19/17 15:17

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	5.00	150	154	155	83	102	1	75-125			1	20
Chromium	0.0500	0.00518	0.0539	0.0534	97	97	1	75-125			1	20
Cobalt	0.0500	0.000813	0.0491	0.0490	97	96	1	75-125			0	20
Lead	0.0500	0.00147	0.0514	0.0519	100	101	1	75-125			1	20
Selenium	0.0500	0.00142	0.0525	0.0509	102	99	1	75-125			3	20
Thallium	0.0500	U	0.0499	0.0494	100	99	1	75-125			1	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.

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.
T8	Sample(s) received past/too close to holding time expiration.

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
Conneticut	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 [1 4]	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		

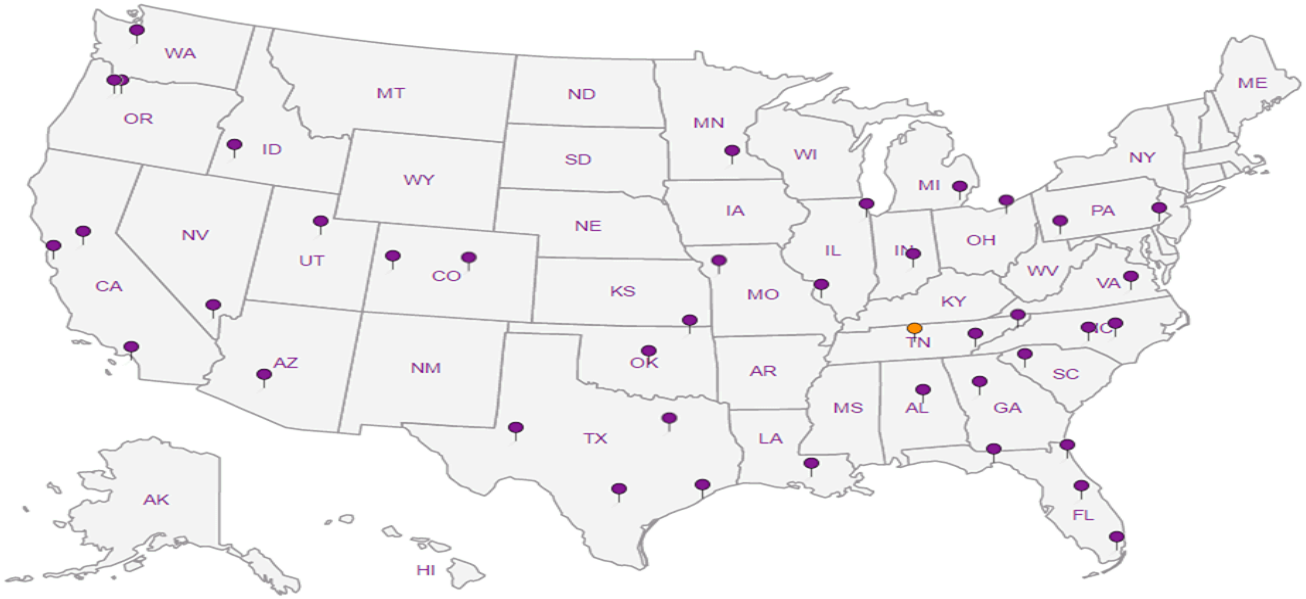
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

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Kansas City, MO 64108

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Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Kelly Glenz

Site/Facility ID #

P.O. # no PO number

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

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3								Remarks	Sample # (lab only)
							Analysis / Container / Preservative											
MW-15	Grab	GW	N/A	10-3-17	14:30	3	X	X	X									-01
MW-903		GW		10-3-17	15:00	3	X	X	X									-02
MW-902		GW		10-3-17	15:40	3	X	X	X									-03
MW-901		GW		10-3-17	16:15	3	X	X	X									-04
MW-905		GW		10-3-17	16:40	3	X	X	X									-05
MW-801		GW		10-4-17	13:25	3	X	X	X									-06
MW-802		GW		10-4-17	14:15	3	X	X	X									-07
MW-803		GW		10-4-17	14:45	3	X	X	X									-08
		GW				3	X	X	X									
		GW				3	X	X	X									

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

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

Please indicate sample ID for the MS/MSD.

ESCKC

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # —

Chain of Custody Page 1 of __

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

L# 941904

D118

Acctnum: URSKC
Template: T114093
Prelogin: P611823
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	10-4-17	16:45	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/4/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
	10/5/17	1300	

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

Temp: 0.9 °C Bottles Received: 24

Date: 10/6/17 Time: 1013

If preservation required by Login: Date/Time

Hold:

Condition: NCF OK

ANALYTICAL REPORT

October 23, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L942140
Samples Received:	10/07/2017
Project Number:	60482842
Description:	La Cygne Generating Station

Report To: Alla Skaskevych
2380 McGee Suite 200
Kansas City, MO 64108

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.

MW-602 L942140-01 GW

Collected by: JM/KG | Collected date/time: 10/05/17 10:45 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/14/17 22:09	10/14/17 22:09	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:07	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 14:55	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 16:19	JPD

MW-14R L942140-02 GW

Collected by: JM/KG | Collected date/time: 10/05/17 11:30 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/14/17 22:49	10/14/17 22:49	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:44	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 15:40	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 16:53	JPD

MW-804 L942140-03 GW

Collected by: JM/KG | Collected date/time: 10/05/17 12:00 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/14/17 23:10	10/14/17 23:10	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:46	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 15:44	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 16:56	JPD

MW-951 L942140-04 GW

Collected by: JM/KG | Collected date/time: 10/05/17 12:15 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/14/17 23:50	10/14/17 23:50	KCF
Wet Chemistry by Method 9056A	WG1031219	20	10/15/17 00:00	10/15/17 00:00	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:48	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 15:47	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:00	JPD

MW-805 L942140-05 GW

Collected by: JM/KG | Collected date/time: 10/05/17 12:40 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/15/17 00:11	10/15/17 00:11	KCF
Wet Chemistry by Method 9056A	WG1031219	20	10/15/17 00:21	10/15/17 00:21	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:51	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 15:50	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:03	JPD

MW-904 L942140-06 GW

Collected by: JM/KG | Collected date/time: 10/05/17 13:50 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/15/17 00:31	10/15/17 00:31	KCF
Wet Chemistry by Method 9056A	WG1031979	5	10/16/17 15:13	10/16/17 15:13	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:53	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 15:53	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:07	JPD

MW-601 L942140-07 GW

Collected by: JM/KG | Collected date/time: 10/06/17 11:00 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030570	1	10/13/17 16:58	10/13/17 17:25	BS
Wet Chemistry by Method 9040C	WG1029240	1	10/09/17 14:57	10/09/17 14:57	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/15/17 00:41	10/15/17 00:41	KCF
Wet Chemistry by Method 9056A	WG1031219	5	10/15/17 00:51	10/15/17 00:51	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:55	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:03	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:10	JPD

MW-11 L942140-08 GW

Collected by: JM/KG | Collected date/time: 10/05/17 10:15 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029765	1	10/10/17 15:44	10/10/17 15:44	ER
Wet Chemistry by Method 9056A	WG1031219	1	10/15/17 01:01	10/15/17 01:01	KCF
Wet Chemistry by Method 9056A	WG1031219	5	10/15/17 01:12	10/15/17 01:12	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 14:57	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:07	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:14	JPD

MW-703 L942140-09 GW

Collected by: JM/KG | Collected date/time: 10/05/17 11:40 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029765	1	10/10/17 15:44	10/10/17 15:44	ER
Wet Chemistry by Method 9056A	WG1031207	1	10/13/17 16:00	10/13/17 16:00	KCF
Wet Chemistry by Method 9056A	WG1031671	2	10/16/17 14:20	10/16/17 14:20	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 15:00	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:10	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:24	JPD

MW-13 L942140-10 GW

Collected by: JM/KG | Collected date/time: 10/05/17 14:05 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029765	1	10/10/17 15:44	10/10/17 15:44	ER
Wet Chemistry by Method 9056A	WG1031207	1	10/13/17 16:59	10/13/17 16:59	KCF
Wet Chemistry by Method 9056A	WG1031207	20	10/13/17 17:14	10/13/17 17:14	KCF

MW-13 L942140-10 GW

Collected by: JM/KG | Collected date/time: 10/05/17 14:05 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 15:02	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:13	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:28	JPD

MW-7 L942140-11 GW

Collected by: JM/KG | Collected date/time: 10/05/17 15:55 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029765	1	10/10/17 15:44	10/10/17 15:44	ER
Wet Chemistry by Method 9056A	WG1031207	1	10/13/17 17:29	10/13/17 17:29	KCF
Wet Chemistry by Method 9056A	WG1031671	2	10/16/17 14:33	10/16/17 14:33	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 15:04	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:17	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:31	JPD

MW-6 L942140-12 GW

Collected by: JM/KG | Collected date/time: 10/05/17 17:35 | Received date/time: 10/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1030088	1	10/12/17 10:28	10/12/17 11:10	BS
Wet Chemistry by Method 9040C	WG1029765	1	10/10/17 15:44	10/10/17 15:44	ER
Wet Chemistry by Method 9056A	WG1031207	1	10/13/17 18:44	10/13/17 18:44	KCF
Wet Chemistry by Method 9056A	WG1031207	5	10/13/17 18:59	10/13/17 18:59	KCF
Mercury by Method 7470A	WG1030074	1	10/11/17 13:56	10/12/17 15:11	EL
Metals (ICP) by Method 6010B	WG1031430	1	10/16/17 08:29	10/16/17 16:20	CCE
Metals (ICPMS) by Method 6020	WG1031502	1	10/16/17 12:51	10/20/17 17:35	JPD

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

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	607		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-01 WG1029240: 7.62 at 18.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	17.9		1.00	1	10/14/2017 22:09	WG1031219
Fluoride	0.972	J3	0.100	1	10/14/2017 22:09	WG1031219
Sulfate	26.9		5.00	1	10/14/2017 22:09	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:07	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	2.31		0.200	1	10/16/2017 14:55	WG1031430
Lithium	0.0612		0.0150	1	10/16/2017 14:55	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 14:55	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 16:19	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 16:19	WG1031502
Barium	0.101		0.00500	1	10/20/2017 16:19	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 16:19	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 16:19	WG1031502
Calcium	25.3		1.00	1	10/20/2017 16:19	WG1031502
Chromium	ND		0.00200	1	10/20/2017 16:19	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 16:19	WG1031502
Lead	ND		0.00200	1	10/20/2017 16:19	WG1031502
Selenium	ND		0.00200	1	10/20/2017 16:19	WG1031502
Thallium	ND		0.00200	1	10/20/2017 16:19	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	529		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.26	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-02 WG1029240: 7.26 at 18.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.12		1.00	1	10/14/2017 22:49	WG1031219
Fluoride	0.169		0.100	1	10/14/2017 22:49	WG1031219
Sulfate	40.7		5.00	1	10/14/2017 22:49	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:44	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.420		0.200	1	10/16/2017 15:40	WG1031430
Lithium	0.0346		0.0150	1	10/16/2017 15:40	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 15:40	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 16:53	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 16:53	WG1031502
Barium	0.0436		0.00500	1	10/20/2017 16:53	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 16:53	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 16:53	WG1031502
Calcium	61.5		1.00	1	10/20/2017 16:53	WG1031502
Chromium	ND		0.00200	1	10/20/2017 16:53	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 16:53	WG1031502
Lead	ND		0.00200	1	10/20/2017 16:53	WG1031502
Selenium	ND		0.00200	1	10/20/2017 16:53	WG1031502
Thallium	ND		0.00200	1	10/20/2017 16:53	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	577		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.12	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-03 WG1029240: 7.12 at 19.1c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.9		1.00	1	10/14/2017 23:10	WG1031219
Fluoride	0.327		0.100	1	10/14/2017 23:10	WG1031219
Sulfate	21.9		5.00	1	10/14/2017 23:10	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:46	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.53		0.200	1	10/16/2017 15:44	WG1031430
Lithium	0.0397		0.0150	1	10/16/2017 15:44	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 15:44	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 16:56	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 16:56	WG1031502
Barium	0.162		0.00500	1	10/20/2017 16:56	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 16:56	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 16:56	WG1031502
Calcium	65.9		1.00	1	10/20/2017 16:56	WG1031502
Chromium	ND		0.00200	1	10/20/2017 16:56	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 16:56	WG1031502
Lead	ND		0.00200	1	10/20/2017 16:56	WG1031502
Selenium	ND		0.00200	1	10/20/2017 16:56	WG1031502
Thallium	ND		0.00200	1	10/20/2017 16:56	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2110		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.49	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-04 WG1029240: 6.49 at 19.3c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	502		20.0	20	10/15/2017 00:00	WG1031219
Fluoride	ND		0.100	1	10/14/2017 23:50	WG1031219
Sulfate	903		100	20	10/15/2017 00:00	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:48	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.419		0.200	1	10/16/2017 15:47	WG1031430
Lithium	0.0160		0.0150	1	10/16/2017 15:47	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 15:47	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:00	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:00	WG1031502
Barium	0.0356		0.00500	1	10/20/2017 17:00	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:00	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:00	WG1031502
Calcium	465		1.00	1	10/20/2017 17:00	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:00	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:00	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:00	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:00	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:00	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2110		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.49	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:
L942140-05 WG1029240: 6.49 at 19.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	505		20.0	20	10/15/2017 00:21	WG1031219
Fluoride	ND		0.100	1	10/15/2017 00:11	WG1031219
Sulfate	914		100	20	10/15/2017 00:21	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:51	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.406		0.200	1	10/16/2017 15:50	WG1031430
Lithium	0.0173		0.0150	1	10/16/2017 15:50	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 15:50	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:03	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:03	WG1031502
Barium	0.0344		0.00500	1	10/20/2017 17:03	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:03	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:03	WG1031502
Calcium	467		1.00	1	10/20/2017 17:03	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:03	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:03	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:03	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:03	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:03	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	727		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.56	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-06 WG1029240: 7.56 at 19.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.1		1.00	1	10/15/2017 00:31	WG1031219
Fluoride	0.290		0.100	1	10/15/2017 00:31	WG1031219
Sulfate	100		25.0	5	10/16/2017 15:13	WG1031979

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:53	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.13		0.200	1	10/16/2017 15:53	WG1031430
Lithium	0.0463		0.0150	1	10/16/2017 15:53	WG1031430
Molybdenum	0.00947		0.00500	1	10/16/2017 15:53	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:07	WG1031502
Arsenic	0.00212		0.00200	1	10/20/2017 17:07	WG1031502
Barium	0.101		0.00500	1	10/20/2017 17:07	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:07	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:07	WG1031502
Calcium	71.8		1.00	1	10/20/2017 17:07	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:07	WG1031502
Cobalt	0.00508		0.00200	1	10/20/2017 17:07	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:07	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:07	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:07	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	948		10.0	1	10/13/2017 17:25	WG1030570

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.85	T8	1	10/09/2017 14:57	WG1029240

Sample Narrative:

L942140-07 WG1029240: 7.85 at 15.8c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	166		5.00	5	10/15/2017 00:51	WG1031219
Fluoride	1.26		0.100	1	10/15/2017 00:41	WG1031219
Sulfate	ND		5.00	1	10/15/2017 00:41	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:55	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.83		0.200	1	10/16/2017 16:03	WG1031430
Lithium	0.0737		0.0150	1	10/16/2017 16:03	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:03	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:10	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:10	WG1031502
Barium	0.132		0.00500	1	10/20/2017 17:10	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:10	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:10	WG1031502
Calcium	21.1		1.00	1	10/20/2017 17:10	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:10	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:10	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:10	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:10	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:10	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1040		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.66	T8	1	10/10/2017 15:44	WG1029765

Sample Narrative:

L942140-08 WG1029765: 7.66 at 13.4c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	99.2		1.00	1	10/15/2017 01:01	WG1031219
Fluoride	0.379		0.100	1	10/15/2017 01:01	WG1031219
Sulfate	236		25.0	5	10/15/2017 01:12	WG1031219

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 14:57	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.988		0.200	1	10/16/2017 16:07	WG1031430
Lithium	0.0669		0.0150	1	10/16/2017 16:07	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:07	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:14	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:14	WG1031502
Barium	0.0413		0.00500	1	10/20/2017 17:14	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:14	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:14	WG1031502
Calcium	65.1		1.00	1	10/20/2017 17:14	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:14	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:14	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:14	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:14	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:14	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	930		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.84	T8	1	10/10/2017 15:44	WG1029765

Sample Narrative:

L942140-09 WG1029765: 7.84 at 12.2c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	111		2.00	2	10/16/2017 14:20	WG1031671
Fluoride	1.37		0.100	1	10/13/2017 16:00	WG1031207
Sulfate	ND		5.00	1	10/13/2017 16:00	WG1031207

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:00	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.88		0.200	1	10/16/2017 16:10	WG1031430
Lithium	0.0689		0.0150	1	10/16/2017 16:10	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:10	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:24	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:24	WG1031502
Barium	0.290		0.00500	1	10/20/2017 17:24	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:24	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:24	WG1031502
Calcium	21.6		1.00	1	10/20/2017 17:24	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:24	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:24	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:24	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:24	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:24	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2140		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.34	T8	1	10/10/2017 15:44	WG1029765

Sample Narrative:

L942140-10 WG1029765: 7.34 at 12.0c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	13.6		1.00	1	10/13/2017 16:59	WG1031207
Fluoride	0.138		0.100	1	10/13/2017 16:59	WG1031207
Sulfate	1330		100	20	10/13/2017 17:14	WG1031207

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:02	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.470		0.200	1	10/16/2017 16:13	WG1031430
Lithium	0.0556		0.0150	1	10/16/2017 16:13	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:13	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:28	WG1031502
Arsenic	ND		0.00200	1	10/20/2017 17:28	WG1031502
Barium	0.0192	B	0.00500	1	10/20/2017 17:28	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:28	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:28	WG1031502
Calcium	274		1.00	1	10/20/2017 17:28	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:28	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:28	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:28	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:28	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:28	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	944		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.92	T8	1	10/10/2017 15:44	WG1029765

Sample Narrative:

L942140-11 WG1029765: 7.92 at 12.6c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	105		2.00	2	10/16/2017 14:33	WG1031671
Fluoride	1.19		0.100	1	10/13/2017 17:29	WG1031207
Sulfate	ND	P1	5.00	1	10/13/2017 17:29	WG1031207

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:04	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.59		0.200	1	10/16/2017 16:17	WG1031430
Lithium	0.0759		0.0150	1	10/16/2017 16:17	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:17	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:31	WG1031502
Arsenic	0.00280		0.00200	1	10/20/2017 17:31	WG1031502
Barium	0.563		0.00500	1	10/20/2017 17:31	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:31	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:31	WG1031502
Calcium	23.4		1.00	1	10/20/2017 17:31	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:31	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:31	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:31	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:31	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:31	WG1031502

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1230		10.0	1	10/12/2017 11:10	WG1030088

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.34	T8	1	10/10/2017 15:44	WG1029765

Sample Narrative:

L942140-12 WG1029765: 7.34 at 12.5c

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	208		5.00	5	10/13/2017 18:59	WG1031207
Fluoride	0.464		0.100	1	10/13/2017 18:44	WG1031207
Sulfate	165		25.0	5	10/13/2017 18:59	WG1031207

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	10/12/2017 15:11	WG1030074

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	1.11		0.200	1	10/16/2017 16:20	WG1031430
Lithium	0.0483		0.0150	1	10/16/2017 16:20	WG1031430
Molybdenum	ND		0.00500	1	10/16/2017 16:20	WG1031430

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	10/20/2017 17:35	WG1031502
Arsenic	0.00475		0.00200	1	10/20/2017 17:35	WG1031502
Barium	0.185		0.00500	1	10/20/2017 17:35	WG1031502
Beryllium	ND		0.00200	1	10/20/2017 17:35	WG1031502
Cadmium	ND		0.00100	1	10/20/2017 17:35	WG1031502
Calcium	105		1.00	1	10/20/2017 17:35	WG1031502
Chromium	ND		0.00200	1	10/20/2017 17:35	WG1031502
Cobalt	ND		0.00200	1	10/20/2017 17:35	WG1031502
Lead	ND		0.00200	1	10/20/2017 17:35	WG1031502
Selenium	ND		0.00200	1	10/20/2017 17:35	WG1031502
Thallium	ND		0.00200	1	10/20/2017 17:35	WG1031502

Method Blank (MB)

(MB) R3257729-1 10/12/17 11:10

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

L942140-04 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-04 10/12/17 11:10 • (DUP) R3257729-4 10/12/17 11:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2110	2150	1	1.88		5

L942140-05 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-05 10/12/17 11:10 • (DUP) R3257729-5 10/12/17 11:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	2110	2190	1	3.96		5

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

(LCS) R3257729-2 10/12/17 11:10 • (LCSD) R3257729-3 10/12/17 11:10

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	%	%	%			%	%
Dissolved Solids	8800	8660	8750	98.4	99.4	85.0-115			1.03	5

Method Blank (MB)

(MB) R3258045-1 10/13/17 17:25

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

L942140-07 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-07 10/13/17 17:25 • (DUP) R3258045-4 10/13/17 17:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	948	948	1	0.000		5

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

(LCS) R3258045-2 10/13/17 17:25 • (LCSD) R3258045-3 10/13/17 17:25

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 %
Dissolved Solids	8800	8610	8560	97.8	97.3	85.0-115			0.582	5

L942022-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942022-01 10/09/17 14:57 • (DUP) WG1029240-3 10/09/17 14:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.10	6.15	1	0.816	T8	1

Sample Narrative:

OS: 6.10 at 19.3c

DUP: 6.15 at 19.9c

L942285-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942285-01 10/09/17 14:57 • (DUP) WG1029240-4 10/09/17 14:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.92	6.90	1	0.289	T8	1

Sample Narrative:

OS: 6.92 at 20.7c

DUP: 6.90 at 20.7c

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

(LCS) WG1029240-1 10/09/17 14:57 • (LCSD) WG1029240-2 10/09/17 14:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	5.96	5.96	5.96	100	100	98.3-102			0.000	1

Sample Narrative:

LCS: 5.96 at 22.2c

LCSD: 5.96 at 22.3c

L941792-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941792-01 10/10/17 15:44 • (DUP) WG1029765-3 10/10/17 15:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.56	7.60	1	0.528	T8	1

Sample Narrative:

OS: 7.56 at 13.0c

DUP: 7.60 at 12.9c

L942373-02 Original Sample (OS) • Duplicate (DUP)

(OS) L942373-02 10/10/17 15:44 • (DUP) WG1029765-4 10/10/17 15:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.80	7.78	1	0.257	T8	1

Sample Narrative:

OS: 7.80 at 16.0c

DUP: 7.78 at 16.4c

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

(LCS) WG1029765-1 10/10/17 15:44 • (LCSD) WG1029765-2 10/10/17 15:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	5.96	6.02	6.02	101	101	98.3-102			0.000	1

Sample Narrative:

LCS: 6.02 at 20.0c

LCSD: 6.02 at 20.1c

Method Blank (MB)

(MB) R3257473-1 10/13/17 06:54

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

L942140-09 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-09 10/13/17 16:00 • (DUP) R3257473-4 10/13/17 16:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.37	1.36	1	1		15
Sulfate	ND	0.000	1	0		15

L942140-11 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-11 10/13/17 17:29 • (DUP) R3257473-7 10/13/17 17:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.19	1.15	1	3		15
Sulfate	ND	0.000	1	200	P1	15

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

(LCS) R3257473-2 10/13/17 07:09 • (LCSD) R3257473-3 10/13/17 07:24

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 %
Chloride	40.0	39.2	39.2	98	98	80-120			0	15
Fluoride	8.00	7.97	7.98	100	100	80-120			0	15
Sulfate	40.0	38.7	38.7	97	97	80-120			0	15

L942140-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-09 10/13/17 16:00 • (MS) R3257473-5 10/13/17 16:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.37	6.54	103	1	80-120	
Sulfate	50.0	ND	49.4	99	1	80-120	

L942140-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-09 10/13/17 16:00 • (MS) R3257473-6 10/13/17 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.37	6.49	103	1	80-120	
Sulfate	50.0	ND	48.7	97	1	80-120	

L942140-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-11 10/13/17 17:29 • (MS) R3257473-8 10/13/17 18:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	1.19	6.27	102	1	80-120	
Sulfate	50.0	ND	49.1	98	1	80-120	

Method Blank (MB)

(MB) R3257690-1 10/14/17 18:05

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

L942118-07 Original Sample (OS) • Duplicate (DUP)

(OS) L942118-07 10/14/17 20:17 • (DUP) R3257690-4 10/14/17 20:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	0.000	1	0		15
Fluoride	ND	0.000	1	0		15
Sulfate	ND	0.000	1	0		15

L942140-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942140-01 10/14/17 22:09 • (DUP) R3257690-6 10/14/17 22:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	17.9	17.1	1	4		15
Fluoride	0.972	0.944	1	3		15
Sulfate	26.9	26.7	1	1		15

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

(LCS) R3257690-2 10/14/17 18:15 • (LCSD) R3257690-3 10/14/17 18:25

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 %
Chloride	40.0	39.8	39.6	99	99	80-120			0	15
Fluoride	8.00	8.27	8.23	103	103	80-120			0	15
Sulfate	40.0	40.5	40.2	101	101	80-120			1	15

L942118-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L942118-07 10/14/17 20:17 • (MS) R3257690-5 10/14/17 20:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	ND	50.0	100	1	80-120	
Fluoride	5.00	ND	4.04	81	1	80-120	
Sulfate	50.0	ND	51.5	102	1	80-120	

L942140-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942140-01 10/14/17 22:09 • (MS) R3257690-7 10/14/17 22:29 • (MSD) R3257690-8 10/14/17 22:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	17.9	71.3	70.9	107	106	1	80-120			1	15
Fluoride	5.00	0.972	6.78	5.28	116	86	1	80-120		J3	25	15
Sulfate	50.0	26.9	80.5	80.8	107	108	1	80-120			0	15

Method Blank (MB)

(MB) R3257817-1 10/16/17 07:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0758	J	0.0519	1.00

L941520-35 Original Sample (OS) • Duplicate (DUP)

(OS) L941520-35 10/16/17 09:36 • (DUP) R3257817-4 10/16/17 12:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	0.0642	0.0978	1	41	J P1	15

L941834-01 Original Sample (OS) • Duplicate (DUP)

(OS) L941834-01 10/16/17 17:36 • (DUP) R3257817-6 10/16/17 17:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.55	4.57	1	0		15

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

(LCS) R3257817-2 10/16/17 07:26 • (LCSD) R3257817-3 10/16/17 07:39

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 %
Chloride	40.0	39.6	39.8	99	100	80-120			0	15

L941520-35 Original Sample (OS) • Matrix Spike (MS)

(OS) L941520-35 10/16/17 09:36 • (MS) R3257817-5 10/16/17 13:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	0.0642	49.3	98	1	80-120	

L941834-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L941834-01 10/16/17 17:36 • (MS) R3257817-7 10/16/17 18:02 • (MSD) R3257817-8 10/16/17 18:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	4.55	55.3	56.0	101	103	1	80-120			1	15

Method Blank (MB)

(MB) R3257723-1 10/16/17 08:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

L942701-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942701-01 10/16/17 18:07 • (DUP) R3257723-4 10/16/17 18:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	57.1	57.4	1	0		15

L942652-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942652-01 10/16/17 17:38 • (DUP) R3257723-7 10/16/17 19:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	7.49	7.61	1	2		15

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

(LCS) R3257723-2 10/16/17 09:13 • (LCSD) R3257723-3 10/16/17 09:28

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	%	%	%			%	%
Sulfate	40.0	40.2	40.2	100	101	80-120			0	15

L942701-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942701-01 10/16/17 18:07 • (MS) R3257723-5 10/16/17 18:36 • (MSD) R3257723-6 10/16/17 18:50

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	%	%		%			%	%
Sulfate	50.0	57.1	101	101	88	87	1	80-120	E	E	1	15

L942652-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L942652-01 10/16/17 17:38 • (MS) R3257723-8 10/16/17 19:48

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	7.49	56.4	98	1	80-120	

Method Blank (MB)

(MB) R3257017-6 10/12/17 14:00

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

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

(LCS) R3257017-7 10/12/17 14:02 • (LCSD) R3257017-8 10/12/17 14:05

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	%	%	%			%	%
Mercury	0.00300	0.00319	0.00313	106	104	80-120			2	20

L942140-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942140-01 10/12/17 14:07 • (MS) R3257017-9 10/12/17 14:14 • (MSD) R3257017-10 10/12/17 14:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00309	0.00288	103	96	1	75-125			7	20

Method Blank (MB)

(MB) R3257858-1 10/16/17 14:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200
Lithium	U		0.0053	0.0150
Molybdenum	U		0.0016	0.00500

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

(LCS) R3257858-2 10/16/17 14:49 • (LCSD) R3257858-3 10/16/17 14:52

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 %
Boron	1.00	0.958	0.938	96	94	80-120			2	20
Lithium	1.00	0.952	0.943	95	94	80-120			1	20
Molybdenum	1.00	1.00	0.995	100	99	80-120			1	20

L942140-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942140-01 10/16/17 14:55 • (MS) R3257858-5 10/16/17 15:01 • (MSD) R3257858-6 10/16/17 15:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	2.31	3.18	3.20	87	89	1	75-125			1	20
Lithium	1.00	0.0612	1.00	1.01	94	94	1	75-125			0	20
Molybdenum	1.00	ND	0.949	0.991	95	99	1	75-125			4	20

Method Blank (MB)

(MB) R3259351-1 10/20/17 16:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00025	0.00200
Barium	0.00315	J	0.00036	0.00500
Beryllium	U		0.00012	0.00200
Cadmium	U		0.00016	0.00100
Calcium	U		0.046	1.00
Chromium	U		0.00054	0.00200
Cobalt	U		0.00026	0.00200
Lead	U		0.00024	0.00200
Selenium	U		0.00038	0.00200
Thallium	U		0.00019	0.00200

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

(LCS) R3259351-2 10/20/17 16:12 • (LCSD) R3259351-3 10/20/17 16:16

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	0.0544	0.0550	109	110	80-120			1	20
Arsenic	0.0500	0.0495	0.0497	99	99	80-120			0	20
Barium	0.0500	0.0537	0.0547	107	109	80-120			2	20
Beryllium	0.0500	0.0560	0.0562	112	112	80-120			0	20
Cadmium	0.0500	0.0485	0.0488	97	98	80-120			1	20
Calcium	5.00	5.08	5.21	102	104	80-120			3	20
Chromium	0.0500	0.0497	0.0501	99	100	80-120			1	20
Cobalt	0.0500	0.0499	0.0506	100	101	80-120			1	20
Lead	0.0500	0.0505	0.0504	101	101	80-120			0	20
Selenium	0.0500	0.0483	0.0495	97	99	80-120			3	20
Thallium	0.0500	0.0508	0.0509	102	102	80-120			0	20

L942140-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-01 10/20/17 16:19 • (MS) R3259351-5 10/20/17 16:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Antimony	0.0500	ND	0.0564	113	1	75-125	
Arsenic	0.0500	ND	0.0503	101	1	75-125	
Barium	0.0500	0.101	0.156	110	1	75-125	
Beryllium	0.0500	ND	0.0558	112	1	75-125	
Cadmium	0.0500	ND	0.0487	97	1	75-125	

L942140-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L942140-01 10/20/17 16:19 • (MS) R3259351-5 10/20/17 16:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Calcium	5.00	25.3	30.1	96	1	75-125	
Chromium	0.0500	ND	0.0493	99	1	75-125	
Cobalt	0.0500	ND	0.0493	99	1	75-125	
Lead	0.0500	ND	0.0496	99	1	75-125	
Selenium	0.0500	ND	0.0514	103	1	75-125	
Thallium	0.0500	ND	0.0502	100	1	75-125	

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.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

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
Conneticut	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 [1 4]	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		

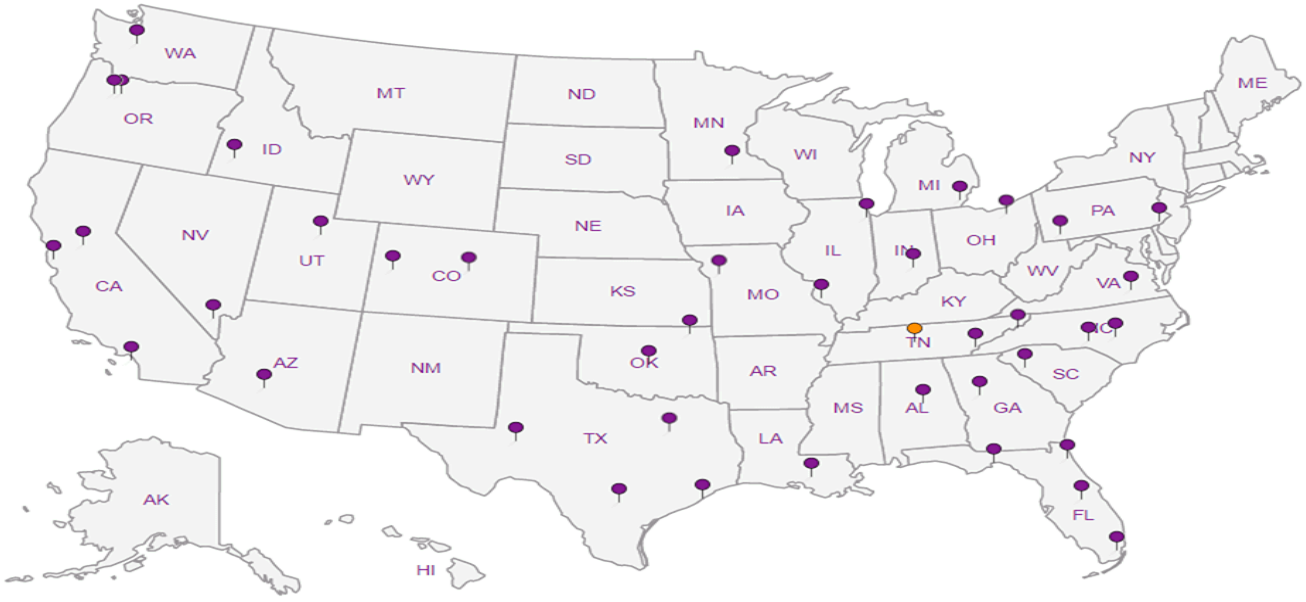
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: robert.exceen@aecom.com; alla.skaskevych@aecom.com;

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project #

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Kelly Glenz

Site/Facility ID #

P.O. # no PO number

Collected by (signature): Jim Muckler + Kelly Glenz

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-602	Grab	GW	N/A	10-5-17	10:45	3	X	X	X		-01
MW-602 MS		GW		10-5-17	10:45	3	X	X	X		↓
MW-602 MSD		GW		10-5-17	10:45	3	X	X	X		↓
MW-14R		GW		10-5-17	11:30	3	X	X	X		-02
MW-804		GW		10-5-17	12:00	3	X	X	X		-03
MW-951		GW		10-5-17	12:15	3	X	X	X		-04
MW-805		GW		10-5-17	12:40	3	X	X	X		-05
MW-904		GW		10-5-17	13:50	3	X	X	X		-06
MW-601		GW		10-6-17	11:00	3	X	X	X		-07
		GW				3	X	X	X		

Analysis / Container / Preservative

Chain of Custody Page 1 of ___

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

L# 942140
Table # C183

Acctnum: URSKC
Template: T114093
Prelogin: P611823
TSR: 206 - Jeff Carr
PB:
Shipped Via:

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking # 7384 4200 1474

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Jim Muckler	10-6-17	13:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10-6-17	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Kelly Glenz

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.5 °C Bottles Received: 42

Date: 10/7/17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Gray

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
MW-11	Grab	NPW		10/5/17	1015	2	X
MW-703		NPW			1140	2	X
MW-13		NPW			1405	2	X
MW-7		NPW			1555	2	X
MW-6		NPW			1735	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

Chain of Custody Page ___ of ___

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

L# 942140

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P619968
TSR: 206 - Jeff Carr
PB:

Shipped Via:

Remarks	Sample # (lab only)
	-08
	-09
	-10
	-11
	-12

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 7384 4200 1474

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

	Date:	Time:	
Relinquished by: (Signature)	10/5/17	1930	Received by: (Signature)
Relinquished by: (Signature)	10/6/17	1700	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.5 °C Bottles Received: 42

Date: 10/7/17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Katie Ingram

To: Jeff Carr; Login
Subject: RE: URSKC NCF KI

ESC Lab Sciences
Non-Conformance Form

Login #:L942140	Client:URSKC	Date:10/07/17	Evaluated by: Myra "Katie" Ingram

Non-Conformance (check applicable items)

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

Login Comments:
Metals not preserved for IDs: MW-602, MW-11, and MW-805.
An attempt to preserve ID: MW-805, but pH was not less than 2
MW -11 to the end of the COC is marked for analyses ORL-RA-226 and ORL-RA-228, but we received three containers for each ID consisting of; two 250mlHDPE no preserve and one 250mlHDPE-HNO3, as though they were meant to be analyzed for Anions, TDS, and Total Metals with the previous samples.

Client informed by:		Call		Email	X	Voice Mail		Date: 10/9/17	Time: 1253
TSR Initials: JC	Client Contact: A. Skaskevych								

Login Instructions: Preserve metals containers and log for total metals. Log sample on page 2 for the same tests as page 1. Revised COC will be delivered tomorrow.

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Berryh

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Anions - Cld, F, SO4 250mlHDPE-NoPres	TDS, pH 250mlHDPE-NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-11	Grab	GW		10/5/17	1015	3	X	X	X		-08
MW-703		GW			1140	3	X	X	X		-09
MW-13		GW			1405	3	X	X	X		-10
MW-7		GW			1555	3	X	X	X		-11
MW-6		GW			1735	3	X	X	X		-12
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		
		GW				3	X	X	X		

Chain of Custody Page ___ of ___

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

L# 942140

Table #

Acctnum: URSKC

Template: T114093

Prelogin: P619969

TSR: 206 - Jeff Carr

PB:

Shipped Via:

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

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

Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	10/5/17	1930		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Case Narrative

Lab No: 20170947

This report contains the analytical results for the 20 sample(s) received under chain of custody by ESC Lab Sciences on 10/6/2017 10:40:04 AM. These samples are associated with your 60482842 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

L941863

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170947-01								
Client ID : MW-950								
Date Sampled : 10/3/2017 9:30:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.298 +/- 0.632	0.926	pCi/l				
Radium-226	SM 7500 Ra B M*	0.187 +/- 0.181	0.224	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.111 +/- 0.451	0.702	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-02								
Client ID : MW-705								
Date Sampled : 10/3/2017 10:10:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.568 +/- 0.786	1.17	pCi/l				
Radium-226	SM 7500 Ra B M*	0.306 +/- 0.240	0.273	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.262 +/- 0.546	0.899	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-03								
Client ID : TW-1								
Date Sampled : 10/3/2017 12:10:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.17 +/- 0.711	1.14	pCi/l				
Radium-226	SM 7500 Ra B M*	0.348 +/- 0.240	0.246	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.818 +/- 0.471	0.891	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-04								
Client ID : MW-702								
Date Sampled : 10/3/2017 1:45:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.939 +/- 0.760	1.24	pCi/l				
Radium-226	SM 7500 Ra B M*	0.337 +/- 0.220	0.217	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.602 +/- 0.540	1.02	pCi/l		11/01/17	11/16/17	JR

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170947-05								
Client ID : MW-701								
Date Sampled : 10/3/2017 3:00:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.25 +/- 0.833	1.10	pCi/l				
Radium-226	SM 7500 Ra B M*	0.303 +/- 0.218	0.230	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.944 +/- 0.615	0.874	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-06								
Client ID : MW-704								
Date Sampled : 10/3/2017 4:05:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		2.18 +/- 0.757	1.26	pCi/l				
Radium-226	SM 7500 Ra B M*	0.141 +/- 0.170	0.233	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	2.04 +/- 0.587	1.03	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-07								
Client ID : MW-707B								
Date Sampled : 10/3/2017 5:00:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.970 +/- 0.754	1.20	pCi/l				
Radium-226	SM 7500 Ra B M*	0.235 +/- 0.182	0.184	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.735 +/- 0.572	1.02	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-08								
Client ID : MW-706								
Date Sampled : 10/4/2017 9:20:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.510 +/- 0.766	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	0.510 +/- 0.285	0.254	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	-0.296 +/- 0.481	0.771	pCi/l		11/01/17	11/16/17	JR

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170947-09								
Client ID : MW-708								
Date Sampled : 10/4/2017 10:15:00 AM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		0.149 +/- 0.859	1.40	pCi/l				
Radium-226	SM 7500 Ra B M*	0.149 +/- 0.258	0.372	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	-0.688 +/- 0.601	1.03	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-10								
Client ID : MW-10								
Date Sampled : 10/4/2017 2:55:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.67 +/- 0.808	1.09	pCi/l				
Radium-226	SM 7500 Ra B M*	0.638 +/- 0.313	0.314	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	1.03 +/- 0.495	0.778	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-11								
Client ID : MW-10 MS								
Date Sampled : 10/4/2017 2:55:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	123		% Rec		10/18/17	11/06/17	RE
Radium-228	EPA 904*	80.9		% Rec		11/01/17	11/16/17	JR
Lab ID : 20170947-12								
Client ID : MW-10 MSD								
Date Sampled : 10/4/2017 2:55:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Radium-226	SM 7500 Ra B M*	6.6		RPD		10/18/17	11/06/17	RE
Radium-228	EPA 904*	3.4		RPD		11/01/17	11/16/17	JR

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : **20170947-13**								
Client ID : **MW-15**								
Date Sampled : **10/3/2017 2:30:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.64 +/- 0.674	1.02	pCi/l				
Radium-226	SM 7500 Ra B M*	0.172 +/- 0.200	0.272	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	1.47 +/- 0.474	0.751	pCi/l		11/01/17	11/16/17	JR
Lab ID : **20170947-14**								
Client ID : **MW-903**								
Date Sampled : **10/3/2017 3:00:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.24 +/- 0.775	1.06	pCi/l				
Radium-226	SM 7500 Ra B M*	0.360 +/- 0.238	0.232	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.879 +/- 0.537	0.830	pCi/l		11/01/17	11/16/17	JR
Lab ID : **20170947-15**								
Client ID : **MW-902**								
Date Sampled : **10/3/2017 3:40:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.27 +/- 0.647	0.92	pCi/l				
Radium-226	SM 7500 Ra B M*	0.298 +/- 0.201	0.156	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.975 +/- 0.446	0.765	pCi/l		11/01/17	11/16/17	JR
Lab ID : **20170947-16**								
Client ID : **MW-901**								
Date Sampled : **10/3/2017 4:15:00 PM**								
Matrix : **NPW**								
		Radiochemical Analyses						
Combined Radium		1.17 +/- 0.892	1.22	pCi/l				
Radium-226	SM 7500 Ra B M*	0.444 +/- 0.418	0.542	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.721 +/- 0.474	0.680	pCi/l		11/01/17	11/16/17	JR

ESC Lab Sciences
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Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20170947-17								
Client ID : MW-905								
Date Sampled : 10/3/2017 4:40:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.29 +/- 0.628	0.96	pCi/l				
Radium-226	SM 7500 Ra B M*	0.142 +/- 0.150	0.172	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	1.15 +/- 0.478	0.790	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-18								
Client ID : MW-801								
Date Sampled : 10/4/2017 1:25:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.15 +/- 0.764	0.959	pCi/l				
Radium-226	SM 7500 Ra B M*	0.511 +/- 0.281	0.240	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	0.634 +/- 0.483	0.719	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-19								
Client ID : MW-802								
Date Sampled : 10/4/2017 2:15:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		1.90 +/- 0.857	1.27	pCi/l				
Radium-226	SM 7500 Ra B M*	0.633 +/- 0.412	0.490	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	1.27 +/- 0.445	0.780	pCi/l		11/01/17	11/16/17	JR
Lab ID : 20170947-20								
Client ID : MW-803								
Date Sampled : 10/4/2017 2:45:00 PM								
Matrix : NPW								
		Radiochemical Analyses						
Combined Radium		3.38 +/- 0.939	1.47	pCi/l				
Radium-226	SM 7500 Ra B M*	0.292 +/- 0.250	0.314	pCi/l		10/18/17	11/06/17	RE
Radium-228	EPA 904*	3.09 +/- 0.689	1.16	pCi/l		11/01/17	11/16/17	JR

ESC Lab Sciences
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QC Report

Parameter	Blank	LCS %REC	LCSD %REC	LCSD RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	MSD RPD	Batch ID
Radium-226	-0.002	102.0			NC	0.423	123.0	115.0	6.6	R1292
Radium-228	-0.011	87.3			13.1	0.351	80.9	77.7	3.4	R4015

Lab Approval:

Ron Eidson
Director of Radiochemistry

ESC Lab Sciences
12065 Lebanon Rd, Mt. Juliet, TN 37122 (1-800) 767-5859 www.ESCLabSciences.com

ECOM - Kansas City, MO

380 McGee Suite 200
Kansas City, MO 64108

Report to:
Alla Skaskevych

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Guyn

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
MW-950	Grab	NPW		10/3/17	930	2	X
MW-705		NPW			1010	2	X
TW-1		NPW			1210	2	X
MW-702		NPW			1345	2	X
MW-701		NPW			1500	2	X
MW-704		NPW			1605	2	X
MW-707B		NPW			1700	2	X
MW-706		NPW		10/4	0920	2	X
MW-708		NPW			1015	2	X
MW-10		NPW			1455	2	X

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

Relinquished by: (Signature) Date: 10/4/17 Time: 1800

Received by: (Signature)

Relinquished by: (Signature) Date: Time:

Received by: (Signature)

Relinquished by: (Signature) Date: Time:

Received for lab by: (Signature) Date: 10/6/17 Time: 1040

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Temp: 1.6 °C Bottles Received: 10/6/17 1040

If preservation required by Login: Date/Time

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

Chain of Custody Page 1 of 3

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

L# 941863

Table #

Acctnum: URSKC
Template: T112863
Prelogin: P619968
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Remarks | Sample # (lab only)

COPY

ESCKC

20170947

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Skaskevych/Guyn

Collected by (signature):

Immediately Packed on Ice N ✓ Y ___

Site/Facility ID # TASK 100

P.O. # no PO number

Quote #

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

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: @RL-RA-226, RA-228-1L-HDPE-Add HNO3
MW-10-MS	Grab	NPW	/	10/4/17	1455	2	X
MW-10-MSD	↓	NPW		↓	1455	2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X
		NPW				2	X

COPY

Chain of Custody

ESC

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

L# 941863

Table,#

Acctnum: URSKC

Template: T112863

Prelogin: P619968

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks	Sample # (lab only)

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESCKC

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking#

Sample Receipt Checklist

COC Seal Present/Intact:	__NP __Y __N
COC Signed/Accurate:	__Y __N
Bottles arrive intact:	__Y __N
Correct bottles used:	__Y __N
Sufficient volume sent:	__Y __N
If Applicable	
VOA Zero Headspace:	__Y __N
Preservation Correct/Checked:	__Y __N

Relinquished by: (Signature)	Date: 10/4/17	Time: 1200	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 10/6/17 1040	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/6/17 Time: 1040	Hold: / Condition: NCF / OK

20170942

Page 3 of 3

AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print): Jim Muckler + Kelly Glenz

Site/Facility ID # TASK 100

P.O. # no PO number

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

ORL-RA-226, RA-228 1L-HDPE-Add HNO3

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	
MW-15	Grab	NPW	N/A	10-3-17	14:30	2	X
MW-903	Grab	NPW		10-3-17	15:00	2	X
MW-902		NPW		10-3-17	15:40	2	X
MW-901		NPW		10-3-17	16:15	2	X
MW-905		NPW		10-3-17	16:40	2	X
MW-801		NPW		10-4-17	13:25	2	X
MW-802		NPW		10-4-17	14:15	2	X
MW-803		NPW		10-4-17	14:45	2	X
		NPW				2	X
		NPW				2	X

Chain of Custody

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

L# 941863

Table #

Acctnum: URSKC

Template: T112863

Prelogin: P619968

TSR: 206 - Jeff Carr

PB:

Shipped Via:

Remarks	Sample # (lab only)

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

Remarks: Report Radium 226 and 228 Combined. Please indicate sample ID for the MS/MSD.

ESCKC

pH _____ Temp _____

Flow _____ Other _____

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

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	10-4-17	16:45			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C	Bottles Received:
	10/4/17	1800		0-Amb	40
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
	10/5/17	1300		10/6/17	1040

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

SAMPLE LOGIN

Date Received: *10/6/2017 10:40:0* **Lab Number:** 20170947 **Due:** 11/3/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20170947-01 B	MW-905 950	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-01 A	MW-905 950 10/06/17 LT	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-02 A	MW-705	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-02 B	MW-705	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-03 A	TW-1	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-03 B	TW-1	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-04 A	MW-702	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-04 B	MW-702	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-05 A	MW-701	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-05 B	MW-701	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	Yes	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-06 B	MW-704	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-06 A	MW-704	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-07 B	MW-707B	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-07 A	MW-707B	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

20170947-08 A	MW-706	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-08 B	MW-706	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-09 A	MW-708	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-09 B	MW-708	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-10 A	MW-10	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-10 B	MW-10	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-11 B	MW-10 MS	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-11 A	MW-10 MS	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-12 A	MW-10 MSD	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-12 B	MW-10 MSD	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-13 A	MW-15	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-13 B	MW-15	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-14 A	MW-903	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-14 B	MW-903	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-15 B	MW-902	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-15 A	MW-902	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-16 A	MW-901	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	✓	No	No
20170947-16 B	MW-901	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	✓	No	No

Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-17 A	MW-905	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-17 B	MW-905	NPW	10/03/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-18 A	MW-801	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-18 B	MW-801	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-19 A	MW-802	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-19 B	MW-802	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						
20170947-20 B	MW-803	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
20170947-20 A	MW-803	NPW	10/04/17	Plastic	1 L	HNO3, pH < 2	☑	No	No
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*						

CONTAINER INSPECTION

 # Coolers 3 **Custody Seals Broken** Ø **Temperature:** 4.5 C **Ice** **Radiation Survey:** <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Ø **Chain of Custody Record** ☑ **Labels in Tact** ☑ **Radiation Survey Complete** NA

Anomalies

Inspected By: _____ **DATE** 10/6/17

QA or Designee Review: Raymond Thomas **DATE** 10/06/17

Sample Custodian Review: _____ **DATE** 10/6/17

Project Notes:

Jared Morrison
December 16, 2022

ATTACHMENT 1-10

December 2017 Sampling Event Laboratory Report

ANALYTICAL REPORT

December 20, 2017

AECOM - Kansas City, MO

Sample Delivery Group:	L957015
Samples Received:	12/13/2017
Project Number:	60482842
Description:	La Cygne Generating Station
Site:	TASK 100
Report To:	Alla Skaskevych 2380 McGee Suite 200 Kansas City, MO 64108

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.

TABLE OF CONTENTS

MW-902 L957015-01 GW

Collected by	Collected date/time	Received date/time
AS / TA	12/12/17 13:25	12/13/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1053253	1	12/14/17 03:50	12/14/17 03:50	MAJ

MW-905 L957015-02 GW

Collected by	Collected date/time	Received date/time
AS / TA	12/12/17 13:40	12/13/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1053253	1	12/14/17 04:05	12/14/17 04:05	MAJ

MW-10 L957015-03 GW

Collected by	Collected date/time	Received date/time
AS / TA	12/12/17 11:35	12/13/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1052837	1	12/13/17 11:52	12/13/17 15:09	ST

MW-805 L957015-04 GW

Collected by	Collected date/time	Received date/time
AS / TA	12/11/17 12:05	12/13/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1055564	10	12/20/17 08:07	12/20/17 08:07	KCF
Metals (ICPMS) by Method 6020	WG1051832	1	12/13/17 13:35	12/16/17 16:16	WBD

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

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfate	36.1		5.00	1	12/14/2017 03:50	WG1053253

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.0		1.00	1	12/14/2017 04:05	WG1053253

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.961		0.200	1	12/13/2017 15:09	WG1052837

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfate	753		50.0	10	12/20/2017 08:07	WG1055564

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	525		1.00	1	12/16/2017 16:16	WG1051832

Method Blank (MB)

(MB) R3273049-1 12/14/17 02:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Sulfate	0.0832	J	0.0774	5.00

L957015-02 Original Sample (OS) • Duplicate (DUP)

(OS) L957015-02 12/14/17 04:05 • (DUP) R3273049-4 12/14/17 04:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	52.0	51.9	1	0.102		15
Sulfate	28.0	28.0	1	0.00179		15

L957175-01 Original Sample (OS) • Duplicate (DUP)

(OS) L957175-01 12/14/17 06:57 • (DUP) R3273049-7 12/14/17 07:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8.27	8.26	1	0		15
Sulfate	11.8	11.8	1	0		15

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

(LCS) R3273049-2 12/14/17 02:52 • (LCSD) R3273049-3 12/14/17 03:07

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 %
Chloride	40.0	39.7	39.7	99.3	99.3	80-120			0.0818	15
Sulfate	40.0	40.1	40.0	100	100	80-120			0.129	15

L957015-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L957015-02 12/14/17 04:05 • (MS) R3273049-5 12/14/17 04:33 • (MSD) R3273049-6 12/14/17 04:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	52.0	106	97.2	107	90.4	1	80-120	E		8.23	15
Sulfate	50.0	28.0	78.2	73.6	100	91.3	1	80-120			6.01	15

L957175-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L957175-01 12/14/17 06:57 • (MS) R3273049-8 12/14/17 07:26

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	8.27	60.9	105	1	80-120	
Sulfate	50.0	11.8	60.4	97.3	1	80-120	

Method Blank (MB)

(MB) R3274414-1 12/20/17 06:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Sulfate	U		0.0774	5.00

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

(LCS) R3274414-2 12/20/17 06:48 • (LCSD) R3274414-3 12/20/17 07:02

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	%	%	%			%	%
Sulfate	40.0	40.1	40.0	100	99.9	80-120			0.368	15

Method Blank (MB)

(MB) R3272815-1 12/13/17 14:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0126	0.200

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

(LCS) R3272815-2 12/13/17 14:16 • (LCSD) R3272815-3 12/13/17 14:19

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 %
Boron	1.00	0.981	0.994	98.1	99.4	80-120			1.29	20

L956923-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L956923-01 12/13/17 14:22 • (MS) R3272815-5 12/13/17 14:29 • (MSD) R3272815-6 12/13/17 14:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.09	1.08	98.6	97.8	1	75-125			0.718	20

Method Blank (MB)

(MB) R3273567-1 12/16/17 14:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.046	1.00

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

(LCS) R3273567-4 12/16/17 14:55 • (LCSD) R3273567-2 12/16/17 14:43

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 %
Calcium	5.00	5.02	5.50	100	110	80-120			9.23	20

L956501-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L956501-07 12/16/17 14:46 • (MS) R3273567-5 12/16/17 14:59 • (MSD) R3273567-6 12/16/17 15:03

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	5.00	58.9	63.9	62.3	101	68.7	1	75-125		V	2.55	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.

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

ACCREDITATIONS & LOCATIONS

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
Conneticut	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 [1 4]	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		

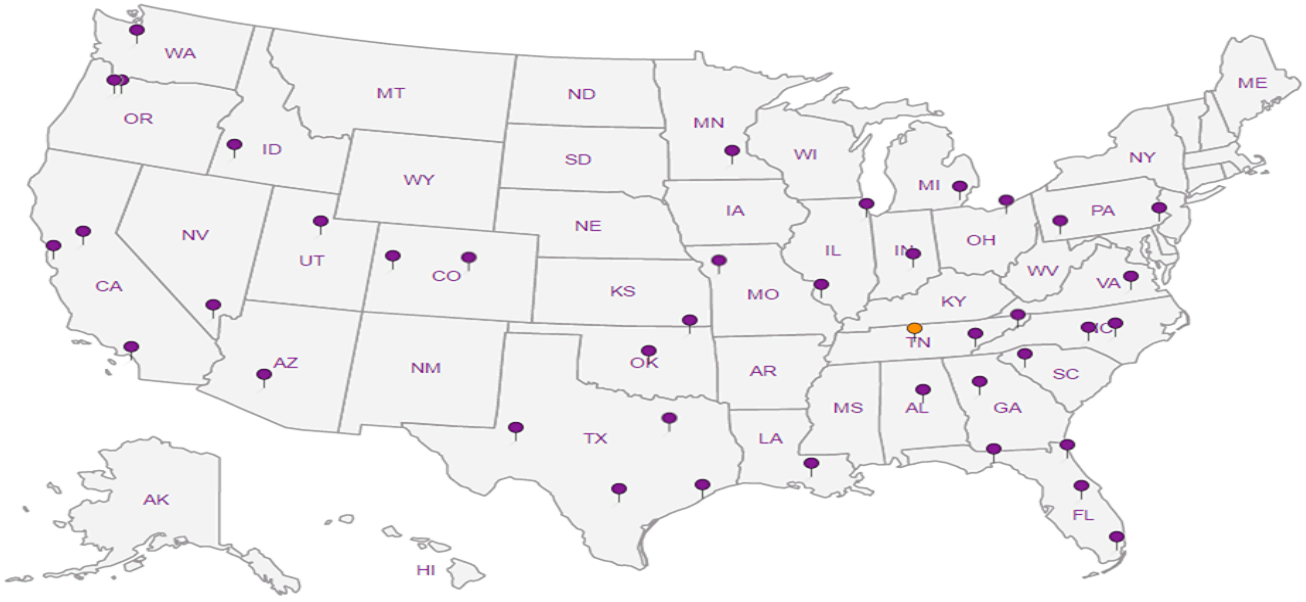
Third Party & Federal Accreditations

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.**



AECOM - Kansas City, MO

2380 McGee Suite 200
Kansas City, MO 64108

Billing Information:
Dana Monroe - 1334927
2380 McGee Suite 200
Kansas City, MO 64108

Pres Chk

Report to: Alla Skaskevych

Email To: alla.skaskevych@aecom.com; robert.exceen@aecom.com; jay.martin@kcpl.com

Project Description: La Cygne Generating Station

City/State Collected:

Phone: 913-344-1000
Fax: 913-344-1011

Client Project # 60482842

Lab Project # URSKC-LACYGNE

Collected by (print):

Site/Facility ID # TASK 100

P.O. # PROCESS AS NON-PO

Collected by (signature): D. Skaskevych / T. Andrews

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Boron - 6010 250mlHDPE-HNO3	CHLORIDE 125mlHDPE-NoPres	Calcium - 6020 250mlHDPE-HNO3	SULFATE 125mlHDPE-NoPres
MW-902	G	GW		12/12/17	1325	1				X
MW-905		GW		12/12/17	1340	1		X		
MW-10		GW		12/12/17	1135	1	X			
~~MW005~~ MW-805		GW		12/11/17	1205	2			X	X

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# 957015
H152

Acctnum: URSKC
Template: T130678
Prelogin: P630729
TSR: 206 - Jeff Carr
PB:
Shipped Via:

Remarks	Sample # (lab only)
	01
	02
	03
	04

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: ___ UPS X FedEx ___ Courier ___ _____

Tracking # 7305 8949 5490

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

Temp: 3.3 °C Bottles Received: 5

If preservation required by Login: Date/Time

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/12/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Jennifer Rozal 856

Date: 12.13.17 Time: 8:45

ANALYTICAL REPORT

January 31, 2018

SCS Engineers - KS

Sample Delivery Group:	L958052
Samples Received:	12/15/2017
Project Number:	27217413.00
Description:	KCPL - Iatan 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

TABLE OF CONTENTS

WELL WATER SOURCE L958052-01 Non-Potable Water

	Collected by	Collected date/time	Received date/time
	Jason R. Franks	12/13/17 14:30	12/15/17 10:13

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1054755	1	12/18/17 10:04	12/21/17 13:25	JMR
Radiochemistry by Method SM7500Ra B M	WG1054735	1	12/18/17 16:04	01/09/18 16:56	RGT

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

Jeff Carr
Technical Service Representative

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/L		+ / -	pCi/L	date / time	
RADIUM-228	2.01		0.550	0.807	12/21/2017 13:25	WG1054755

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.306		0.220	0.231	01/09/2018 16:56	WG1054735

Method Blank (MB)

(MB) R3275708-1 12/21/17 13:25

Analyte	MB Result pCi/L	MB Qualifier	MB MDA pCi/L
Radium-228	0.662		0.578

L958214-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958214-01 12/21/17 13:25 • (DUP) R3275708-5 12/21/17 13:25

Analyte	Original Result pCi/L	DUP Result pCi/L	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit pCi/L
Radium-228	4.20	4.18	1	0.454	0.0148		20	2

Laboratory Control Sample (LCS)

(LCS) R3275708-2 12/21/17 13:25

Analyte	Spike Amount pCi/L	LCS Result pCi/L	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.66	113	80-120	

L958052-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958052-01 12/21/17 13:25 • (MS) R3275708-3 12/21/17 13:25 • (MSD) R3275708-4 12/21/17 13:25

Analyte	Spike Amount pCi/L	Original Result pCi/L	MS Result pCi/L	MSD Result pCi/L	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	25.0	2.01	28.2	27.1	105	100	1	70-130			3.91		20

Method Blank (MB)

(MB) R3283112-1 01/09/18 16:56

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	0.00314		0.0592

L957075-03 Original Sample (OS) • Duplicate (DUP)

(OS) L957075-03 01/09/18 16:56 • (DUP) R3283112-3 01/09/18 16:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	pCi/l
Radium-226	54.6	52.0	1	4.82	0.360		20	3

Laboratory Control Sample (LCS)

(LCS) R3283112-2 01/09/18 16:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	4.97	5.25	106	80-120	

L957077-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L957077-03 01/09/18 16:56 • (MS) R3283112-4 01/09/18 16:56 • (MSD) R3283112-5 01/09/18 16:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	19.9	32.6	62.1	52.3	148	99.1	1	75-125	V		17		20

Guide to Reading and Understanding Your Laboratory Report

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Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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.
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Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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 [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

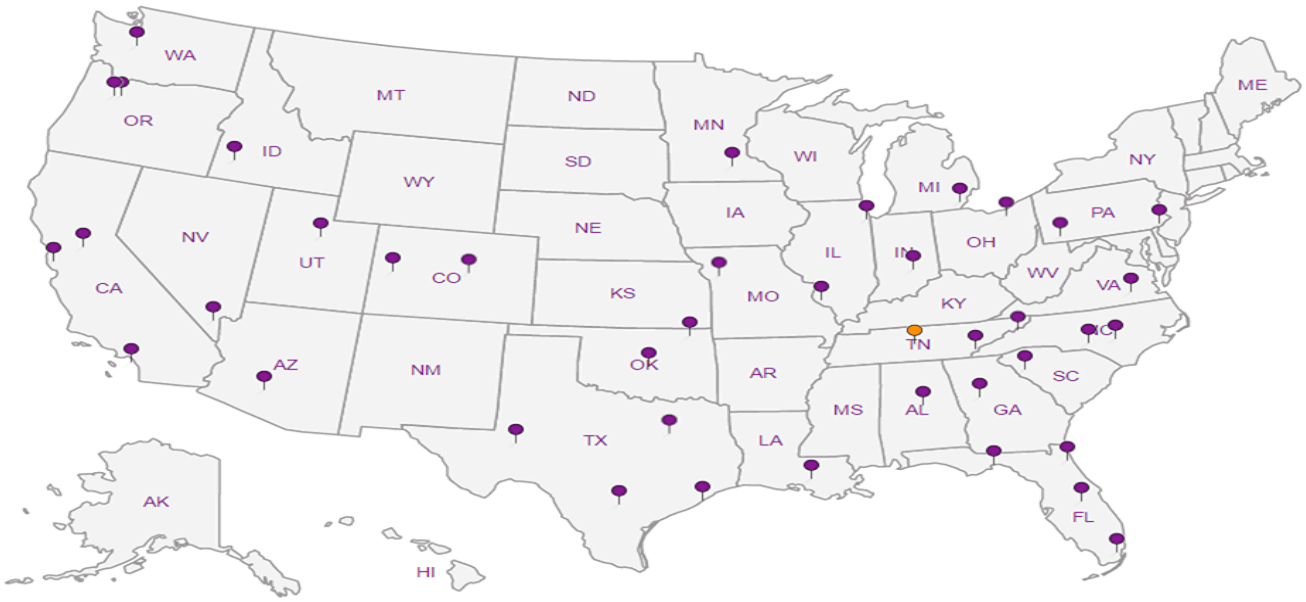
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:	Billing Information:
SCS Engineers 7311 West 130th Street Suite 100 Overland Park, Kansas 66213	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 Iatan Gen Station - Ash Impoundment**	City/State Collected: **Weston, Missouri**
Phone: **913-681-0030** Fax: **913-681-0012**	Client Project # **27217413.00**
Collected by (print): **Jason R. Franks**	Site/Facility ID #
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%

Lab Project # **AQUAOPKS-IATAN**

P.O. #

Date Results Needed: STD

Email? ___No ___Yes

FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY 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 # 959987

T: F129 L958052

Acctnum: **AQUAOPKS**

Template:

Prelogin:

TSR: **206-Jeff Carr**

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CCR Anions(Cl-, F-, SO4) 125mlHDPE-NoPres	*CCR Metals 500mlHDPE-HNO3	TDS 250mlHDPE-NoPres	Ra226/228-2x1LHDPE-HNO3	Rem./Contaminant	Sample # (lab only)
Well Water Source	Grab	GW	**NA**	**12/13/17**	**1430**	**5**	X	X	X	X	-01	01

* Matrix: **SS** - Soil **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./Report Rads Sep & Comb**

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/14/17	1130	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Date: 12/15/17 Time: 1017

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

Temp: 3.6 °C Bottles Received: 5

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Jared Morrison
December 16, 2022

ATTACHMENT 2

Statistical Analyses

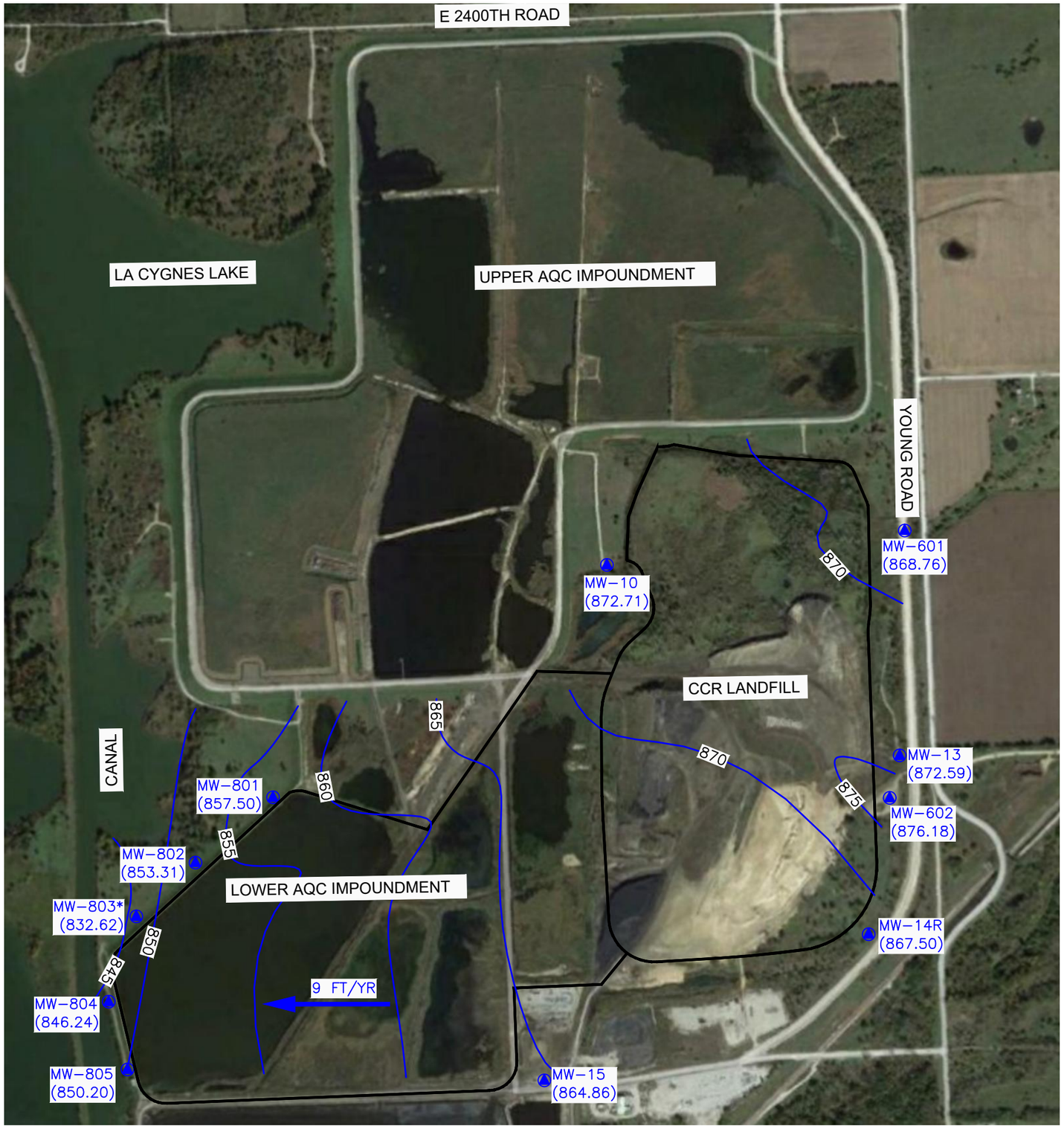
Statistical analyses were not completed in 2017. Statistical analyses of background sampling events were completed following data verification in 2018.

Jared Morrison
December 16, 2022

ATTACHMENT 3

Groundwater Potentiometric Surface Maps

- June 2016 – First background sampling event.
- August 2016 – Second background sampling event.
- October 2016 - Third background sampling event.
- December 2016 - Fourth background sampling event.
- February 2017 - Fifth background sampling event.
- April 2017 - Sixth background sampling event.
- June 2017 - Seventh background sampling event.
- August 2017 - Eighth background sampling event.
- October 2017 – Fall semiannual detection monitoring sampling event.



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW-704 (869.52) — CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- 875 — GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- MW-702* — INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- 16 FT/YR — DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON JUNE 7 THROUGH JUNE 9, 2016

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SCALE FEET

REV.	DATE	CK. BY
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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (JUNE 2016)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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

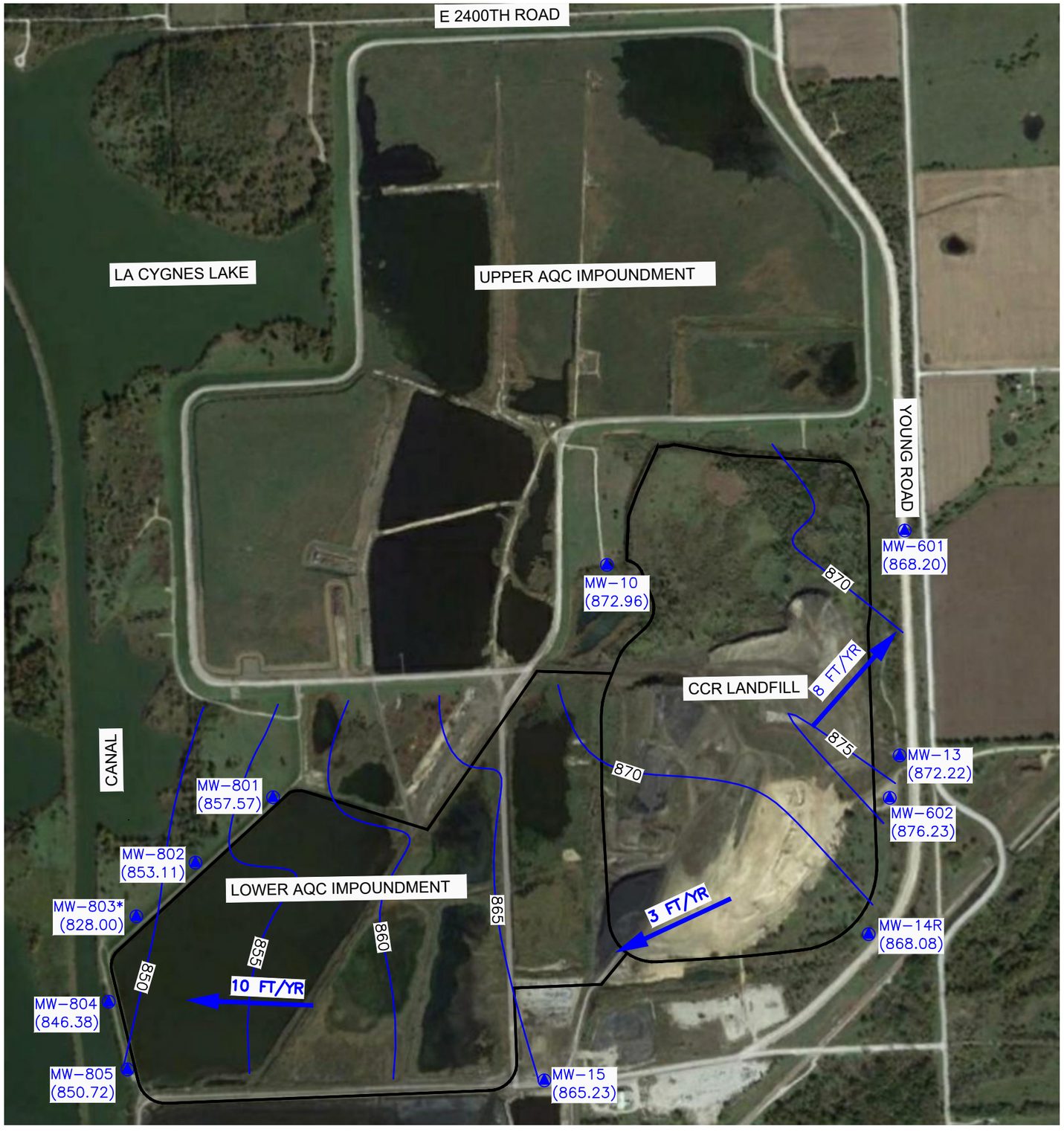
PROJ. NO.	27217233.21
DSN. BY:	MBJ
CHK. BY:	JF
DSN. BY:	DAW
Q/A RVW BY:	JRR
PROJ. MGR	JRR

CADD FILE:
LA_CYGNE_LF_LAQC_IMP & UAQC FIG 1_2016-6.DWG

DATE: 11/29/22

FIGURE NO. 1

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2016-6\La Cygne LF LAQC Imp & UAQC Fig 1_2016-6.dwg Nov 29, 2022 - 3:44pm Layout Name: Fig 1 Lower By: cgoeringer



LEGEND

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4. WATER LEVEL MEASUREMENTS COMPLETED ON AUGUST 9 THROUGH AUGUST 12, 2016

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (AUGUST 2016)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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

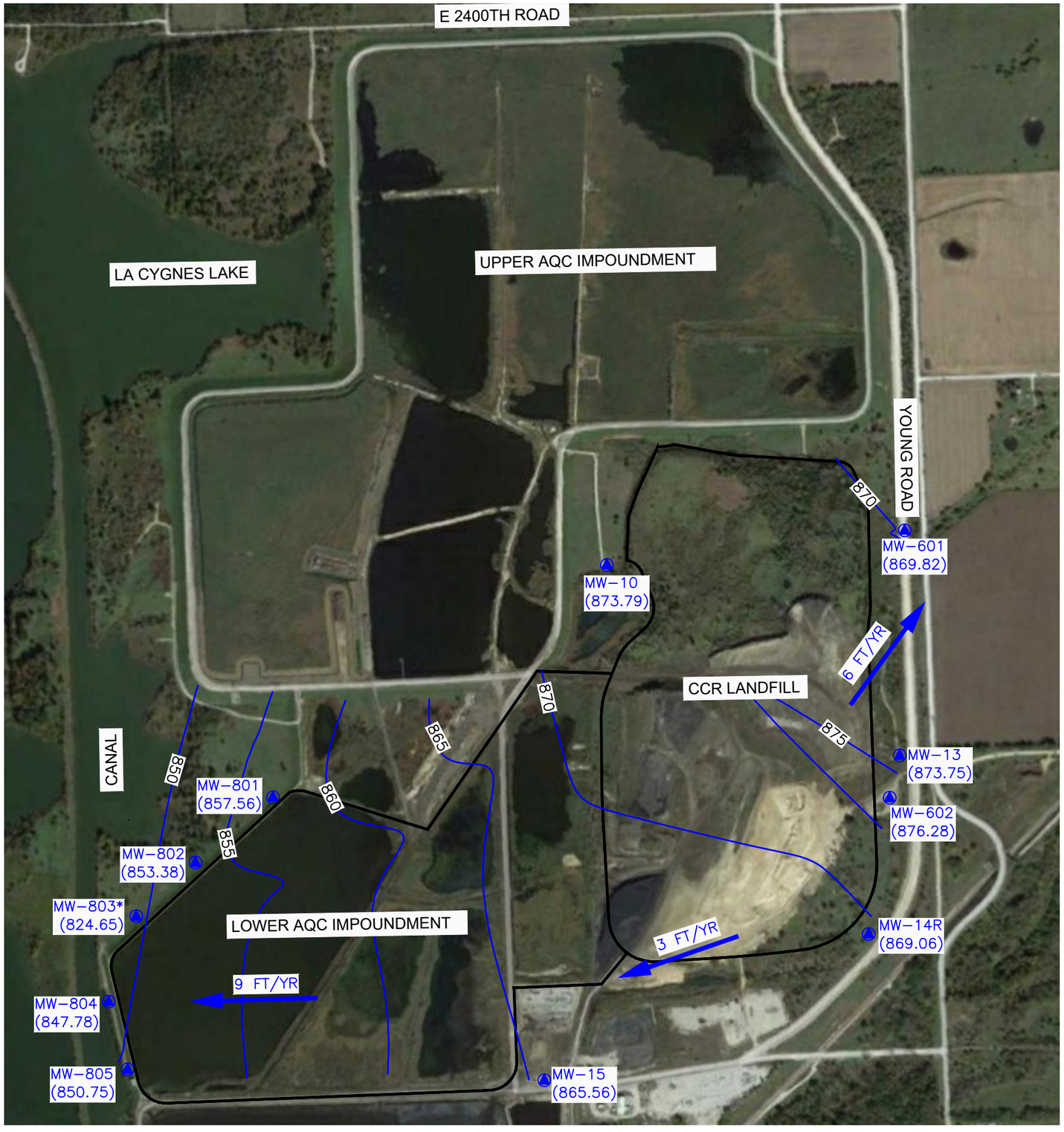
PROJ. NO. 27217233.21
DSN. BY: MBJ
CHK. BY: JF
O/A RVW BY: JRR
PROJ. MGR: JRR
DSR. BY: DAW

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_2016-8 V2.DWG

DATE: 11/29/22

FIGURE NO. 2

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2016-8\La Cygne LF LAQC Imp & UAQC Fig 1_2016-8 V2.dwg Nov 29, 2022 - 3:01pm Layout Name: Fig 1 Lower By: cgoeringer



LEGEND

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3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON OCTOBER 11 THROUGH OCTOBER 13, 2016

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (OCTOBER 2016)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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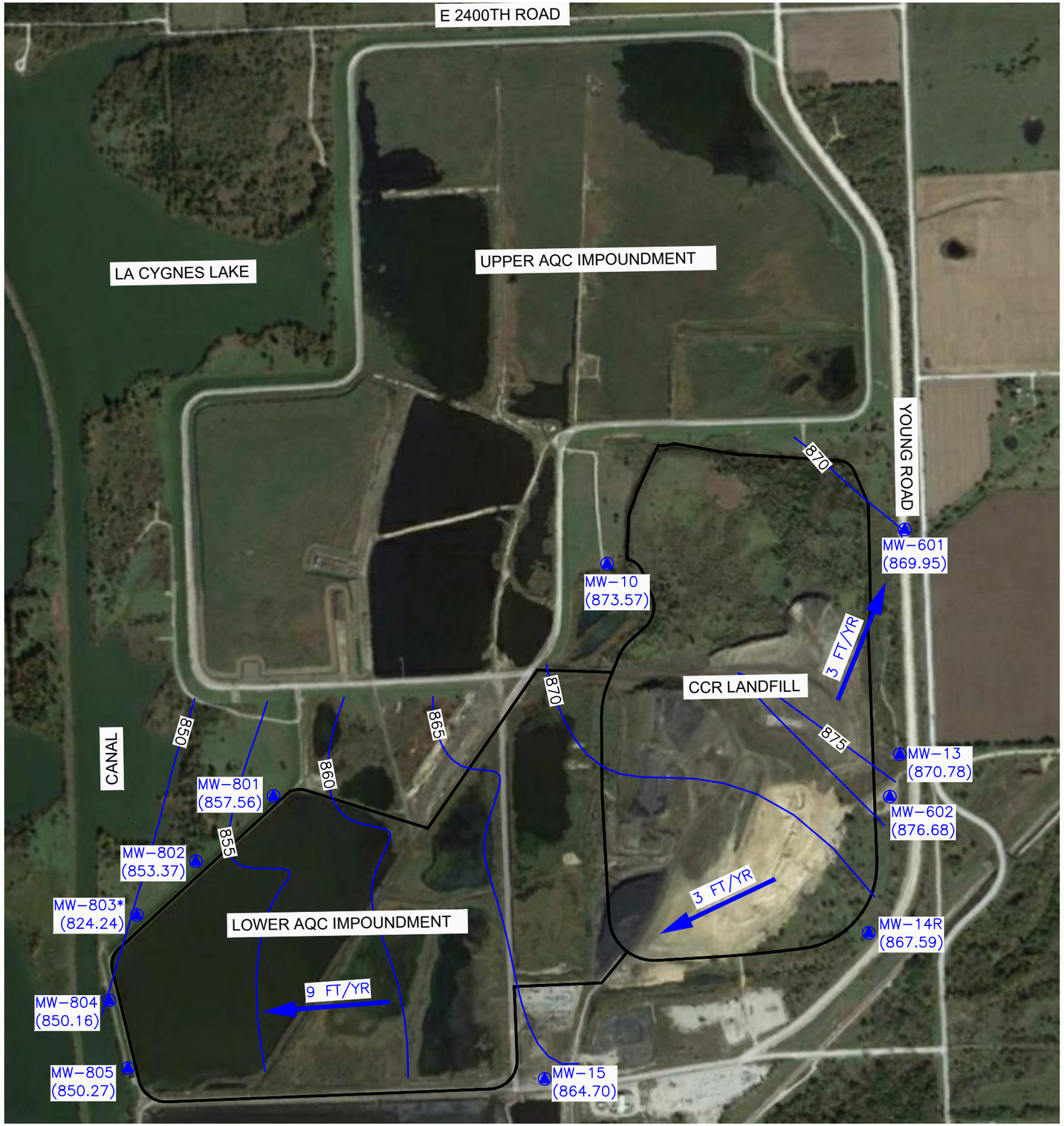
PROJ. NO.	27217233.21
DSN. BY:	MBJ
CHK. BY:	JF
QA/A RVW BY:	JRR
PROJ. MGR	JRR
DSR. BY:	DAW

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_2016-10 V2.DWG

DATE:
11/28/22

FIGURE NO.
3

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2016-10\La Cygne LF LAQC Imp & UAQC Fig 1_2016-10 V2.dwg Nov 29, 2022 - 4:14pm Layout Name: Fig 1 Lower By: cgoeringer



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3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON DECEMBER 6 THROUGH DECEMBER 13, 2016

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (DECEMBER 2016)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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

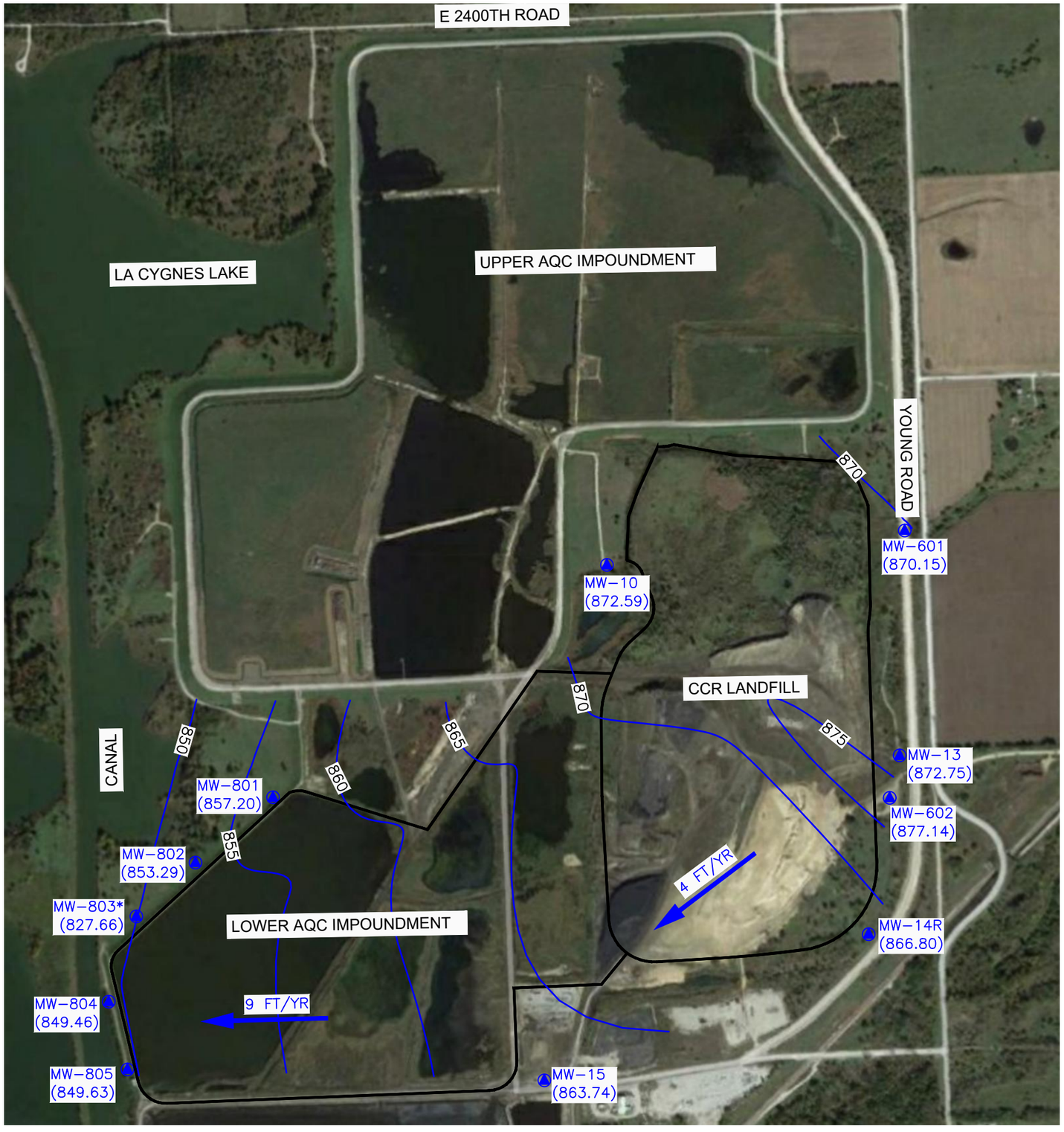
PROJ. NO.	27217233.21
DSN. BY:	MBJ
CHK. BY:	JF
DSN. BY:	DAW
O/A R/W BY:	JRR
PROJ. MGR	JRR

CADD FILE:
LA CYGNE LF LAQC IMP & UAQC FIG 1_2016-12 V2.DWG

DATE: 11/28/22

FIGURE NO. 4

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2016-12\La Cygne LF LAQC Imp & UAQC Fig 1_2016-12 V2.dwg Nov 29, 2022 - 5:17pm Layout Name: Fig 1 Lower By: cgoeringer



LEGEND

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4. WATER LEVEL MEASUREMENTS COMPLETED ON FEBRUARY 6 THROUGH FEBRUARY 10, 2017

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SCALE FEET

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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (FEBRUARY 2017)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

SCS ENGINEERS
8575 W. 110th St. Ste. 100
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PROJ. NO. 27217233.21
DSN. BY: MBJ
CHK. BY: JF
DSC. BY: DAW
Q/A RVW BY: JRR
PROJ. MGR JRR

CADD FILE:
LA_CYGNE LF LAQC IMP & UAQC FIG 1_2017-2.DWG

DATE:
11/29/22

FIGURE NO.
5

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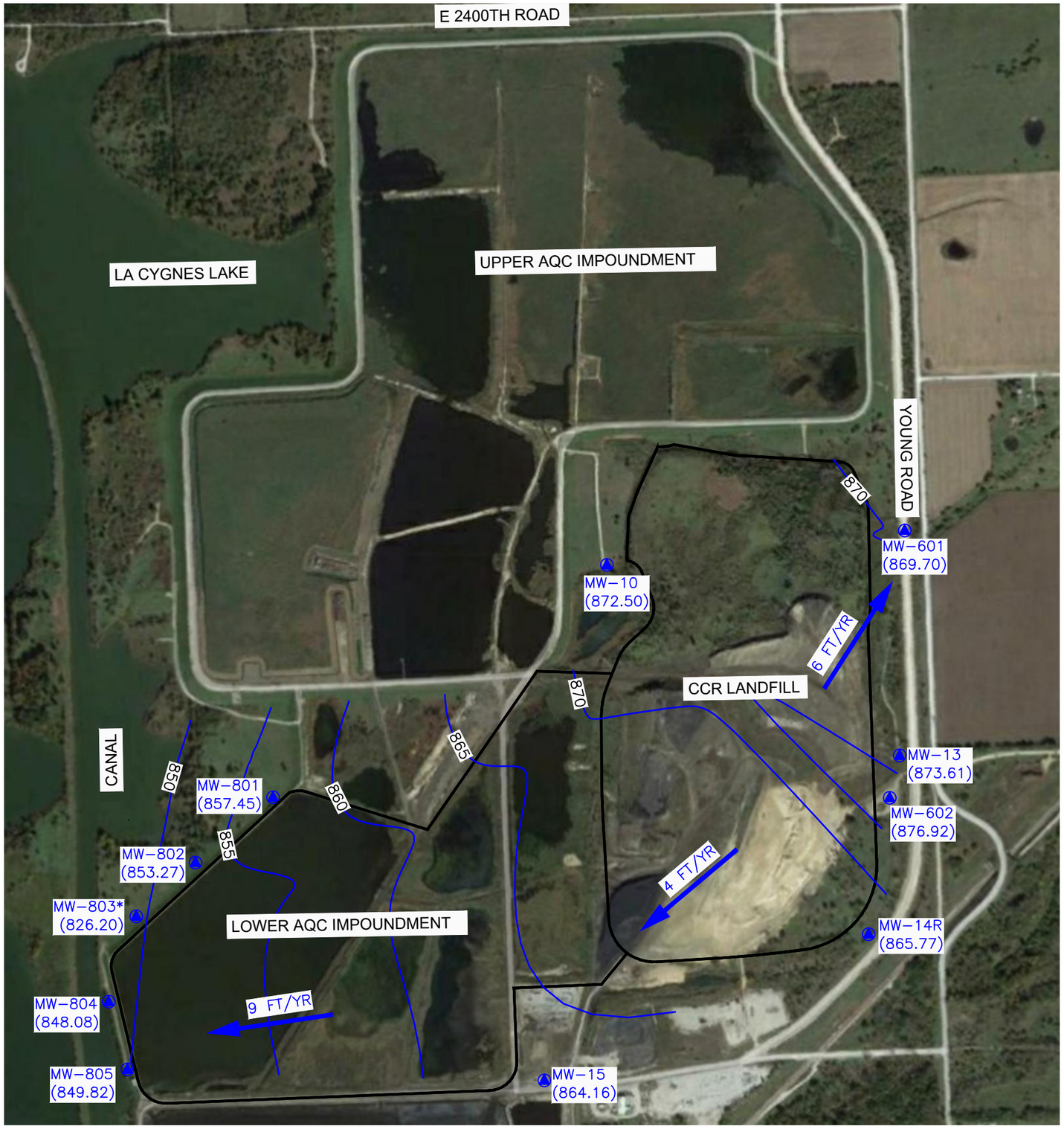

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3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON APRIL 4 THROUGH APRIL 7, 2017

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
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4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (APRIL 2017)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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

PROJ. NO. 27217233.21
DSN. BY: MBJ
CHK. BY: JF
QA RVW BY: JRR
PROJ. MGR: JRR
DSG. BY: DAW

CADD FILE:
LA_CYGNE LF LAQC IMP & UAQC FIG 1_2017-V2.DWG

DATE:
11/29/22

FIGURE NO.
6

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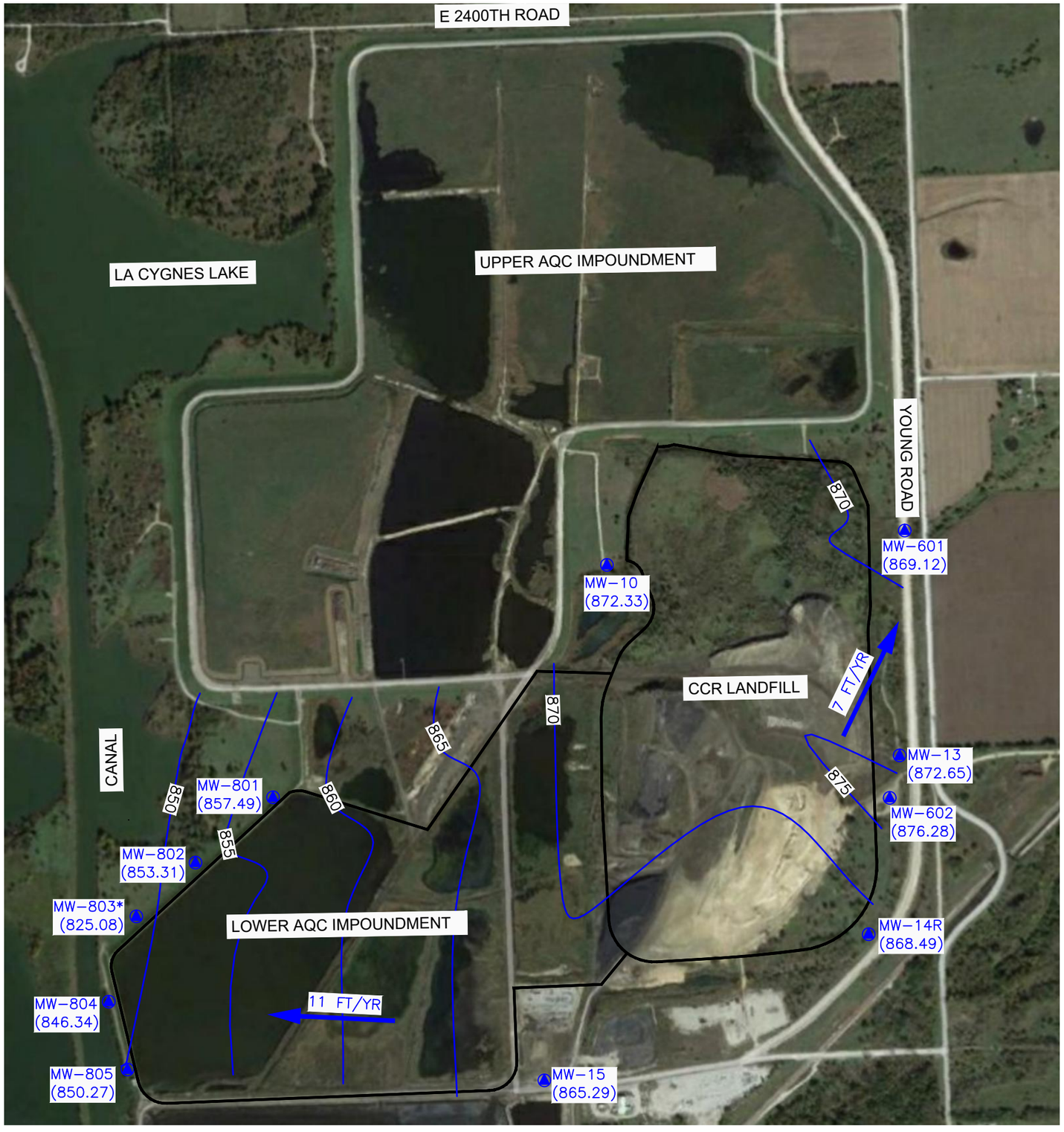

LEGEND

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3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON JUNE 13 THROUGH JUNE 15, 2017

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (JUNE 2017)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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Overland Park, Kansas 66210
PH. (913) 681-0030 FAX. (913) 681-0012

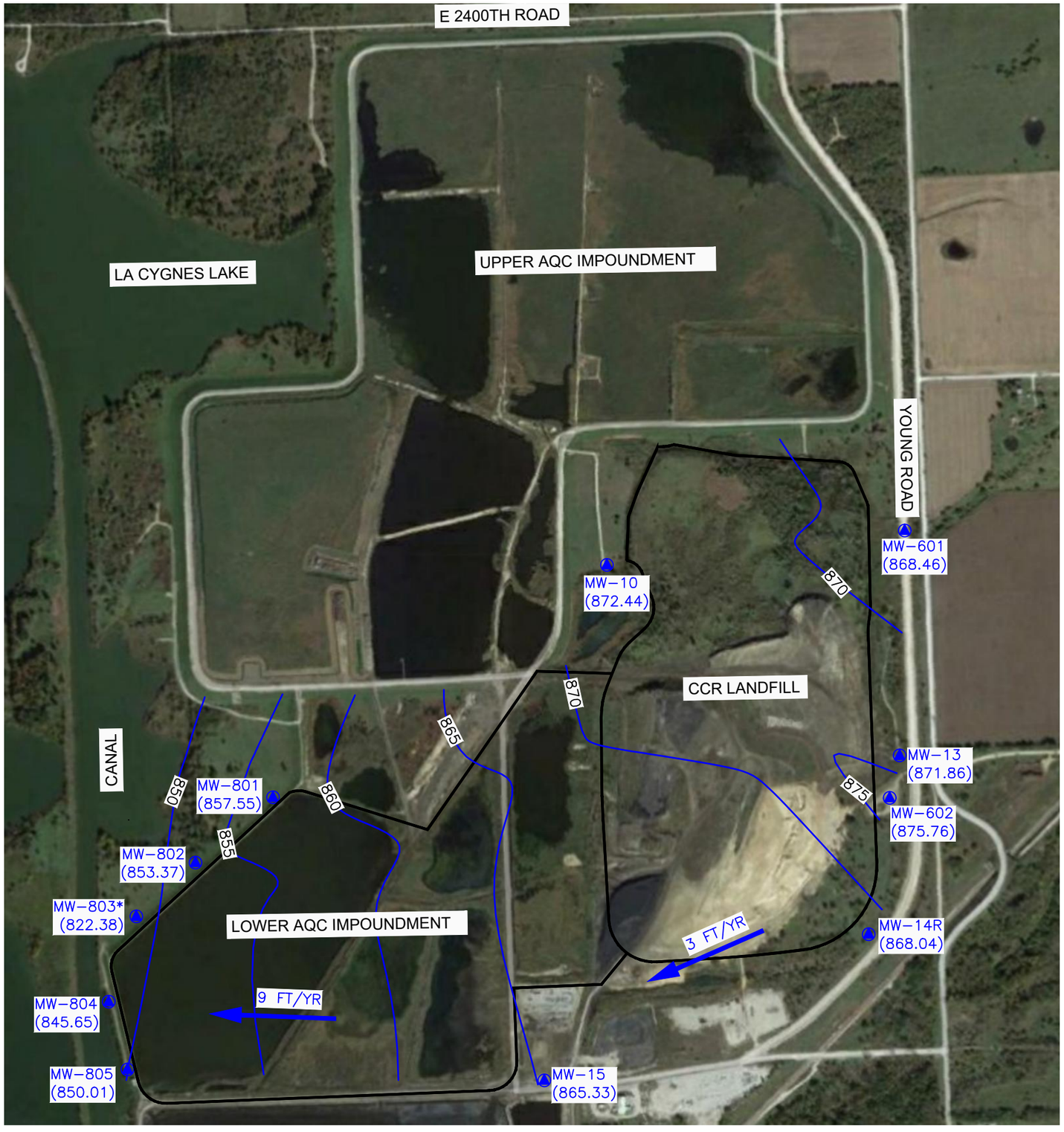
PROJ. NO. 27217233.21
DSN. BY: MBJ
CHK. BY: JF
QA/A RVW BY: JRR
PROJ. MGR JRR
DSR. BY: DAW

CADD FILE:
LA_CYGNE_LF_LAQC_IMP & UAQC FIG 1_2017-6.DWG

DATE:
11/29/22

FIGURE NO.
7

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2017-6\La Cygne LF LAQC Imp & UAQC Fig 1_2017-6.dwg Nov 29, 2022 - 6:08pm Layout Name: Fig 1 Lower By: cgoeringer



LEGEND

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4. WATER LEVEL MEASUREMENTS COMPLETED ON AUGUST 7 THROUGH AUGUST 10, 2017

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
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SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (AUGUST 2017)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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

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

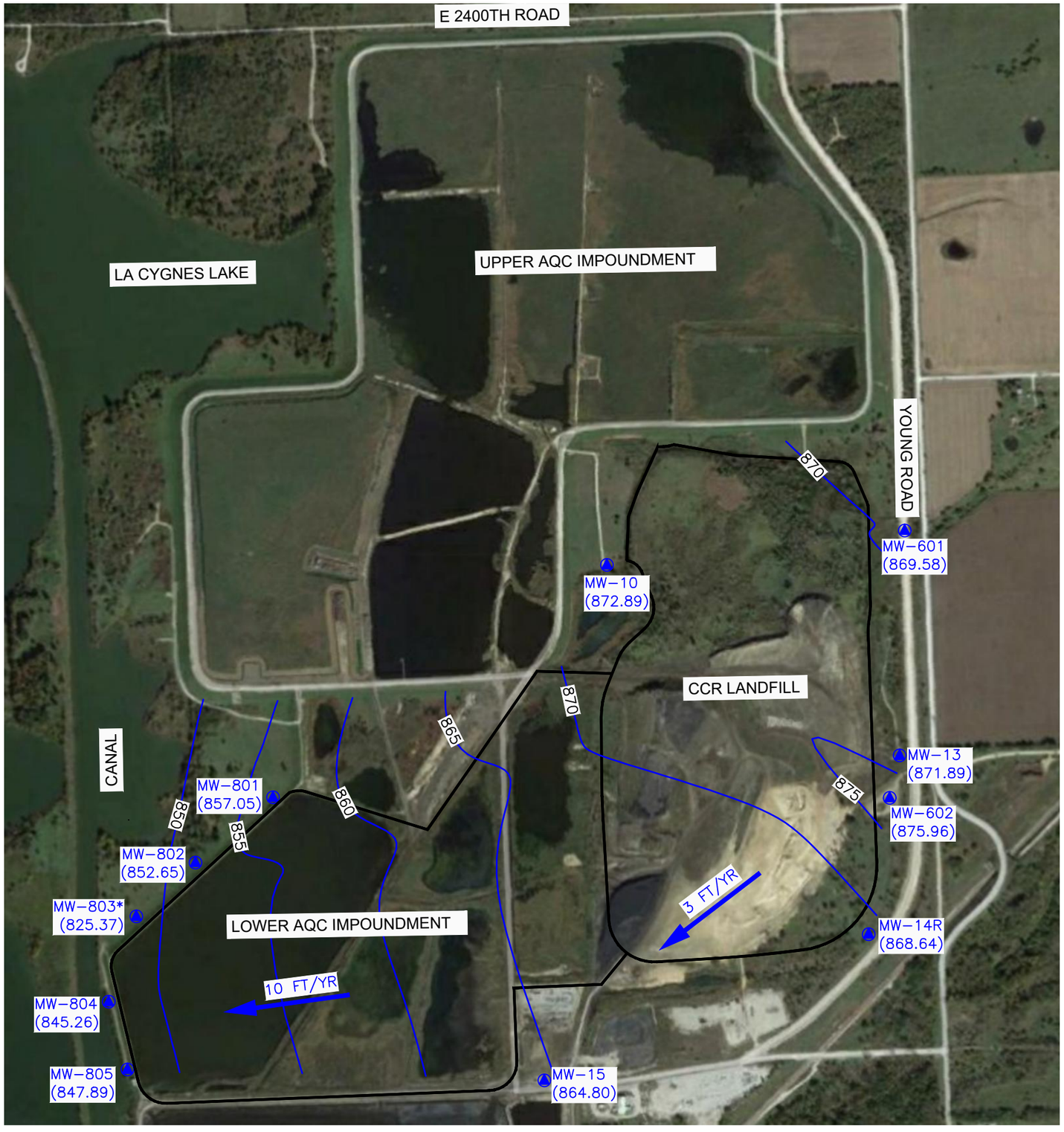
PROJ. NO.	27217233.21
DSN. BY:	MBJ
CHK. BY:	JF
DSN. BY:	DAW
Q/A RVW BY:	JRR
PROJ. MGR	JRR

CADD FILE:
LA_CYGNE_LF_LAQC_IMP & UAQC FIG 1_2017-8.DWG

DATE:
11/29/22

FIGURE NO.
8

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2017-8\La Cygne LF LAQC Imp & UAQC Fig 1_2017-8.dwg Nov 29, 2022 - 6:31pm Layout Name: Fig 1 Lower By: cgoeringer



LEGEND

- CCR UNIT BOUNDARY (APPROXIMATE LIMITS)
- MW-704 (869.52) CCR GROUNDWATER MONITORING SYSTEM WELLS (GROUNDWATER ELEVATION)
- −875— GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS
- MW-702* INDICATES WELL NOT USED IN POTENTIOMETRIC SURFACE MAP CREATION
- 16 FT/YR DIRECTION OF GROUNDWATER FLOW AND CALCULATED GROUNDWATER FLOW RATE (FEET/YEAR)

NOTES:

1. KDHE FACILITY PERMIT AND LANDFILL PERMIT BOUNDARIES VARY FROM THAT SHOWN.
2. GOOGLE EARTH IMAGE DATED OCTOBER 2014. BOUNDARY AND MONITOR WELL LOCATIONS ARE APPROXIMATE.
3. BOUNDARY AND MONITOR WELL LOCATIONS ARE PROVIDED BY AECOM.
4. WATER LEVEL MEASUREMENTS COMPLETED ON OCTOBER 3 THROUGH OCTOBER 6, 2017

800 0 800 1600

SCALE FEET

REV.	DATE	CK. BY
0	-	-
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

SHEET TITLE
POTENTIOMETRIC SURFACE MAP CCR LANDFILL-LAQC IMPOUNDMENT (OCTOBER 2017)

PROJECT TITLE
2017 GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ADDENDUM

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CADD FILE:
LA_CYGNE_LF_LAQC_IMP & UAQC FIG 1_2017-10.DWG

DATE:
11/29/22

FIGURE NO.
9

N:\KCPL\Projects\Groundwater\DWG\La Cygne\6-8-16 Through 1-9-18 Draft\2017 Addendum DWG\2017-10\La Cygne LF LAQC Imp & UAQC Fig 1_2017-10.dwg Nov 29, 2022 - 6:50pm Layout Name: Fig 1 Lower By: cgoeringer